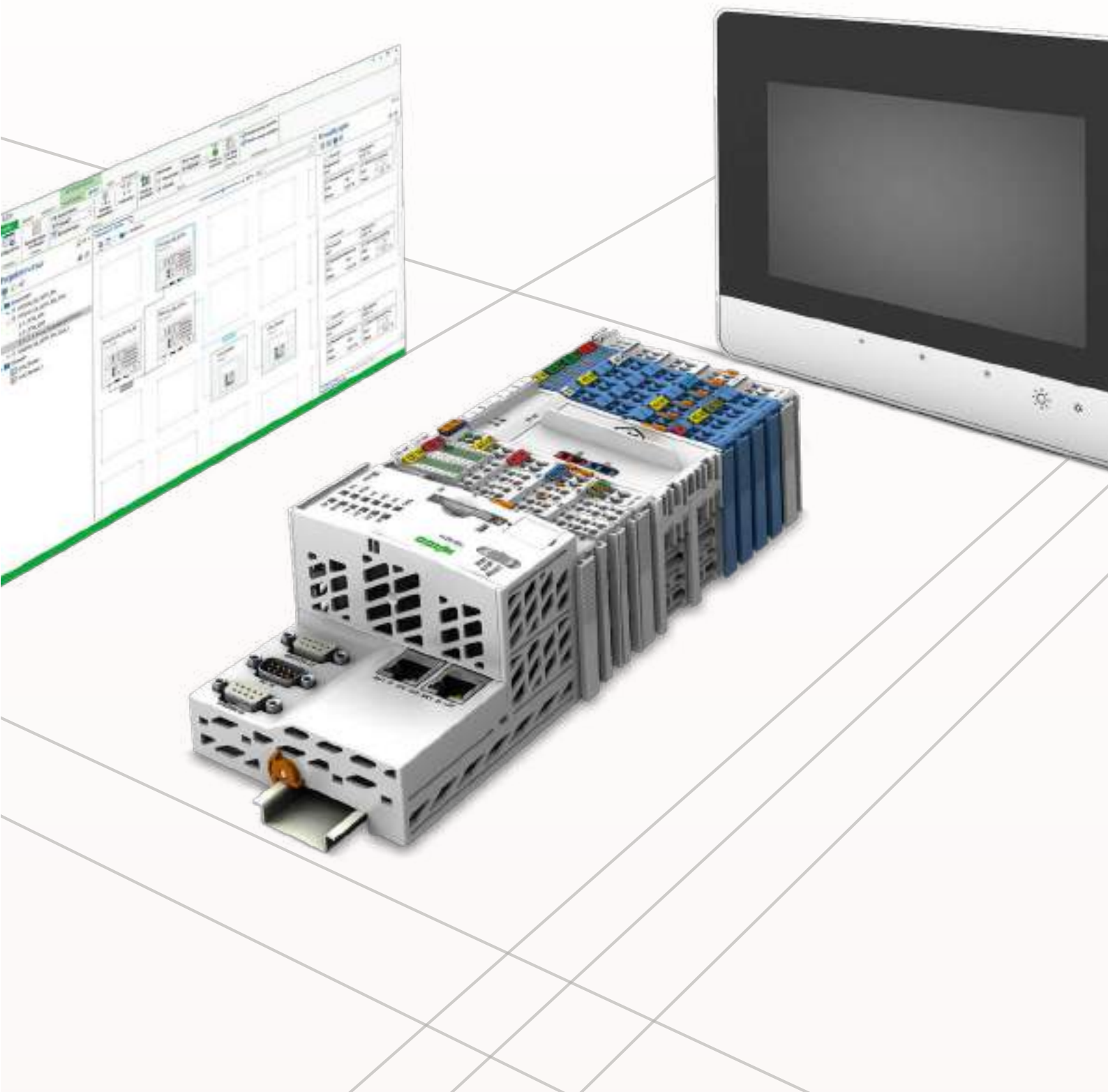


Automation Technology

Full Line Catalog, Volume 3 – Edition 2019/2020

3



WAGO Full Line Catalogs



Volume 1, WAGO Rail-Mount Terminal Block Systems

- Rail-Mount Terminal Blocks
- Rail-Mount Terminal Blocks with Pluggable Connector (X-COM®-SYSTEM)
- Patchboard Systems
- Terminal Strips
- PUSH WIRE® Connectors for Junction Boxes
- Lighting Connectors
- Shield Connecting System



Volume 2, WAGO PCB Terminal Blocks and WAGO Connectors

- PCB Terminal Blocks
- THR/SMD PCB Terminal Blocks
- *MULTI CONNECTION SYSTEM (MCS)*
- Pluggable PCB Terminal Blocks
- Feedthrough Terminal Blocks
- Specialty Connectors
- Empty Housings



Volume 3, Automation Technology

- Solutions & Software
- Operating & Monitoring
- Controllers
- Modular I/O-SYSTEM, IP20
- Industrial Switches
- Radio Technology
- IP67 Sensor/Actuator Boxes, IP67 Cables and Connectors



Volume 4, WAGO Interface Electronic

- Relay and Optocoupler Modules
- Signal Conditioners and Isolation Amplifiers
- Current and Energy Measurement Technology
- Power Supplies
- Interface Modules and System Wiring
- Overvoltage Protection
- Empty Housings



Volume 5, WAGO Pluggable Connection System WINSTA®

- Pluggable Connectors
- Snap-In Device Connectors
- Pluggable PCB Connectors
- Distribution Connectors
- Cable Assemblies
- Flat Cable Systems
- Distribution Boxes



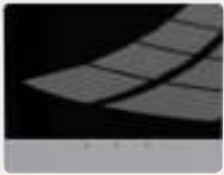
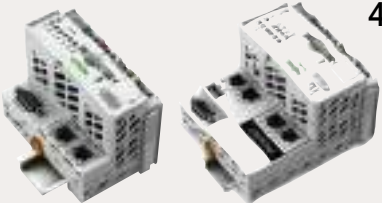
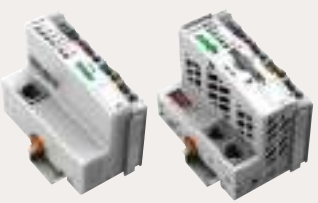
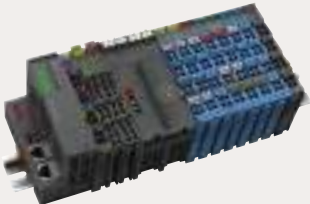
Volume 6, WAGO Marking

- Printer
- Software
- Terminal Block Marking
- Cable and Conductor Marking
- Device Marking
- Marker Carriers

Volume 3, Automation Technology

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Controllers	 Controllers PFC100/PFC200, PFC200 XTR, Controllers 750, Controllers 750 XTR, Starter Kits	70	4
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WAGO Automation Technology

Solutions & Software	Solutions  1 • Cloud solutions • Reusable, customizable software applications	Engineering Software  • PC-based software • Customized tools for every automation task	Runtime Software  • Standard machine component • Comprehensive, tested software modules for control, regulation, operation & monitoring
Operation & Monitoring	Touch Panels 600 Standard Line  • High-performance touch panels with resistive touch-screens • 10.9 ... 25.7 cm (4.3 ... 10.1") • Models include Control, Visu or Web Panel for display of visualizations	Touch Panels 600 Advanced Line  • High-performance touch panels with capacitive touch-screens and glass surfaces • 18 ... 25.7 cm (7 ... 10.1") • Models include Control or Visu Panel	Touch Panels 600 Marine Line  • High-performance touch panels with resistive touch-screens • Ideal for marine applications • 10.9 ... 25.7 cm (4.3 ... 10.1") • Models include Visu Panel
Controllers	Controllers PFC100/PFC200  4.1 • Maximum performance in a minimum space • Also programmable in high-level languages based on Linux® • Security packages with SSH and SSL/TLS • Runtime system for CODESYS V2 (only PFC200) and V3	Controllers PFC200 XTR  4.2 • The advantages of WAGO's PFC Controllers combined with the capabilities for extreme environments: • High processing speed • Multiple interfaces • eXTRemely robust and maintenance-free	Controllers 750  4.3 • Controllers for all prominent fieldbus systems • Programmable to IEC 61131-3 • Combinable with the modules of the WAGO-I/O-SYSTEM 750
I/O Systems	I/O System – 750 and 753 Series  5 • Highly versatile • More than 500 modules available • Functional Safety • Ex i	I/O System – 750 XTR Series  6 For demanding applications where the following are critical: • Extreme temperature stability • Immunity to electromagnetic interference and impulse voltages • Vibration and shock resistance	
Infrastructure	Industrial Switches  7 • Copper cables • Fiber optic cables • Ring redundancy	Radio Technology  8 • Bluetooth® • WLAN • EnOcean®	Sensor/Actuator Boxes  9 • M8 and M12 sensor/actuator boxes • Passive signal acquisition and output at the machine level • Fully encapsulated

Mobile Software (Apps)  Machine operation and monitoring on tablet and smartphone	2	1 Solutions Cloud Solutions8 Software Applications12 2 Software Engineering Software26 Runtime Software42 Mobile Software (Apps)46
Touch Panels e!DISPLAY 7300T  - Touch panels with resistive touchscreens 10.9 ... 25.7 cm (4.3 ... 10.1") - Models include Web Panel for display of CODESYS V2 or e!COCKPIT visualizations	3	3 Operation and Monitoring Touch Panels 600 Standard Line58 Touch Panels 600 Advanced Line62 Touch Panels 600 Marine Line64 Touch Panels e!DISPLAY 7300T66
Controllers 750 XTR  4.4 For demanding applications where the following are critical: - Extreme temperature stability - Immunity to electromagnetic interference and impulse voltages - Vibration and shock resistance	Starter Kits  To get you up and running quickly, we offer starter kits to suit the most diverse applications: - with Controller PFC100 - with Controller PFC200 - with Controller 750 ETHERNET - with Controller 750 KNX IP or BACnet/IP 4	4 Controllers 3 Touch Panels 600 Standard Line58 Touch Panels 600 Advanced Line62 4.1 Controllers PFC100/PFC20072 4.2 Controllers PFC200 XTR94 4.3 Controllers 750102 4.4 Controllers 750 XTR120 4.5 Starter Kits128
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Solutions

Cloud Solutions

- "Internet of Things" (IoT) applications

Software Applications

- Reusable, customizable solutions

Solutions

Cloud Solutions, Software Applications



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Solutions

General Product Information

1

We Make It Simple!

WAGO products are at home in many industries. Tailored solutions make it easy for the customer to accomplish the task using WAGO products – in the form of libraries and complete products, regardless of industry.

Cloud Solutions

Digitization and networking offer great opportunities for every company. To use them, every company has to do its homework – in fact, the challenges are just as varied and diverse as the companies themselves. While there is no such thing as an all-in-one solution, smart products, methods, and partners will help you advance digitization in your business in a way that benefits all involved.

WAGO shapes the digital future with you. Cloud solutions have become popular industry staples. They link the real and digital worlds, allow efficient use of production-related data and simplify cross-site networking of global communication structures. This creates many new opportunities for the manufacturing industry – especially with an eye to plant availability and process optimization.

Scalable Solution Thanks to Our Reliable Partner



Member of **WAGO** Group

With M&M as a member of the WAGO Group, WAGO has a partner for integrated development of industrial and technical software solutions. We collaborate closely with Microsoft to implement corresponding solutions in the cloud and IoT, primarily using Azure.

Application Software

Prepared applications make it easy to use the WAGO products. We offer a range of complete industry-specific solutions such as **flexROOM®**, dramatically shorten time to completion. But also industry-independent universally usable solutions are available (closed or adaptable) and are optimally adapted to the respective hardware.

Standardized Applications

The more prepared, the easier it gets. For many applications, we offer configuration via web browser, with a standard PC without special software. Thanks to a flexible software architecture, it is also possible to realize individual configurations. Here we combine the advantage of reusing a standardized and field-proven solution with customization via parameterization instead of individual programming. This saves costs by shortening the time required and makes commissioning easy!

Tailor-Made Applications

If a standard solution does not fit, we can create a highly tailored, customer-specific approach that's as unique as your application. If necessary, just contact us. We are happy to assist you!

Advantages:

- Solutions for digitization
- Support for Industry 4.0/Internet of Things (IoT)
- Prepared field-tested applications for solving standard requirements in various industries
- Support with individual adjustments

Solutions

General Product Information

Cloud Solutions

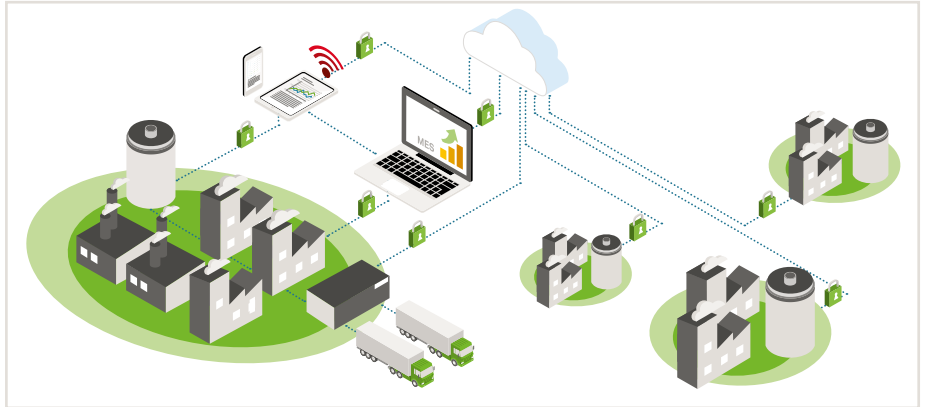
The universal cloud solution from WAGO is suitable for a wide variety of applications. This solution offers:

WAGO Cloud:

- Capture and save data
- Setting up individual dashboards
- Central condition monitoring and alarm handling
- Central data visualization via location-independent access

Cloud Connectivity:

- Establishing connections
- Secure communication



Application Software – Industry-Independent Solutions

Many solutions can be used regardless of industry, such as our energy management. With our modular energy data collection, we rely on an open and flexible system that you can easily install and extend. It doesn't matter if you are looking for an individual solution or want to use our standard solution.



Building Automation

Whether you are planning lighting installations and automation in your office building, retrofitting a heating, ventilation and air-conditioning system or involved with room automation, WAGO helps implement your requirements in buildings, both in office and administrative buildings, as well as in production and warehouses, retail or infrastructure buildings.



Power Engineering

Energy suppliers need to change the way they think. Instead of merely selling green energy, they also need to organize and market the flexibility that is required for maintaining stability on the electrical grid. This means that the energy system needs to be controllable from production to consumption using intelligent communication networks. WAGO supports digitizing the energy sector and design of smart grids with state-of-the-art control and measurement technology, along with software solutions that enable a simple and secure connection to the cloud.



WAGO Cloud

Collect, Analyze and Manage Data Centrally

1

The WAGO Cloud gives you the option of collecting data from various machines and managing it centrally.

The WAGO Cloud makes it possible to manage and monitor WAGO's controllers, including their data and applications. It is hosted on Microsoft's Azure Cloud. With simple, user-friendly operation, it was developed so that even people without IT experience can use it.

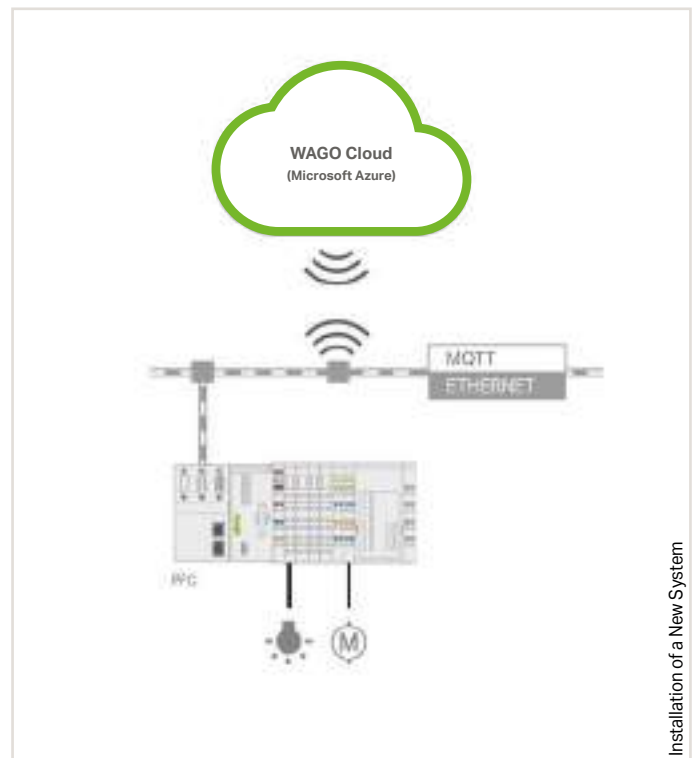
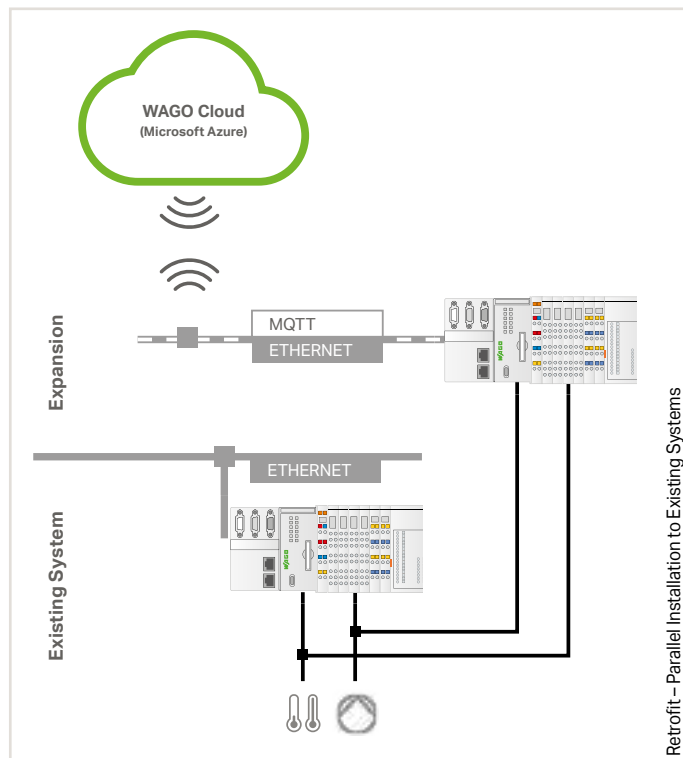
The cloud service is available online at <https://cloud.wago.com/>. After registering for free and linking to the WAGO Controllers, you can get started in just a few minutes.

How does machine data get to the WAGO Cloud?

A WAGO PFC Controller serves as a gateway, collects the data and then sends it to the WAGO Cloud. Users log into their user interface on the Web portal, where they can use various applications: They have access to functions like visualizations, controller and user management, as well as controller status monitoring. They can also activate alarm functions and use them to automatically send email notifications if defined limit values are exceeded, for example. Data can be graphically visualized, evaluated and exported as needed.

Do you need to restrict the data you send to the cloud?

No problem! You decide yourself by configuring the WAGO PFC Controller, specifying what data to send to the cloud or not via IEC program.



Figures: Data Transfer to the WAGO Cloud

The WAGO PFC Controller functions as a gateway for existing systems. It extends existing systems easily. It collects the data through various protocols and transports this data to the WAGO Cloud via the TLS-encrypted MQTT connection. If the system is newly installed and the WAGO PFC Controller is used, it can send the data directly to the cloud.

What advantages does the WAGO Cloud offer?

• Simplicity

The solution is intuitive thanks to a clear functional scope. Within minutes, you can send data to the cloud, without extensive IT expertise.

• Flexibility

Customize your cloud solution at any time, and do so virtually whenever or wherever. For instance, double your number of controllers from one day to the next without affecting performance and availability. Would you like a special expansion? We can do that through customized cloud-expansions as a project service.

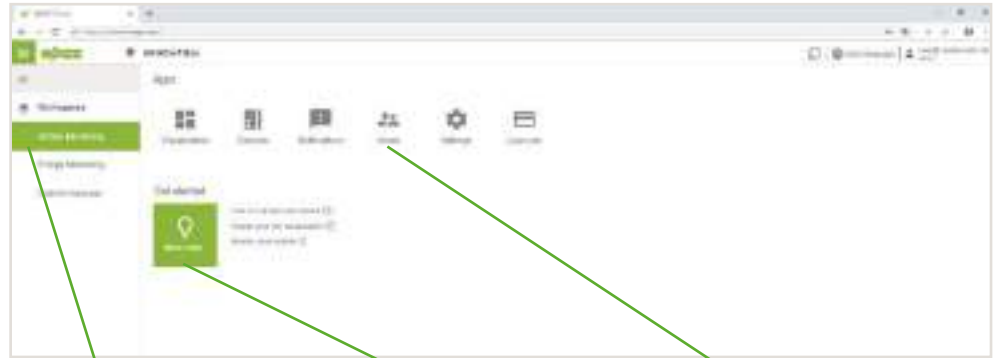
• Everything from a single source

Take advantage of the benefits of the WAGO Cloud, software as a service. Save time by passing the work of infrastructures and security platform and application management on to WAGO.

WAGO Cloud

App Overview:

All functions at a glance thanks to an intuitive app structure



Quick Access:

- Quickly discover what you are looking for, you have all your workspaces in view.

Simple Application:

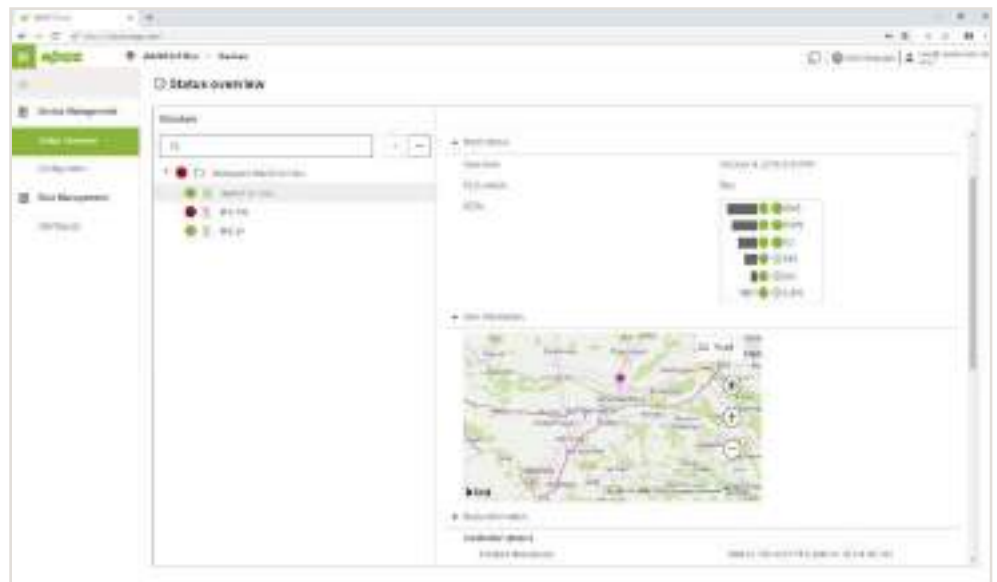
- Let us guide you in creating cloud projects.

Relevant Functions:

- Only see the features that are immediately available.

Controller Status Overview:

See your connected and disconnected controllers, as well as relevant connection details.



Dashboard:

Create your own dashboard according to your needs and use graphics and trends.



WAGO Cloud

1

What kind of services can I use on the WAGO Cloud?

The WAGO Cloud is a universal industrial-strength data logger with data visualization. It allows customizable dashboards and analyses to be created quickly and easily in the cloud. Use interfaces via REST and CSV data export for further processing of data, or use them as a data supplier in order to perform detailed analyses in other systems, for example. Monitor controller statuses and receive notifications if specified limit values are exceeded.

How can I use the functions?

Test the WAGO Cloud for 30 days with no commitment to see if it's right for you.

The cloud service is available online at <https://cloud.wago.com/>. After registering for free and linking to the WAGO controllers, you can get started in just a few minutes.

After that, you book licence points with a prepaid model, via our WAGO eShop for example, and simply redeem them in the cloud. Transparent billing management in the cloud allows you to fully monitor the current and anticipated scope of the functions used. When your licence points are almost used up, you receive a notice that you'll need to reload your points account soon.

You can find an overview of the functions we currently offer in the following table. For each individual function, there are various graduations, depending on how many components you need (e.g., number of connected controllers).

Test Phase		• WAGO Cloud 30-day free trial (limited test points). • Points account may be exceeded after the test phase.	
Functions			
Data Management	Data Package	• Connect WAGO PFC Controller to the cloud. • Transfer data from the controller to the cloud. • Mount devices and data. • Visualize data.	• Basic package, necessary to use the WAGO Cloud • At least 50 license points/month • Volume-dependent, decreasing license point consumption
	Restful API	• Provide data for other cloud services and customer systems.	• Volume-dependent, decreasing license point consumption
Device Management	Firmware & Application Update	• Select/download firmware catalog. • Manage your own firmware application catalog. • Replace firmware on the device. • Install application updates.	• 1 license point/update
	Remote Visu Access	• Access local configurations and visualizations remotely (diagnostics, monitoring, remote maintenance).	• 10 license points/hour
	User Management	• In a customer area, up to 10 users have free access. More can be booked upon request.	

Item Description	
	Item No.
WAGO Cloud; 100 license points	2759-1061/651-010
WAGO Cloud; 500 license points	2759-1061/651-050
WAGO Cloud; 1000 license points	2759-1061/651-100

Redeem license points at: <https://cloud.wago.com/>

Cloud Connectivity via MQTT

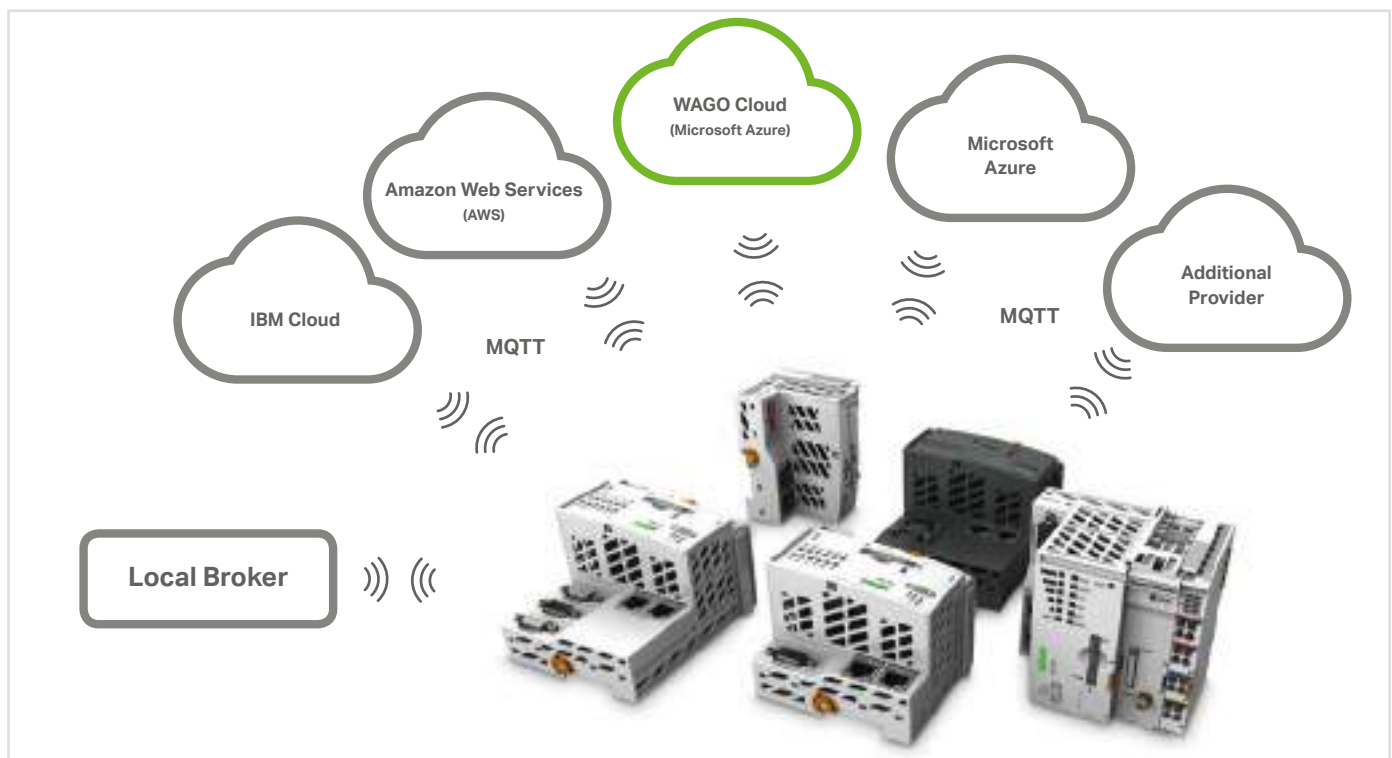
Recording, digitizing and linking data profitably...

...this is the core concept behind Industry 4.0. The field level connection is established with the open WAGO-I/O-SYSTEM 750 or 750 XTR; the data is sent to the cloud or a local MQTT broker by a PFC Controller where it can be aggregated and used for analysis. This creates true added value for your company – be it for increasing the efficiency of in-house production, implementing energy management in buildings or developing additional end-customer services. Existing systems also become IoT-ready, making them sustainable into the future.

Communication between PFCs and cloud suppliers is conducted via the MQTT protocol and encrypted via TLS 1.2.

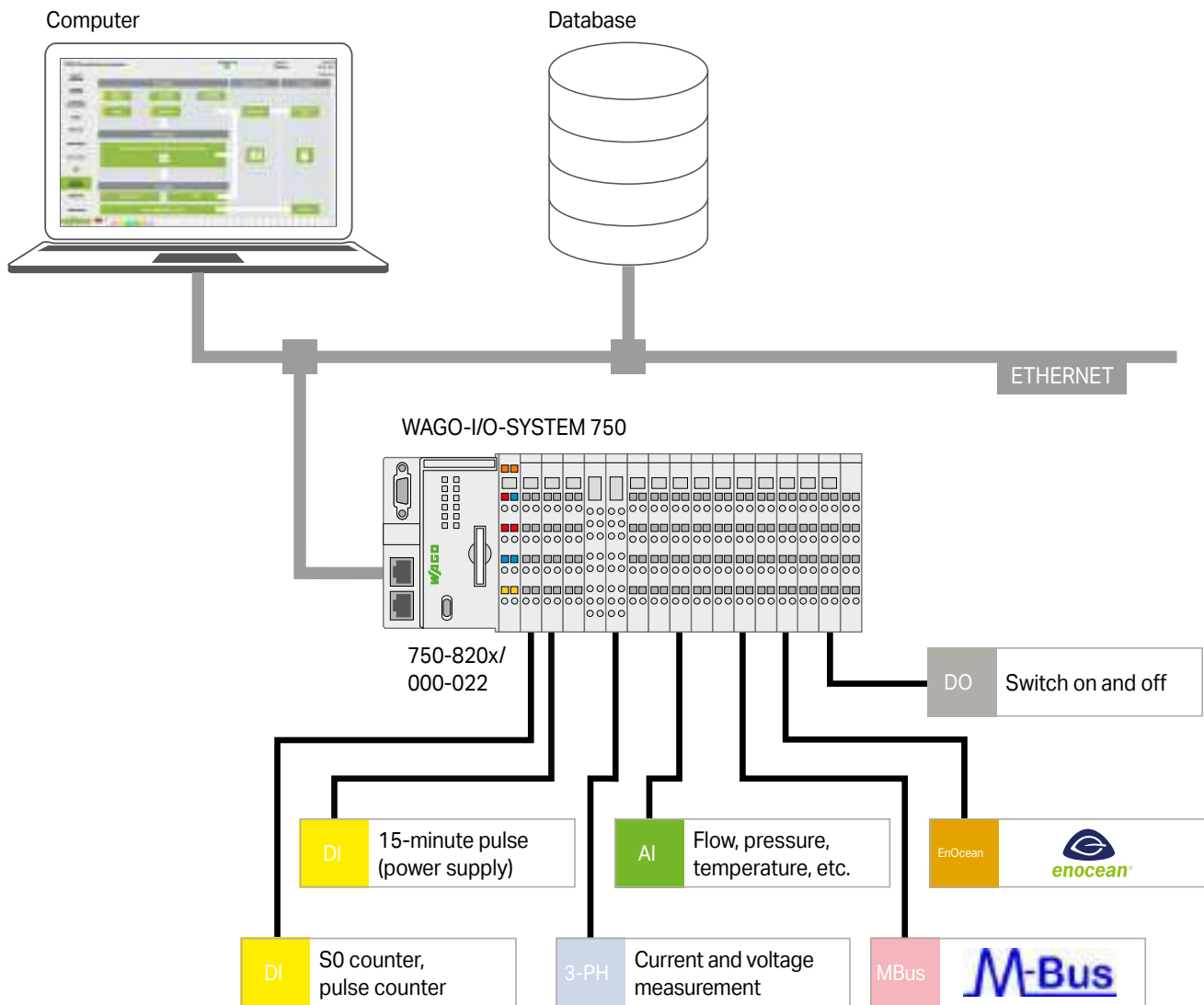
The cloud connection data is configured via Web-based Management (WBM). By default, *e!COCKPIT* contains appropriate libraries for defining the variables to transfer to the cloud in the IEC program. Thus the IEC programmer maintains complete control. Controller information, such as run/stop, connection status and device information can also be transferred to a cloud solution with cloud connectivity or distributed via MQTT broker.

With their wide variety of interfaces, the WAGO Controllers are the perfect foundation for an IoT gateway. They can collect numerous field signals, communicate in a large number of industrial protocols and even enable cloud connection of sensors and actuators that themselves lack a Web interface. Thanks to the standard MQTT protocol, it is possible to connect to cloud providers such as Microsoft Azure, Amazon Web Services or IBM Cloud or SAP Cloud. Of course, other MQTT brokers or solutions such as the WAGO Cloud can also be connected. Cloud connectivity is included by default with PFC Controller Firmware 11 and above, and the required library has been included in *e!COCKPIT* since Version 1.4.



Cloud connectivity is possible with all PFC100 and PFC200 Controllers.

WAGO Energy Data Management



WAGO Energy Data Management seamlessly records, visualizes and manages energy data without any programming and can be upgraded at any time. The energy data management system provides energy flow monitoring via user-friendly Web visualization. The connected I/O modules (see table) are automatically detected and can be configured via user interface. In addition to energy-specific values like electrical currents or voltages, the networked WAGO Controller can record other measurement variables relevant for industrial and process technologies or building applications – for example, gas, heat, water, compressed air and temperature. With the integrated visualization tool, collected data is easily displayed and evaluated in various forms.

The data is transferred to higher level energy management software via Modbus TCP/IP or as a CSV file via FTPS. In addition, it is possible to store the history on an SD card integrated into the controller. Because it is so easy to integrate the versatile new WAGO solution into existing systems, increasing measurement point depth is also a simple matter.

WAGO Energy Data Management			
	Components	Item No.	Number of Modules (Max.)
Base unit	Energy Data Management – Controller		
	Controller PFC200; Energy data management application; 2 x ETHERNET; RS-232/-485	750-8202/000-022	1
	Controller PFC200; Energy data management application; 2 x ETHERNET; RS-232/-485; Mobile radio module	750-8207/000-022	1
	Energy Data Management – Software	Download: wago.com/applicationcontroller	1
	End Module	750-600	1
	Power Supply to I/O Node; 230 VAC/24 VDC; 2.5 A	787-1012	1
	Power Supply to I/O Node; 230 VAC/24 VDC; 2 A	787-1606	1
Recording real power pulse EVU	4-Channel Digital Input; 24 VDC; 3 ms	750-402	1
Button connection for starting and stopping the data logging	8-Channel Digital Input/Output; 24 VDC; 0.5 A	750-1506	1
Recording S0 and pulse counter	2 Up/Down Counters; 16 bits; 500 Hz	750-638	4
Switching of outputs via MODBUS Master	8-Channel Digital Output; 24 VDC; 0.5 A	750-530	1
Displaying the logging status			
3-Phase Power Measurement	3-Phase Power Measurement; 690 VAC 1 A	750-495	Total: 18
	3-Phase Power Measurement; 690 VAC 5 A	750-495/000-001	
	3-Phase Power Measurement; 690 VAC Rogowski coils	750-495/000-002	
Temperature, pressure, flow meters and other analog signals	2-Channel Analog Input; 0 ... 20 mA; Differential input	750-452	1
	8-Channel Analog Input; 0/4 ... 20 mA; Single-ended	750-496	2
	8-Channel Analog Input; 0 ... 10 VDC/±10 V; Single-ended	750-497	2
Resistance sensors	8-Channel Analog Input; Resistance measurement; Adjustable	750-451	2
Extension for connecting the M-Bus level converter	M-Bus Master	753-649	1
Extension for connecting the EnOcean Gateway	Serial Interface RS-232/-485	750-652	1
	EnOcean Receiver/Transmitter with RS-485 EVC Interface	2852-7101	1
Components for decentralized measurements	End Module for Bus Extension	750-627	1
	Coupler Module for Bus Extension	750-628	1 ... 10
	System Power Supply; 24 VDC	750-613	1 ... 10
	End Module	750-600	1 ... 10
	Switched-Mode Power Supply; 24 VDC/2.5 A	787-1012	1 ... 10



750-8202/000-022 or 750-8207/000-022



Energy Data Management

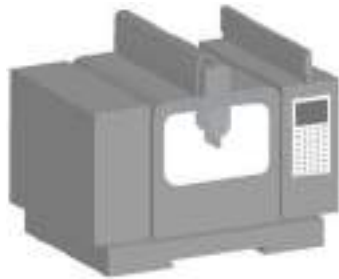
Combine a high-performance controller with software that automatically detects the different signals from connected meters and sensors – energy monitoring simple and flexible.

Machine Data Collection with the digitalTAP™ Software, Powered by MTConnect

1

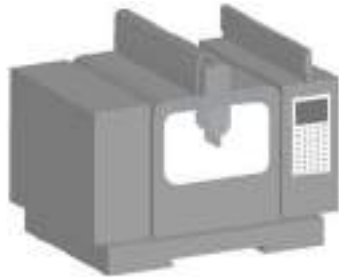
MTConnect open Standard

Tools with MTConnect embedded:
Adapter Agent embedded



Adapter
/Agent

Legacy Machine Tools



The Adapter bridges signals from the plant floor equipment with the Agent using Simple Hierarchical Data Representation (SHDR) format

Adapter

Agent

The Agent buffers the data from the Adapter and serves it to an application client in a standard XML schema or data dictionary that structures the information in a standardized format

Machine Data
Collection
Application

XML Data Stream

WAGO offers an economical solution for integrating the machine data of existing systems into higher-level analytic software applications. DigitalTAP™ from WAGO captures your machine's information and converts it into digital signals that can be used by analytic and data logger applications. The solution provides real-time device data in a standardized format for every machine type. This solution requires no programming. The user merely needs to configure the wired inputs via web visualization tool. Each input can be assigned a unique name individually with its own parameters, such as units and scaling range. These configuration parameters are stored automatically in the WAGO controller and are available immediately.

Through use of the open, licence-free MTConnect® standard, the machine information is formatted in a standardized table and uses proven Internet protocols for the data transport.

Machine Data Collection with MTConnect

	Components	Item No.
Application Controller	Controller PFC100; FG0; 2 x ETHERNET	750-8101/000-010
	digitalTAP™ Application Software	Download: wago.com/applicationcontroller
Supported Modules	Digital Modules	8-Channel Digital Input; 24 VDC; 3 ms
		4-Channel Digital Input; 24 VDC; 3 ms; 2-wire connection
		4-Channel Digital Input; 24 VDC; 0.2 ms; 2-wire connection
		8-Channel Digital Input; 24 VDC; 3 ms; Low-side switching
		16-Channel Digital Input; 24 VDC; 3 ms
		8-Channel Digital Output; 24 VDC; 0.5 A
	Analog Modules	2-Channel Analog Input; 0 ... 20 mA; Differential input
		2-Channel Analog Input; 4 ... 20 mA; Single-ended
		4-Channel Analog Input; 4 ... 20 mA; Single-ended
		8-Channel Analog Input; 0/4 ... 20 mA; Single-ended
		2-Channel Analog Input; 0 ... 10 VDC; Single-ended
		8-Channel Analog Input; 0 ... 10 VDC/±10 V; Single-ended
		4-Channel Analog Input; Resistance measurement; Adjustable
		8-Channel Analog Input; Resistance measurement; Adjustable
		2-Channel Analog Input; Thermocouple K; Diagnostics; Adjustable
		8-Channel Analog Input; Thermocouple; Adjustable
		3-Phase Power Measurement; 480 VAC 1 A
		2-Channel Vibration Velocity/Bearing Condition Monitoring VIB I/O Module
	Function and Technology Modules	
	End Module	
Other Modules		



750-8101/000-010



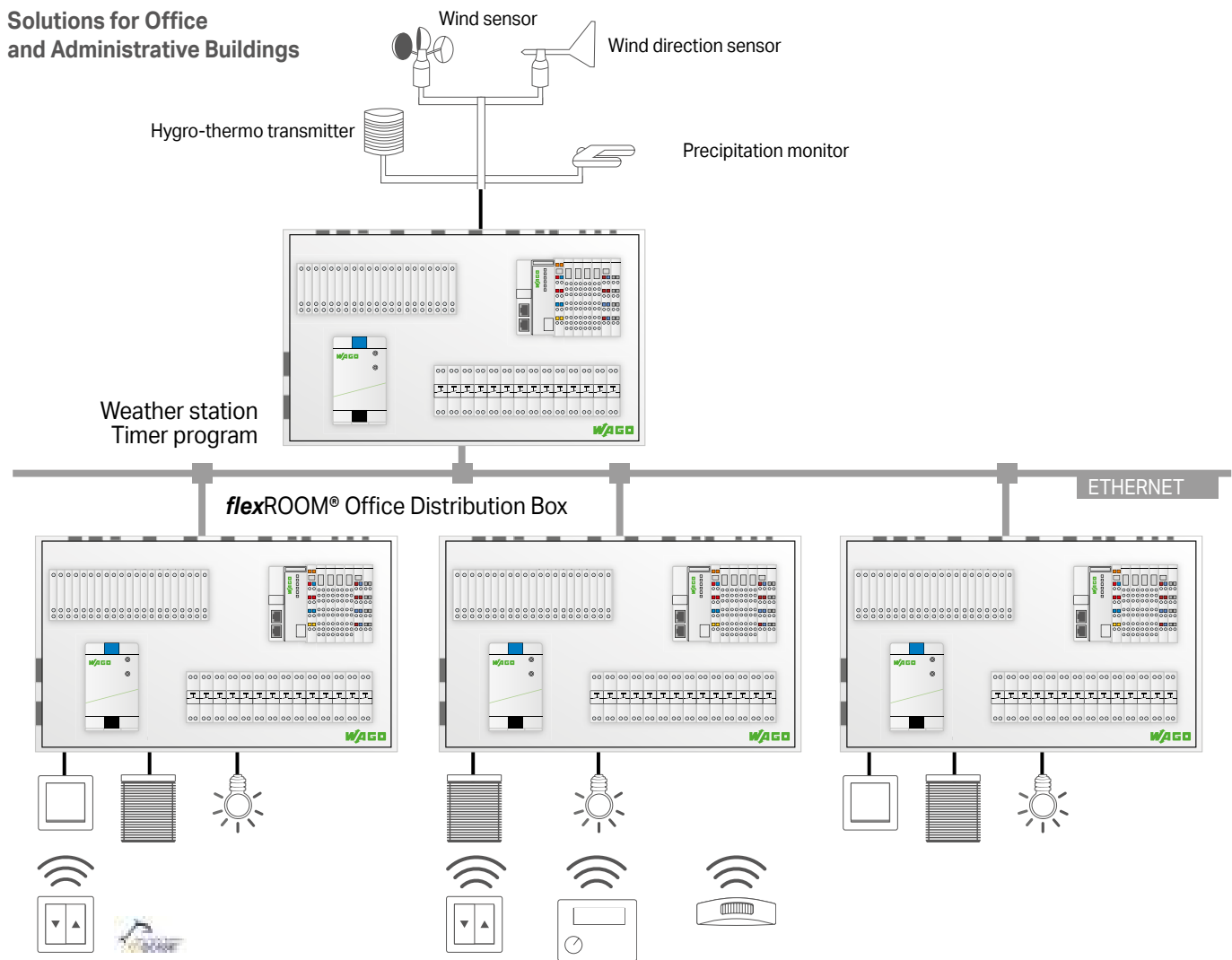
MTConnect

Get started with the Smart Factory comfortably and efficiently with digitalTAP(tm) – Powered by MTConnect.

Room Management with WAGO *flexROOM*®

flexROOM®

Solutions for Office and Administrative Buildings



flexROOM® is ideal for automating industrial and functional buildings (office buildings). This solution automates both lighting and sun protection, while performing single-room control (heating/cooling) for up to 24 room segments. A room segment is the smallest common denominator.

A wide range of 750/753 Series Digital Input/Output Modules are supported. The number of components can be planned and customized to meet individual requirements. For detailed information about supported hardware components, see the manual at www.wago.com/flexROOM.

Each WAGO *flexROOM*® Controller has a Web interface. Both the commissioning technician and end-user can configure the controls for each room via

Web browser, regardless of their location or distribution box. Entire floor plans (setting and deleting walls) and room parameter settings, such as lighting and shading groups, can be changed from the parameter interface. No additional software is required.

WAGO flexROOM®		
	Components	Item No.
Application Controller	PFC200 Controller; FG1; 2 x ETHERNET, RS-232/-485	750-8202/000-011
	flexROOM® Application Software	Download: wago.com/applicationcontroller
Additional Modules (Examples)	16-Channel Digital Input; 24 VDC; 3 ms	750-1405
	16-Channel Digital Output; 24 VDC; 0.5 A	750-1504
	Serial Interface RS-232/-485	750-652
	DALI Multi-Master	753-647
	DALI Multi-Master DC/DC Converter	753-620
	End Module	750-600
DALI Accessories	DALI Sensors	WAGO DALI Multi-Sensor Kit
		• DALI Sensor Coupler
		• Eco-CI Kit
		• MULTI-3-CL Sensor
		DALI Sensor Coupler
		2851-8202
		WAGO DALI MSensor-02 5DPI 41rc (ceiling installation)
EnOcean Accessories		2851-8301
		WAGO DALI MSensor-02 5DPI 41w (box installation)
		2851-8302
		WAGO DALI MSensor-02 5DPI 41rs (surface mounting)
		2851-8303
	EnOcean Radio Transmitters	EnOcean easyfit PTM 250
		2-Channel Lighting Control
EnOcean Accessories		758-940/001-000
		2-Channel Blind Control
		758-940/003-000
		4-Channel Lighting Control
		758-940/002-000
		4-Channel Blind Control
		758-940/004-000
WINSTA® Accessories	Room Control Unit	SR04-P Room Control Unit, radio, wall, EnOcean
		2852-7112
		SR06 LCD Room Control Unit, radio, in-wall, EnOcean, 2 buttons
		2852-7113
	Connector Set	Predefined Connector Sets
	Couplers/Distribution Connectors	h-Distribution Connectors
	Distribution Boxes	Distribution Connectors with Phase Selection
WINSTA® Accessories	Connecting Cables	Pre-Assembled with Various Connectors
		Various Cable Types/Cross Sections
	Tools	Operating Tools
		Wiring Tools



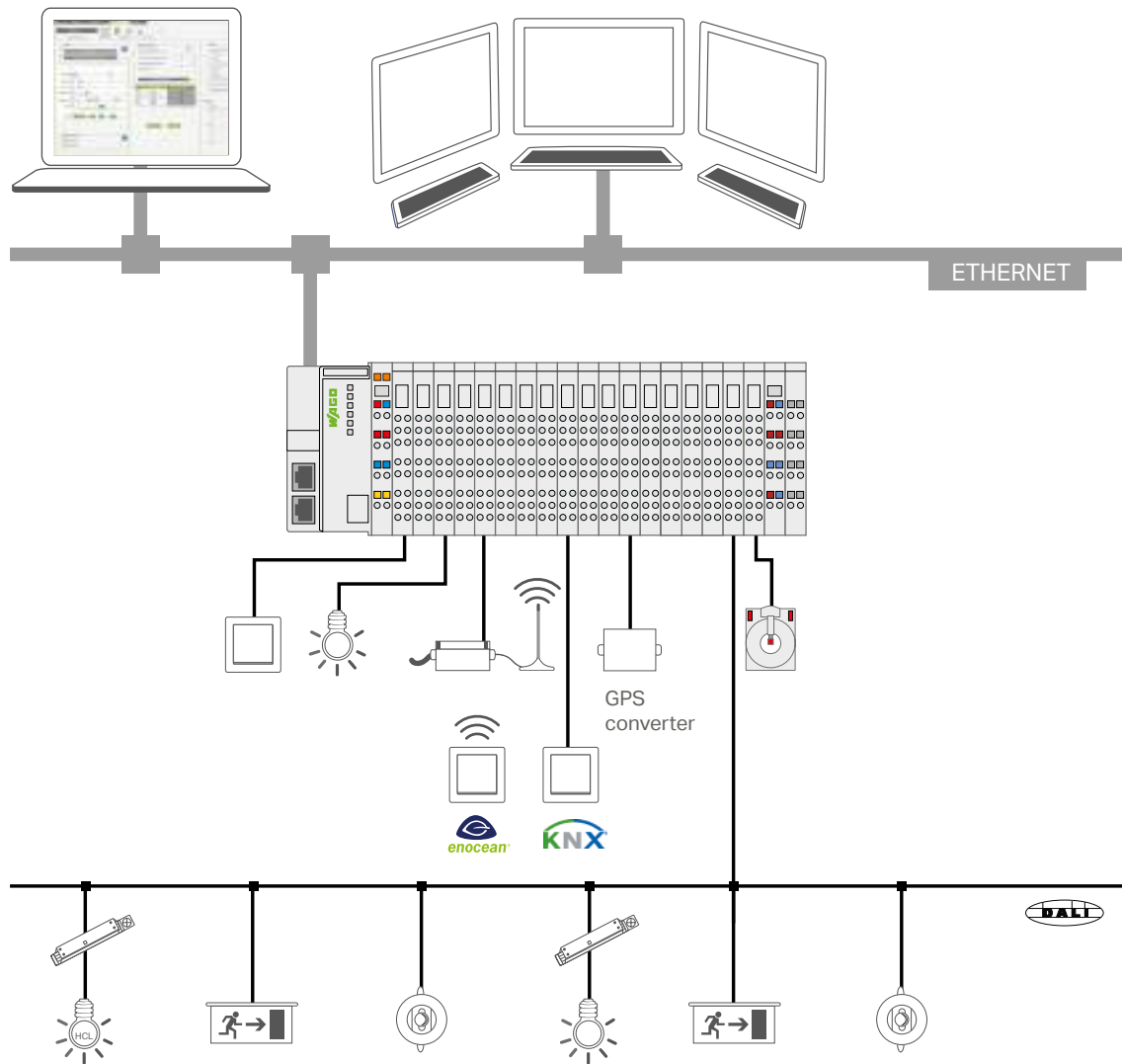
750-8202/000-011 or 750-8202/000-012



Room Management

In order to use the full capability of the application controller, you need the **flexROOM®** Software. The software is available after registration. By registering, we make the latest version of the software available to you by e-mail and can help you with any questions at any time.

WAGO Lighting Management



WAGO Lighting Management is a proven concept based on predefined hardware and preconfigured software, which greatly simplifies planning, commissioning and operation. The basic idea: WAGO Lighting Management is based on the different lighting requirements in warehouses and production facilities. For example, a production facility is divided into virtual rooms in which the light can be flexibly adapted. Each virtual room receives signals from sensors and actuators in order to automatically set the appropriate light intensity. By using the virtual rooms, conversions and room remodeling can be implemented quickly and simply via Web configuration.

WAGO Lighting Management			
	Components	Item No.	Note
Base unit	Lighting Management – Controllers		The controllers can communicate with each other.
	Controller PFC200; FG2; 2 x ETHERNET; RS-232/-485	750-8202/000-012	
	Lighting Management – Software	Free of charge	Download: wago.com/applicationcontroller
	DALI Multi-Master	753-647	In addition to 64 DALI actuators (ECGs), a DALI Multi-Master Module supports up to 16 DALI Multi-sensors (max. 64 sensor addresses); max. 10 DALI modules per base package.
	End Module	750-600	An end module must be snapped onto the assembly at the end of a fieldbus node.
	Power Supply to I/O Node	787-1012	24 VDC supply voltage for controllers and additional modules
	Power Supply to DALI Multi-Master	787-1007	Power supply to max. 5 DALI Multi-Master Modules
Extension for inputs/buttons	16-Channel Digital Input; 24 VDC; 3 ms	750-1405	For 1–16 light push-buttons/switch inputs; max. 4 extensions per base package
Extension for outputs/actuators	16-Channel Digital Output; 24 VDC; 0.5 A	750-1504	For 1–16 actuators/lamps/relays/ECG control; max. 2 extensions per base package
	Socket with Relay and Status; Display; 1 make contact; 24 VDC	788-357	Light switching via relay
Extension for EnOcean radio	Serial Interface RS-232/-485	750-652	Serial interface connects to STC65-RS485 EVC EnOcean Radio Transmitter/Receiver (for 1–64 rocker switches)
	EnOcean Receiver/Transmitter	2852-7101	EnOcean radio signal recording and transmission to the I/O node
	EnOcean Repeater	2852-7102	Extends the transmission range (for more planning information, visit the EnOcean website).
	Radio Transmitter; EnOcean easyfit PTM 250; 2-channel lighting control	758-940/001-000	1–2 or 1–4 signals; range of 30 meters in buildings to the radio receiver
	Radio Transmitter; EnOcean easyfit PTM 250; 4-channel lighting control	758-940/003-000	
Extension for external time request	Real-Time Clock Module	750-640	Time synchronization module, if no time server connection is possible
	GPS DCF Converter	2852-7901	Converter/external receiver for time synchronization
Extension for energy data measurement	3-Phase Power Measurement; 690 VAC	750-495/xxx-xxx	
	Current and Voltage Connections	2007-8874, 2007-8877	Pre-assembled terminal block assemblies for easy connection and short-circuiting of current transformers (current transformers, see Full Line Catalog Volume 4)
Extension for KNX buttons	KNX/EIB/TP1 Interface	753-646	Connects KNX buttons to the I/O node
Extension for sensors	DALI Multi-Sensor Kit	2851-8201	Brightness measurement and motion sensor: kit connects to a DALI bus system
	DALI Sensor Coupler	2851-8202	Sensor coupler for connecting MULTI-3-CI sensors to DALI Max. 16 DALI sensor couplers per DALI Multi Master Module (753-647)
	DALI HIGHBAY ADAPTER + HIGH BAY	2852-7207, 2852-7201	Brightness measurement and motion sensor for large installation heights (3–13 meters)
	DALI HIGHBAY ADAPTER + VISION	2852-7207, 2852-7202	Motion sensor for large areas, open offices, hallways or warehouses
	DALI LS/PD LI	2852-7203	Motion sensor for office lighting (1 ... 5 meters)
	DALI Sensor Coupler HF LS LI + Radar Sensor HF LS LI 4p4c Connecting Cable, 50 cm,	2852-7205 2852-7206 2852-7208	Light and recessed ceiling sensor: combined daylight and motion detection, motion detection via radar
	DALI XC	2852-7301	Push-button coupler connects 4 conventional push-buttons to DALI.
	DALI Sensor Coupler E	2852-7204	Sensor coupler connects standard sensors to DALI.



750-8202/000-012



Lighting Management

Using a combination of predefined hardware and user-friendly software, WAGO Lighting Management facilitates the design and commissioning of new lighting systems while providing numerous advantages for their operation.

WAGO Gateway Application

1

With the new WAGO Gateway Application, it is possible to implement information exchange between different bus systems. This is supported by a user-friendly interface, so no programming is necessary – nothing but configuring connections.

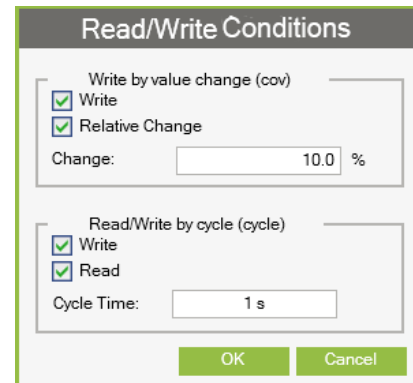


Advantages:

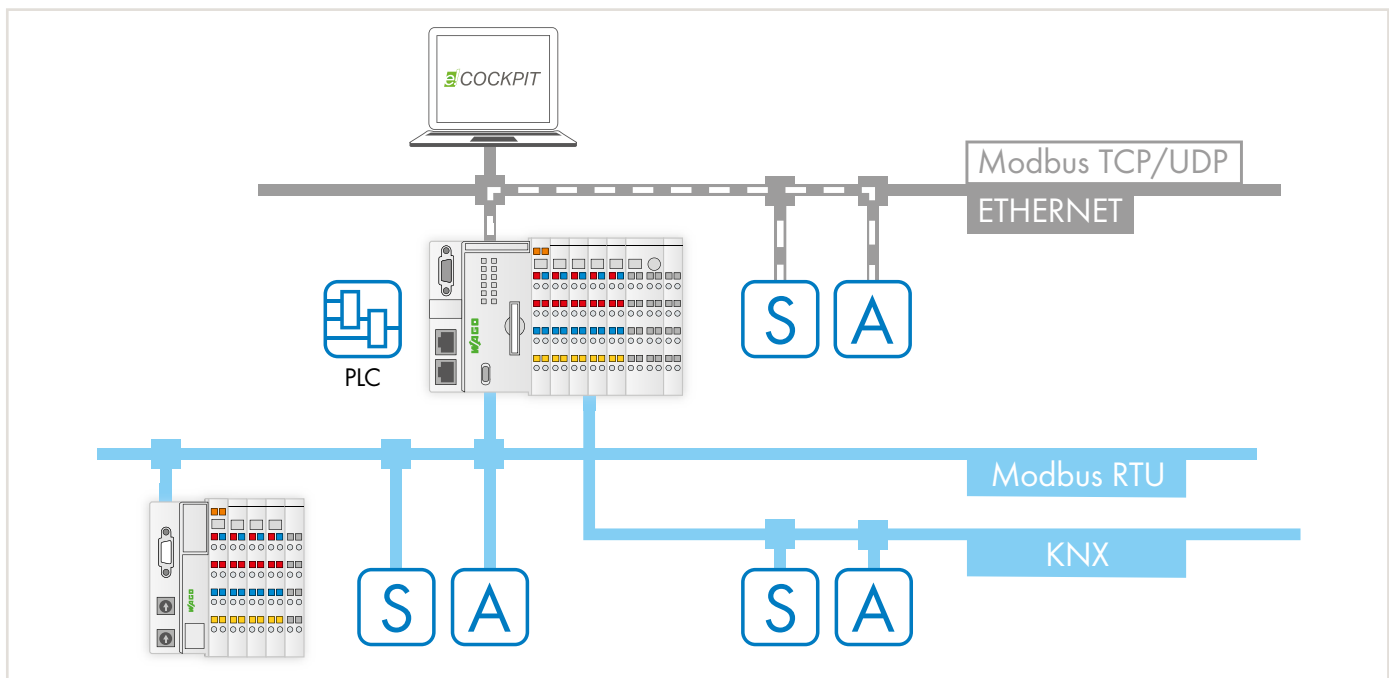
- Exchange of information between the bus systems:
 - Modbus TCP
 - Modbus UDP
 - Modbus RTU
 - KNX
- Commissioning time reduced through interface-supported configuration instead of programming
- Easily manage up to 255 KNX data points per KNX module via ETS import and export

Function in Detail:

- Automatic detection of station structure
- Display of the available interfaces
- Creation of data points
- Import/export of ETS files (KNX)
- Linking of data points
- Conditional reading/writing



- Functional coupling



Item Description		Delivery type	
WAGO Gateway Application	Item No.	Compatible Controller	Closed Application Download at www.wago.com
	Download		
		PFC200; G2; 2ETH RS	750-8212

You can find detailed information on the controllers in Section 4.1.



Software

Engineering Software

- PC-based software
- Customized tools for every automation task

Runtime Software

- Standard machine component
- Comprehensive, tested software modules for control, regulation, operation & monitoring

Mobile Software (Apps)

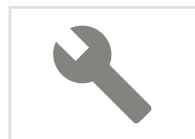
- Machine operation and monitoring via tablet and smartphone

Solutions

- Cloud solutions
- Reusable, customizable software applications

Software

Engineering Software, Runtime Software and Mobile Software



			Page
General Product Information			24
	Description	Item No.	
Engineering Software			
Designing and marking	<i>smartDATA</i> Engineering	Online	
Programming and configuration software	<i>e!COCKPIT</i>	2759-0101	26
	Add On <i>e!COCKPIT</i> UML	2759-402/1420-1000	28
	<i>e!COCKPIT</i> Static Analysis	2759-403/1420-1000	29
	<i>e!COCKPIT</i> Profiler	2759-404/1420-1000	30
	WAGO-I/O-PRO	759-333	32
	WAGO-I/O-CHECK	759-302	33
	IEC 60870/IEC 61850 Configurator	Download	34
	DNP3 Configurator	Download	36
	SMI Configurator	Download	37
	BACnet Configurator	Download	38
	DALI Configurator	Download	39
	LON® Configurator	Download	40
Plug-ins	Device- and Industry-Specific Configurators		
	WAGO ETS Plug-In	Download	41
Runtime Software			
Libraries	<i>e!COCKPIT</i> (based on CODESYS V3)	Download	42
	WAGO-I/O-PRO (based on CODESYS V2.3)	Download	43
<i>e!RUNTIME</i>	EtherCAT Master 300, single license	2759-263/210-1000	45
Mobile Software (Apps)			
	WAGO WebVisu App	Download	46
Accessories			
	Configuration Cable, USB Communication Cable, <i>Bluetooth</i> ® Adapter		48

Software

General Product Information

Software Factors into Success

Projects in production, process and building automation are characterized by shorter and shorter implementation times, ever more complex structures and the increasing role of software as part of the overall solution. In fact, software is becoming an essential factor that influences the success of a project.

Engineering software is used for both machine and system development, as well as the implementation of building automation projects. Runtime software controls the devices at operating time.

Customized Software Tools

Significant challenges must be overcome to develop, operate and maintain modern machines and systems, as well as program, configure and commission building automation applications. Customized software tools are available as needed for every task – embedded within integrated engineering processes or as stand-alone tools for a set of dedicated functions.

CODESYS as an Integrated Environment



All WAGO Controllers are equipped with the high-performing CODESYS industry-standard development environment. This enables software development in the IEC 61131-3 PLC programming languages (ST, FBD, LD, IL, SFC and CFC). As a trusted programming environment, CODESYS guides developers, enabling them to reuse and further develop existing projects without relearning software. This means that modern paradigms are available, such as Object-Oriented Programming (OOP) and modern visualization technologies.

Pre-Made Software Solutions

Pre-made software solutions and applications simplify automation. Such solutions involve reusable software that can be used for a specific application by making simple adjustments. This approach saves time and money.

Pre-made software solutions can be found in Section 1.

Open to Proven Standards



The software is open to well-established standards, making it an investment in the future. The software supports all prominent fieldbuses, for example. This allows WAGO components to be seamlessly integrated into engineering software via standardized device description files. In addition, connecting controllers to fieldbus systems via WAGO Engineering Software is incredibly simple, opening up all the advantages of existing field devices.

Finally, WAGO Software is based on modern IT standards and development methods for long-term viability.

Extensive Import and Export Functionality



The software tools demonstrate an impressive ability to exchange project data with the external software tools involved in the development process – preventing costly, error-prone double entry.

Industry-Specific Configurators



Whether industry, process or building automation, every sector and industry has specific requirements. Therefore, plug-ins specifically customized for the needs of individual industries are available in addition to the common software base. For example, these plug-ins can be used to measure energy or easily configure a DALI network.

Advantages:

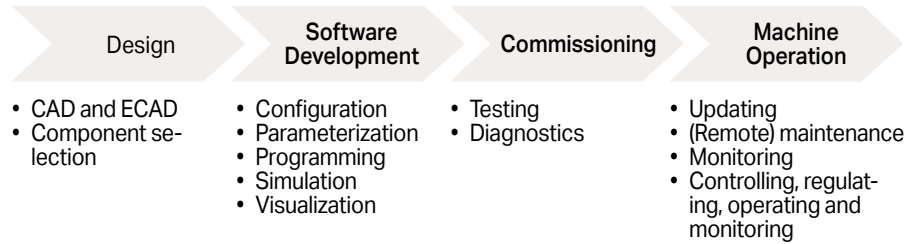
- Customized software for every automation task
- Extensive import functions from external design tools
- Plug-ins for industry-specific development environments
- Comprehensive software solutions for various industries
- Simple and secure licensing

Software

General Product Information

Software for Mechanical Engineering

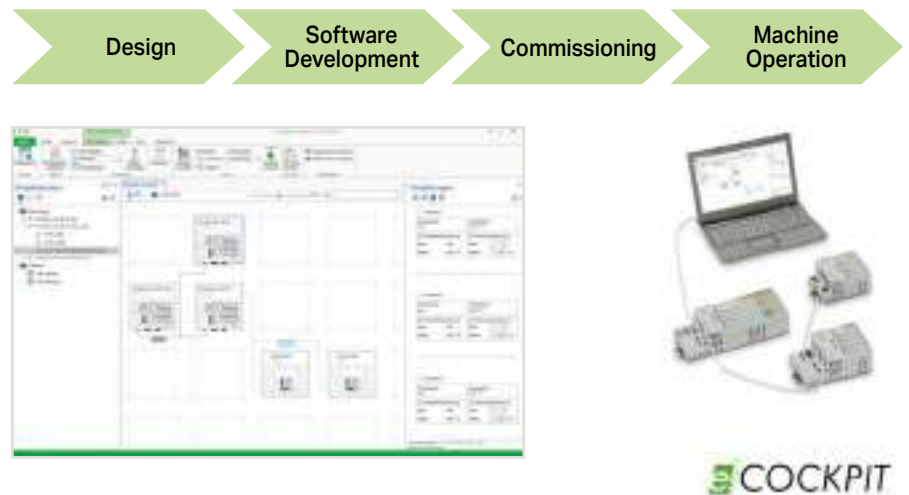
Software is used in every phase of machine and system automation – from design to successful machine operation.



Engineering Software

Quickly implementing complex machine functions is critical in modern mechanical engineering applications. PC-based engineering software supports all development activities. The focus is on simple configuration, timely programming and efficient commissioning of automation network components.

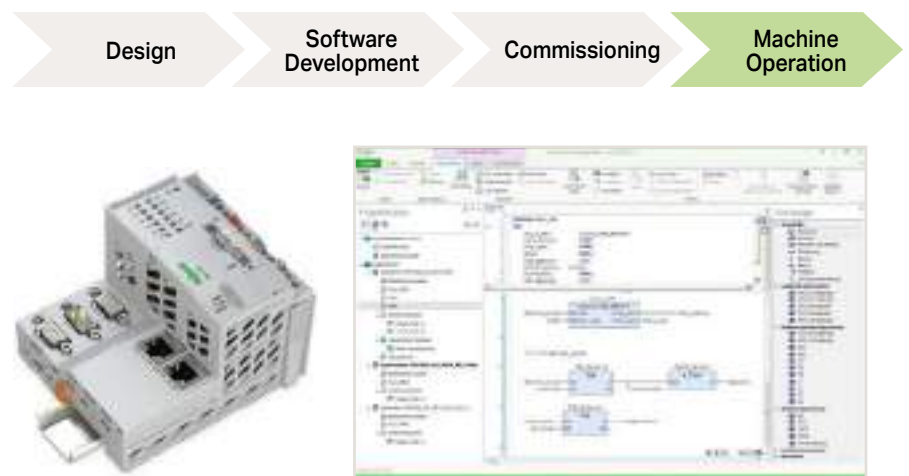
Engineering tools are typically not permanently linked to the machine – they only communicate with the machine during startup and maintenance.



Runtime Software

The machine is controlled by runtime software that determines behavior, while enabling both operation and current status monitoring for the user. It also transmits operating data to higher-level systems. With comprehensive, tried-and-tested software function blocks (IEC libraries), development goals are reached more quickly.

Unlike engineering software, runtime software operates continuously – it is a part of the machine and ensures correct operation.



Mobile Software (Apps)

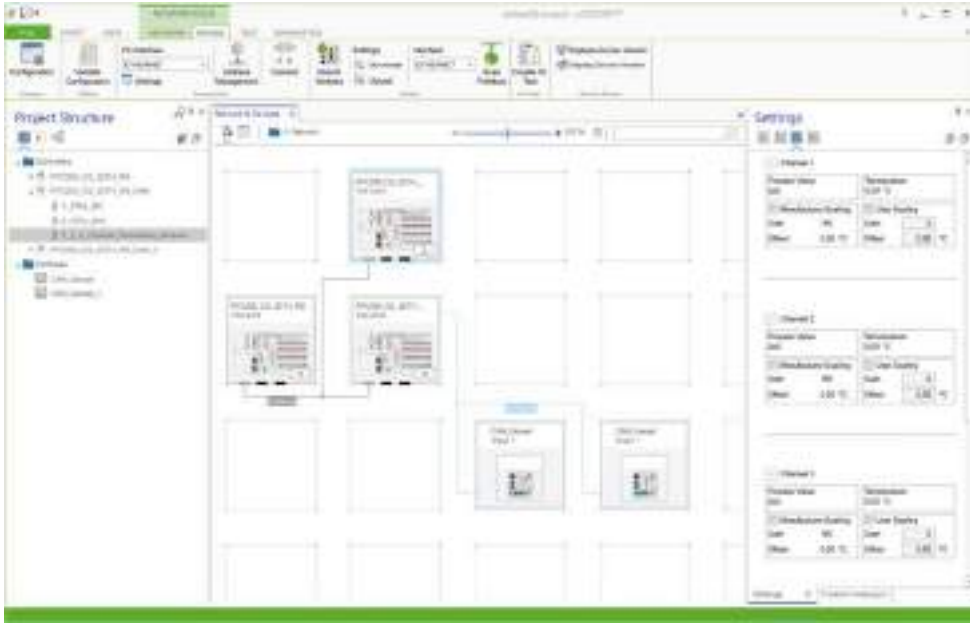
Software on mobile devices offers productivity advantages in an industrial environment as well. This integration enables users to quickly and easily operate and monitor automation processes via smartphone or tablet – from virtually anywhere.

Mobile software typically communicates only with the machine's controller for a specific application.



e!COCKPIT Engineering Software Based on CODESYS V3

2



e!COCKPIT automation software for faster machine and system startup: WAGO's new engineering software shortens development time for automation projects while impressing with a modern and clearly laid out user interface. At the software's core is CODESYS V3 for simple and versatile creation of applications.

Ensuring a project's long-term viability through sustainable cost savings hinges on a user's ability to quickly adapt to new software that offers a high degree of reusability.

WAGO set out to fulfill these exact requirements by developing its own engineering software: e!COCKPIT. This integrated development environment supports every automation task, from hardware configuration, programming, simulation and visualization up to commissioning – all in one software package.

Use the programming tool to cover all important automation bases while simultaneously engineering particularly complex projects quickly and easily.

e!COCKPIT					
License Type	Number of PCs	Item No.	Order Text		
Workplace license	2	2759-0101/1110-2002	e!COCKPIT; Workstation license	Can be installed on up to two PCs (e.g., notebook & desktop)	
Multi-user license	5	2759-0101/1110-2005	e!COCKPIT; Multi-user license; 5	Multiple installations up to specified number	
Multi-user license	10	2759-0101/1110-2010	e!COCKPIT; Multi-user license; 10		
Multi-user license	15	2759-0101/1110-2015	e!COCKPIT; Multi-user license; 15		
Multi-user license	20	2759-0101/1110-2020	e!COCKPIT; Multi-user license; 20		
Site license	unlimited	2759-0101/1110-3000	e!COCKPIT; Site license	Unlimited installations at a company location	
Buy-out license	unlimited	2759-0101/1110-4000	e!COCKPIT; Buy-out license	Unlimited installations within a company at all locations in a country; in addition, the software may be used in company products that contain WAGO's automation technology to form a functional unit.	

Supported operating systems	Windows 7 (32- and 64-bit), Windows 8, Windows 8.1 (32- and 64-bit), Windows 10
System Requirements	
Processor	Dual-core
Memory	4 GB
Hard disk space	10 GB
Graphics resolution	1,366 x 768 px
Supported devices	Controllers based on CODESYS V3, I/O modules (750/753)
Supported fieldbuses	CANopen; Modbus TCP/UDP; Modbus RTU; PROFIBUS
Supported device descriptions	DTP; EDS; GSD
Connectivity	TCP; USB; OPC; CODESYS network variables; CODESYS DataServer
Programming languages per IEC 61131-3	ST; LD; FBD; IL; FC; CFC
Import/export formats	CODESYS V3 project files (*.project)
Delivery type	Installation file (download)
For data sheet and further information, see:	wago.com/ecockpit

Internet connection may be required for license activation.

Windows® is a registered trademark of Microsoft Corporation.



Configuration and Parameterization

The integrated **e!COCKPIT** configurators provide modern operating tools and workspaces, such as:

Examples:

- Graphical network topology: Complex relationships between network devices and their current states can be identified easily and intuitively.
- Drag & Drop: Simplifies device interaction.
- Copy & Paste: Individual devices or whole network branches can be duplicated quickly.
- Batch processing: Parameter values are set simultaneously for several devices.

2

Programming

e!COCKPIT offers multiple software development options:

- IEC 61131-3 PLC programming languages: Structured Text (ST), Ladder Diagram (LD), Function Block Diagram (FBD), Instruction List (IL), Sequential Function Chart (SFC), Continuous Function Chart (CFC)
- For flexibility, all programming languages can be combined with one another.
- Created programs can be easily debugged on the engineering PC via simulation.
- New paradigms such as object-oriented programming are included.



Visualization

Advanced user interfaces for operating and monitoring machines are standard. Today, HMI-based design is a critical factor that influences the purchase of an entire automation line. **e!COCKPIT** employs Drag & Drop to streamline the design of modern user interfaces. The integrated visualization editor provides:

- Access to IEC program variables
- Closed simulation of HMI and PLC programs on the engineering PC
- Guaranteed language independence via Unicode character set
- Current standards such as HTML 5 or CSS

Diagnostics

Being acutely aware of the automation network's current status is an absolute must for the rapid detection and elimination of errors – be it during development in the office or directly on the machine during commissioning. **e!COCKPIT** provides comprehensive diagnostic capabilities:

Individual views, for example, always display the controllers' status information both graphically and in tabular form

To keep the project on time, error messages are transmitted directly and clearly.

The structured wiring test function systematically identifies wiring errors.



e!COCKPIT UML Software Modeling in UML

UML (Unified Modeling Language) is a graphical language for specifying, designing and documenting object-oriented software. It clearly facilitates discussions between programming and other disciplines within system development. The e!COCKPIT UML add-on extends the e!COCKPIT Engineering Software with two languages of the "Unified Modeling Language": the class diagram and the status diagram.

Advantages:

- Improved readability of the program code via clear class and behavior diagrams in standardized form
- Reduce programming errors by generating program code from UML diagrams
- Easier debugging through online data in the state diagram

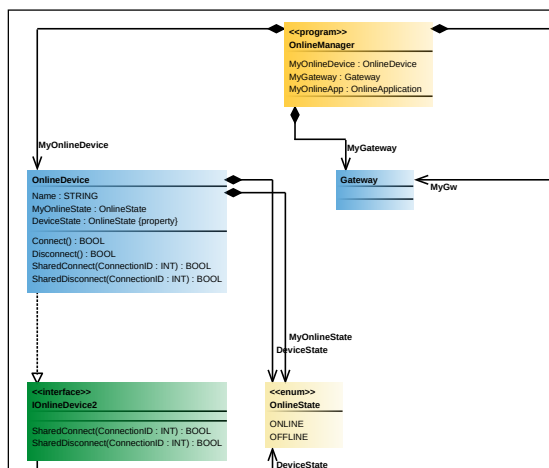
Class Diagram:

The class diagram belongs to the group of UML structure diagrams. With the additional graphic editor, the object-oriented structure of e!COCKPIT projects can be mapped or designed. The various object classes (e.g., function blocks or interfaces), including the variables and methods used in them, and their relationships are clearly displayed.

The existing project structure can be imported directly from the device structure when creating a class diagram. However, a project structure can also be rebuilt using the following available class and relationship elements:

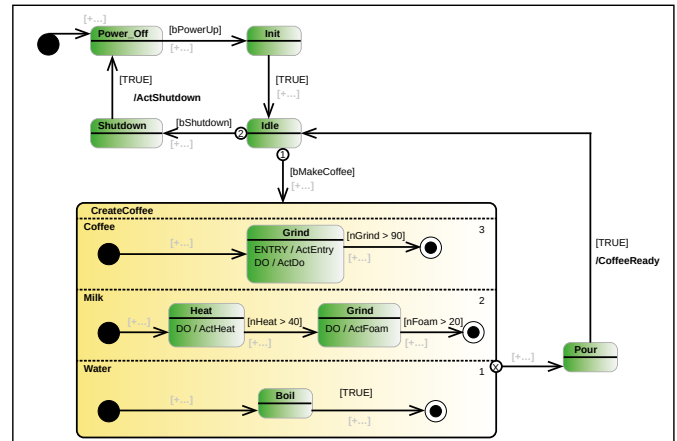
- Class (POU)
- Interface
- Variable declaration
- Property
- Method
- Generalization
- Realization relationship
- Association
- Composition

New objects in the class diagram editor are automatically inserted into the device structure.



State Diagram:

The state diagram belongs to the group of UML behavior diagrams. It is a graphical language for specifying and designing the sequence of event-discrete systems. Unlike with the class diagram, executable application code is generated when compiling a state diagram.



The state diagram editor includes a selection of step and transition elements:

- Start state
- End state
- State
- Composite state
- Junction/connection
- Selection
- Transition
- End transition
- Exception transition

When the application is running, the status diagram is switched according to the clock cycle. In addition, an independent switching behavior can be realized via cyclic internal state diagrams. In online mode, the state diagram is animated so that the current status of the process can be tracked at any time.

Item Description	
	Item No.
e!COCKPIT UML; Single-user license	2759-402/1420-1000

Minimum e!COCKPIT version	V1.3.0
Hard disk space	20 MB
Delivery type	Installation file (download)
Data sheet and further information, see:	wago.com/2759-402/1420-1000

Single license allows installation on one computer.

Internet connection may be required for license activation.

e!COCKPIT Static Analysis

Static Code Analysis

In addition to the compiler check, the **e!COCKPIT** Static Analysis add-on checks the source code based on defined rules and naming conventions. This add-on displays potential development problems, allowing errors to be detected and corrected before field testing. More than 100 partly parameterizable rules have already been implemented that can be combined into individual rule sets. The add-on functions are seamlessly integrated into the **e!COCKPIT** development environment.



Advantages:

- Avoid errors during program creation
- Save time-consuming troubleshooting during application development
- Ensure that the program code conforms to the defined rules and is easily readable

Main Functions:

- Check the application explicitly via menu command
- Alternatively: automatic verification during code generation
- Control pre-processor instructions, and determine which parts of the code will be analyzed

Rules and Naming Conventions:

Within the **e!COCKPIT** project settings, a standard set of programming rules and naming conventions can be configured in the standard version:

- Unused variables
- Overlapping memory areas
- Simultaneous access
- Multiple write access to output
- Multiple use of the name

Additionally, the following analytics can be performed with **e!COCKPIT** Static Analysis:

- Discover unreachable parts of the code
- Find empty objects
- Find empty instructions
- Find useless declarations
- Conversions
- Write access to input variables
- Rules for operators
- Rules for FOR and CASE instructions
- Strict testing of IEC rules

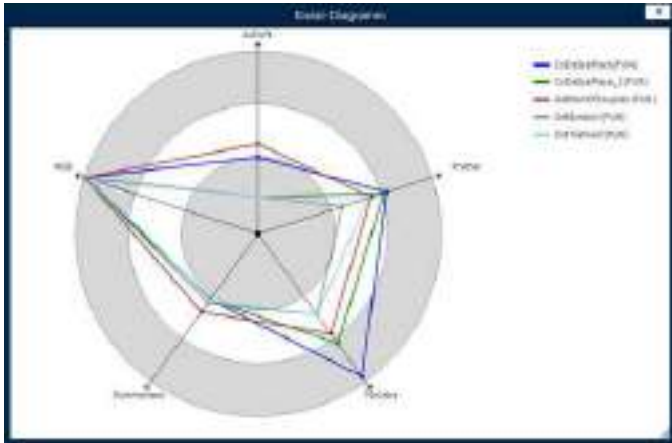
Result of the Analysis:

The result of the analysis is displayed in the message window. Each violation has a unique number and can be uniquely associated with the configured rules and naming conventions.



Metrics:

Various metrics, such as the number of code lines, memory consumption or the evaluation of software complexity, as well as the upper and lower limits to be observed, can be configured for evaluation of the code quality. The results of the applied metrics can be displayed in tabular and graphical form as a Kiviati diagram.



Item Description	
	Item No.
e!COCKPIT Static Analysis; Single License	2759-403/1420-1000

Single license allows installation on one computer.

Minimum e!COCKPIT version	V1.4.0
Hard disk space	30 MB
Delivery type	Installation file (download)
Data sheet and further information, see:	wago.com/2759-403/1420-1000

Internet connection may be required for license activation.

e!COCKPIT Profiler Runtime Behavior Analysis

The **e!COCKPIT** Profiler add-on allows programmers and application developers to measure and evaluate the processing times and code coverage of different blocks in an IEC 61131-3 application at an early stage. This add-on can be seamlessly integrated into the **e!COCKPIT** Engineering Software. Measurement may be performed parallel to the application development in the standard development environment.



Advantages:

- Measure both machine code's runtime behavior and code coverage right at the beginning of the development phase
- Early detection of runtime problems
- Identify both time-consuming program parts and unused programming blocks
- Overall and individual measurement of all application blocks
- Identify the code efficiency by comparing historical and current measurements
- Increase the software quality

Main Functions:

- Implicit binary code extension during translation, without changing the program code of a project
- Dynamic measurement via code instrumentation at each function entry and exit
- Only during measurement: temporary code enlargement and runtime extension of 10 to 50%
- Measurement start via variable or command
- Overview of the measurement results in the development environment

Functions:

- Control the runtime measurement via freely selectable Boolean variable
- Measure the runtime of individual programming blocks and function block instances within the "profiler watch list"
- Measure the percentage of missed instructions per block via code coverage
- Measurement results show the time-critical path

Setting Options:

- Select the task to be measured
- Select the unit base (tick, milliseconds or microseconds)
- Define the memory size required for the measurement
- Adjust the measurement behavior (next or maximum cycle)
- Select the calls to be measured in the monitoring list
- Select the program blocks to be measured to determine the code coverage

Detailed Results:

- Percentage of time spent in the call
- Total time spent in call
- Average time of all POU calls in a single cycle
- Minimum and maximum processing time over multiple cycles
- Number of calls
- Time spent for each call
- Standard deviation of average measured time
- Percentage of the iterated code

Display the Results as:

- Summary table
- Call tree (time- or process-oriented)
- Tables
- Watch list

100,00 %	MAINTASK	246,344 µs	1 Call
95,99 %	PLC_PRG (PRG)	246,324 µs	1 Call
95,34 %	CoDelSysPlays (FUN)	234,876 µs	2 Calls
76,85 %	GetNumOfCouples (FUN)	189,324 µs	485 Calls
35,34 %	SelectableTile (FUN)	87,659 µs	51526 Calls
6,20 %	SelectableTile (FUN)	15,265 µs	9856 Calls
0,60 %	TILEFIELD_TYPE_FB_INIT	1,472 µs	2 Calls
0,59 %	STP_ENTRY_FB_INIT	1,443 µs	208 Calls
3,93 %	CoDelSysPlays_1 (FUN)	9,676 µs	1 Call

Item Description	
	Item No.
e!COCKPIT Profiler, Single License	2759-404/1420-1000

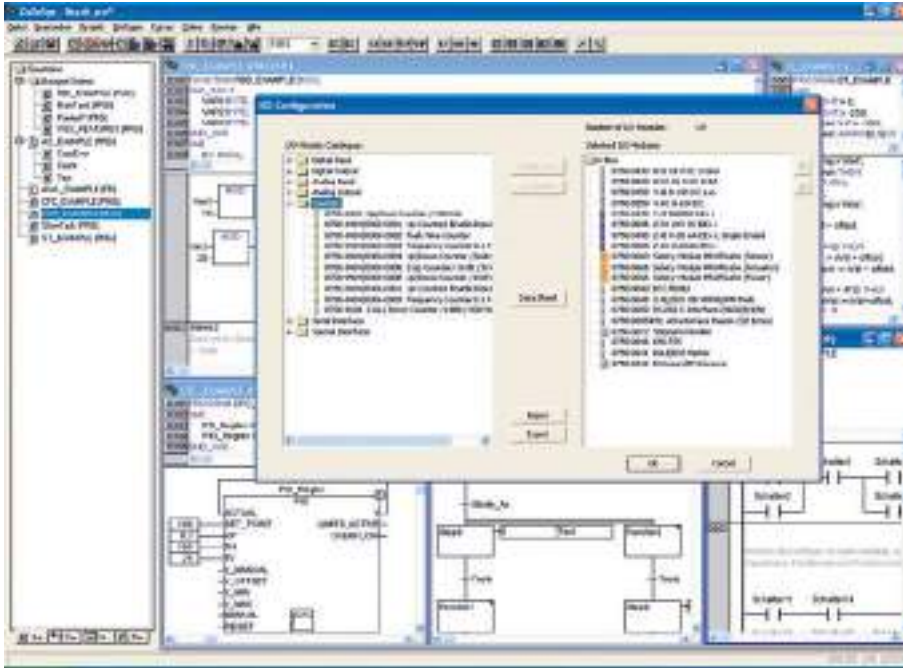
Minimum e!COCKPIT version	V1.4.0
Hard disk space	30 MB
Delivery type	Installation file (download)
Data sheet and further information, see:	wago.com/2759-404/1420-1000

Single license allows installation on one computer.

Internet connection may be required for license activation.

WAGO-I/O-PRO Engineering Software Based on CODESYS V2.3

2



WAGO-I/O-PRO is a programming and visualization tool for control programs. This software is used to develop PLC applications for WAGO-I/O-SYSTEM 750 Controllers.

WAGO-I/O-PRO runs in line with the IEC 61131-3 standard, which specifies the requirements for a programming system. The IL, SFC, LD, FBD and ST programming languages are supported. The optimal programming language can be chosen for each application.

With extensive programming functions, the software readily meets the increasing requirements of control program development (e.g., reusability and modularization).

- Efficiently translate between programming languages
- Automatic variable declaration
- Library management

Integrated test and diagnostic functions also streamline and accelerate the implementation of processes for PLC projects.

- Online status display using the program code
- Offline simulation
- Integrated process visualization
- Record and graphically display project variables

WAGO-I/O-PRO also offers the option of programming your existing products from other manufacturers within the CODESYS automation alliance in addition to the standard programmable CODESYS automation alliance products from WAGO.

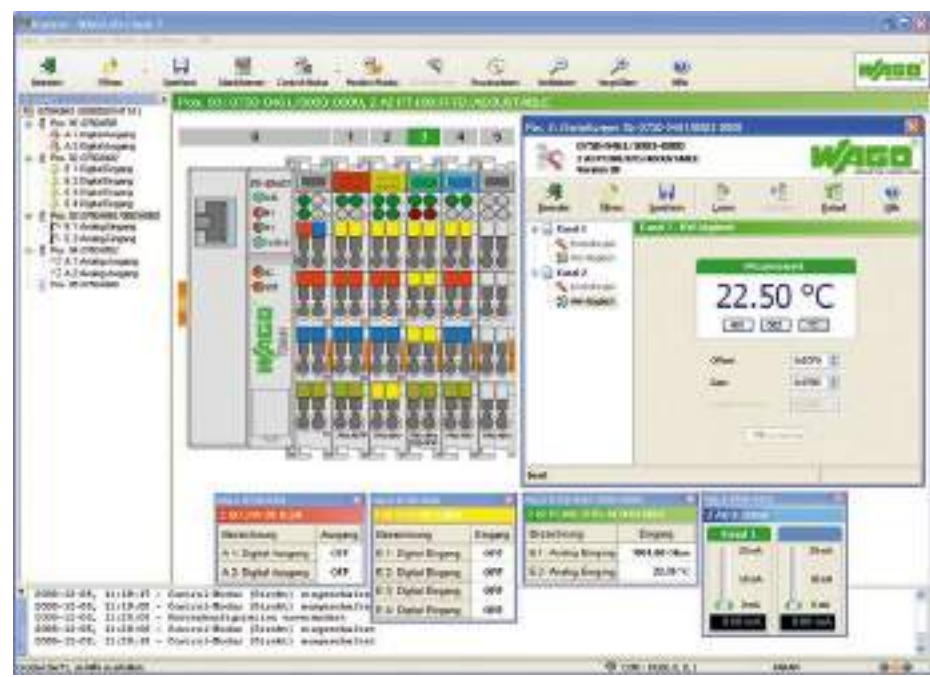
WAGO-I/O-PRO		
Version	Delivery type	Item No.
RS-232 Set	CD-ROM and serial communication cable	759-333
USB Set	CD-ROM and USB communication cable	759-333/000-923

Supported operating systems	Windows 7; Windows 10
System Requirements	
Processor	1 GHz or higher; with 32 bits (x86) or 64 bits (x64)
Memory	1 GB RAM (min.)
Hard disk space	300 MB (min.)
Graphics resolution	1024 x 786 (min.)
Other system requirements	Open serial interface, CD-ROM and mouse required
Delivery type	Installation file (CD-ROM)
Data sheet and further information, see:	wago.com/759-333

Windows® is a registered trademark of Microsoft Corporation.

„ Serial/USB communication cables, see page 48

WAGO-I/O-CHECK



WAGO-I/O-CHECK is an easy-to-use Windows application for checking inputs and outputs and the display of a WAGO-I/O-SYSTEM 750 node, which does not have to be connected to the fieldbus system at the time. The software reads the configuration from the node and displays it as a graphic on the screen. The graphic can be printed together with a configuration list as documentation.

With WAGO-I/O-CHECK, it is possible to display and determine the process data of the I/O modules. The field wiring, including all sensors and actuators, can thus be checked before startup.

Application-specific settings, such as the baud rate or type of sensors, can be made with certain interface, Pt100 and thermocouple modules.

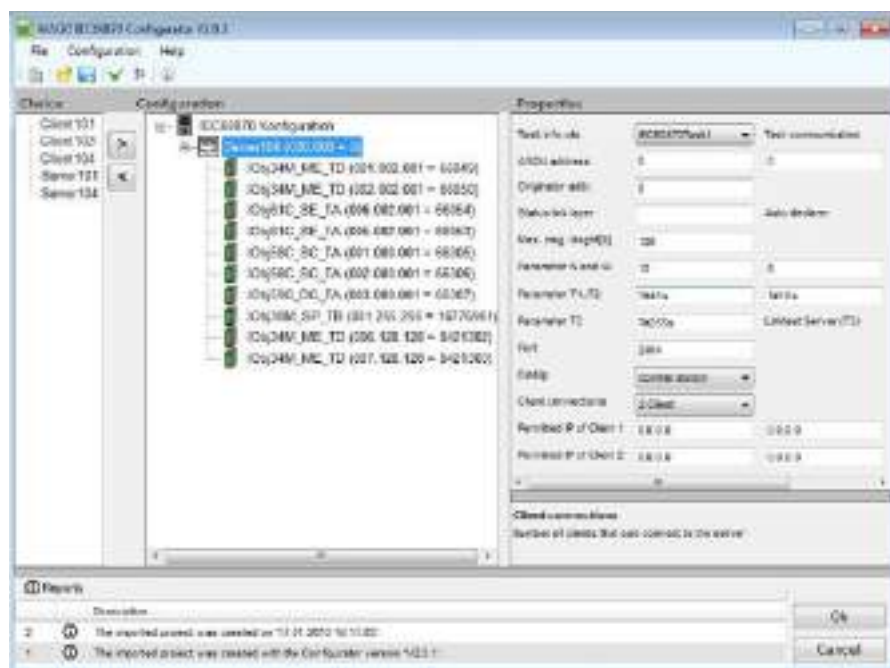
The coupler must be connected at a vacant serial or USB port of the PC using the communication cable supplied in the set with the system to enable communication between WAGO-I/O-CHECK and the coupler.

WAGO-I/O-CHECK		
Version	Delivery type	Item No.
RS-232 Set	CD-ROM and serial communication cable	759-302
USB Set	CD-ROM and USB communication cable	759-302/000-923
CD	CD-ROM	759-920

Supported operating systems	Windows 7; Windows 10
System Requirements	
Processor	1 GHz or higher; with 32 bits (x86) or 64 bits (x64)
Memory	1 GB RAM (min.)
Hard disk space	150 MB (min.)
Graphics resolution	1024 x 786 (min.)
Other system requirements	CD-ROM and mouse required
Delivery type	Installation file (CD-ROM)
Data sheet and further information, see:	wago.com/759-302

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IEC 60870 Configurator



The IEC 60870 Configurator is part of the WAGO I/O-PRO V2.3 Software. The configurator fully supports the IEC 60870-5-101/103/104 specific functions of all WAGO telecontrollers.

The configurator sets up IEC 60870 objects, while configuring data exchange to the PLC application or I/O modules. Import and export functions in CSV format allow configured data to be transmitted to other engineering tools.

The IEC 60870-5-101 and 104 protocols are supported on both client and server sides, while the IEC 60870-5-103 protocol is exclusively supported on the client side. This permits the creation of gateways that convert one protocol into another, e.g., allowing protection devices to be read out via IEC 60870-5-103 and data to be transmitted to the network control system via IEC 60870-5-104.

Various options are available for the time synchronization of telecontrol substations (server). Time can be synchronized either via the IEC 60870 protocol with object 103 or via (S)NTP. With the WAGO 750-640 Module, clock time can also be synchronized via DCF77 or GPS.

IEC 60870-5-101/104 information objects can be used to monitor the direction of single, double and step messages. Bit patterns, counter values, as well as normalized, scaled and floating-point measurement values can also be used. All information objects can be transmitted with or without a time stamp. This also applies to information objects in control direction.

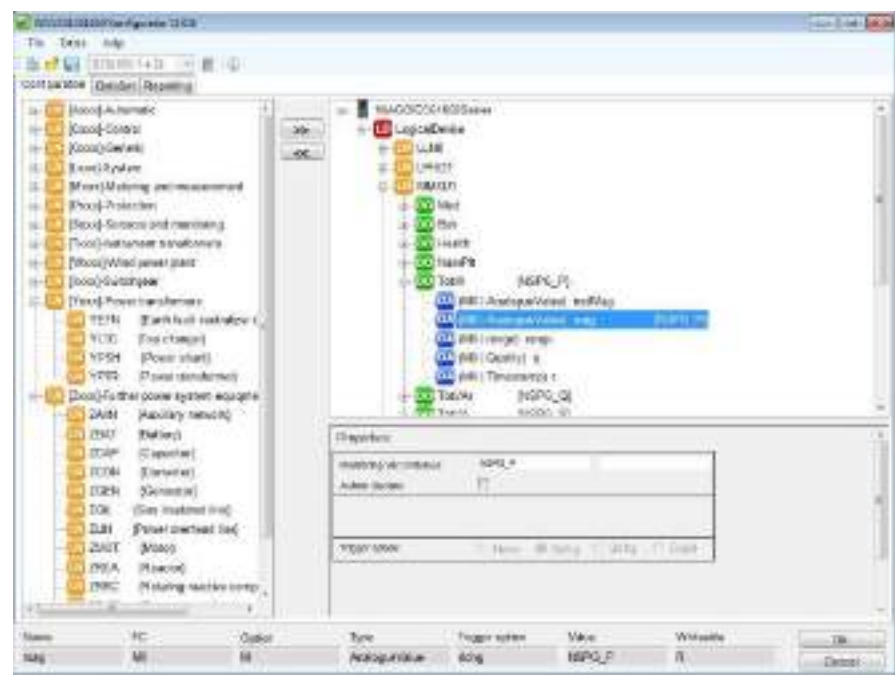
An IEC 60870-5-104 server can simultaneously maintain up to four connections to the control system (client).

IEC 60870 Configurator

Integrated in WAGO I/O-PRO V2.3

System requirements	WAGO I/O-PRO Version 2.3.9.40 or higher
Function	IEC 60870-5-101 server and client IEC 60870-5-103 client IEC 60870-5-104 server and client
Supported Controllers	
Controllers PFC200	750-8202/025-001 750-8206/025-001
Controllers PFC200 XTR	750-8202/040-001 750-8206/040-001
Controllers 750	750-872 750-880/025-001 750-880/025-002
Controllers 750 XTR	750-880/040-001

IEC 61850 Configurator



The IEC 61850 Configurator is part of the WAGO-I/O-PRO V2.3 Software. The configurator fully supports the IEC-61850-specific functions of the WAGO telecontrollers.

The configurator sets up IEC 61850 objects, while configuring data exchange to the PLC application or I/O modules. Import and export functions in IEC 61850 SCL exchange format allow configuration data to be transmitted to other engineering tools.

On the server side, the IEC 61850 protocol is supported for MMS* communication to the control system. The controllers can also be operated as a GOOSE publisher or subscriber. This permits the creation of gateways that convert one protocol into another, e.g., allowing data from protection devices to be received via the IEC 61850 client and transmitted to the network control system via IEC 60870-5-104 protocol. Time synchronization is performed via SNTP, NTP, DCF77 and GPS (750-640 Module is also required for GPS).

Various options are available for the time synchronization of telecontrol substations (server): It can either be done via (S)NTP or synchronized with the WAGO 750-640 Module via DCF77 or GPS. The IEC 61850 MMS server can simultaneously maintain up to five connections to the control system (client).

The IEC 61850 client processes data from up to 10 servers with each 32 requests.

*MMS = Manufacturing Messaging Specification

IEC 61850 Configurator
Integrated in WAGO-I/O-PRO V2.3

System requirements	WAGO-I/O-PRO Version 2.3.9.47 or higher
Function	IEC 61850 server and client
Object types	IEC 61850-7-4 and IEC 61400-25
Data sets	Static and dynamic
Reporting	Buffered and unbuffered
Supported Controllers IEC 61850 Server	
Controllers 750	750-872
Supported Controllers IEC 61850 Server and Client	
Controllers PFC200	750-8202/025-001 750-8202/025-002 750-8206/025-001 750-8207/025-001
Controllers PFC200 XTR	750-8202/040-001 750-8206/040-001
Controllers 750	750-880/025-001 750-880/025-002
Controllers 750 XTR	750-880/040-001

DNP3 Configurator



The DNP3 Configurator is part of the WAGO I/O-PRO V2.3. Software. The configurator fully supports the DNP3 specific functions of all WAGO telecontrollers.

The configurator sets up DNP3 objects, while configuring data exchange to the PLC application or I/O modules. The settings can be imported and exported in DNP3 XML device profile format.

WAGO's telecontrollers can work as TCP, UDP and serial DNP3 slave.

Cyclical time synchronization of the telecontrol outstation (slave) can be performed by the master according to DNP3 Device Profile 1.7.2.

In the monitoring direction, the WAGO DNP3 slave can send digital, analog and count values to the master. Both digital and analog values can be received in control direction. Analog values can be processed in 16-bit, 32-bit or FLOAT format. Count values can be processed in 16-bit or 32-bit format.

WAGO's DNP3 slave can simultaneously maintain connections to up four DNP3 masters.

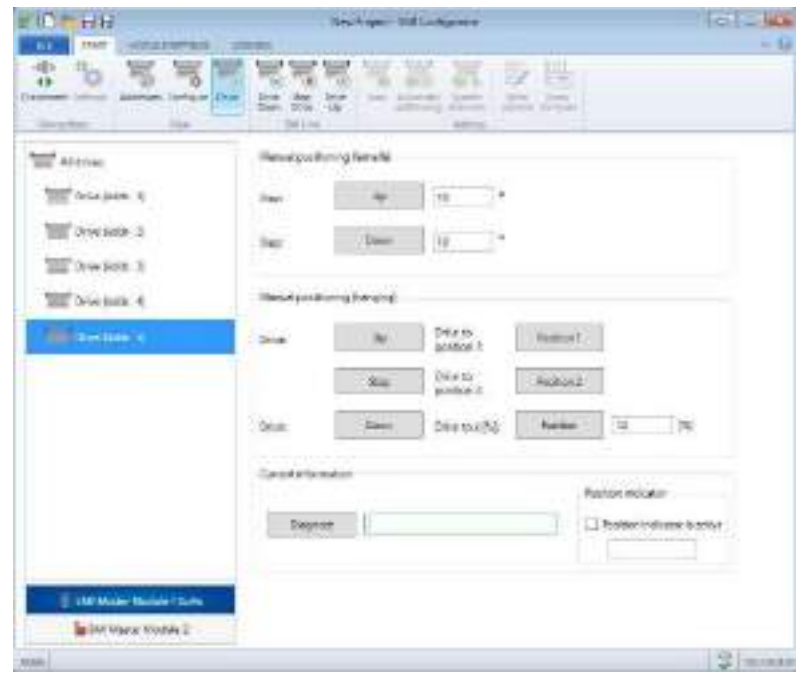
DNP3 Configurator

Integrated in WAGO I/O-PRO V2.3

System requirements	WAGO I/O-PRO Version 2.3.9.48 or higher
Function	Serial DNP3 Slave (RS-232), DNP3 TCP/IP Slave
Supported Controllers	
Controllers PFC200	750-8202/025-001 750-8202/025-002 750-8206/025-001 750-8207/025-001
Controllers PFC200 XTR	750-8202/040-001 750-8206/040-001
Controllers 750	750-872 750-880/025-001 750-880/025-002
Controllers 750 XTR	750-880/040-001
Baud rates	300; 600; 1200; 2400; 4800; 9600; 19200; 38400
Number of control stations	Max. 4

„ Software WAGO I/O-PRO V2.3, see page 32

WAGO SMI Configurator



The SMI Configurator is parameterization software for SMI master modules. You can use the software to commission SMI drives that are connected to SMI master modules.

The SMI Configurator offers functions for commissioning and configuring SMI drives. Besides the online mode, in which you can control the SMI drives directly, you have the option of using the SMI Configurator in offline mode. This includes offline configuration of all SMI drives connected to available SMI master modules within a node, as well as saving and restoring SMI drive configurations from existing CSV addressing files.

You can directly transfer all module settings of an SMI master module to any number of additional SMI master modules with the “Transfer settings” function. Furthermore, you have the option of using the SMI Configurator to generate project documentation and display the log data of a selected SMI master module.

A scan function makes it possible to identify the SMI drives connected to an SMI master module and display the settings in the SMI Configurator. If SMI addresses are missing or there is an address conflict, you can use automatic addressing to assign a new SMI address to all drives automatically, or alternatively use system extension to resolve the address conflict and delete any missing SMI drives.

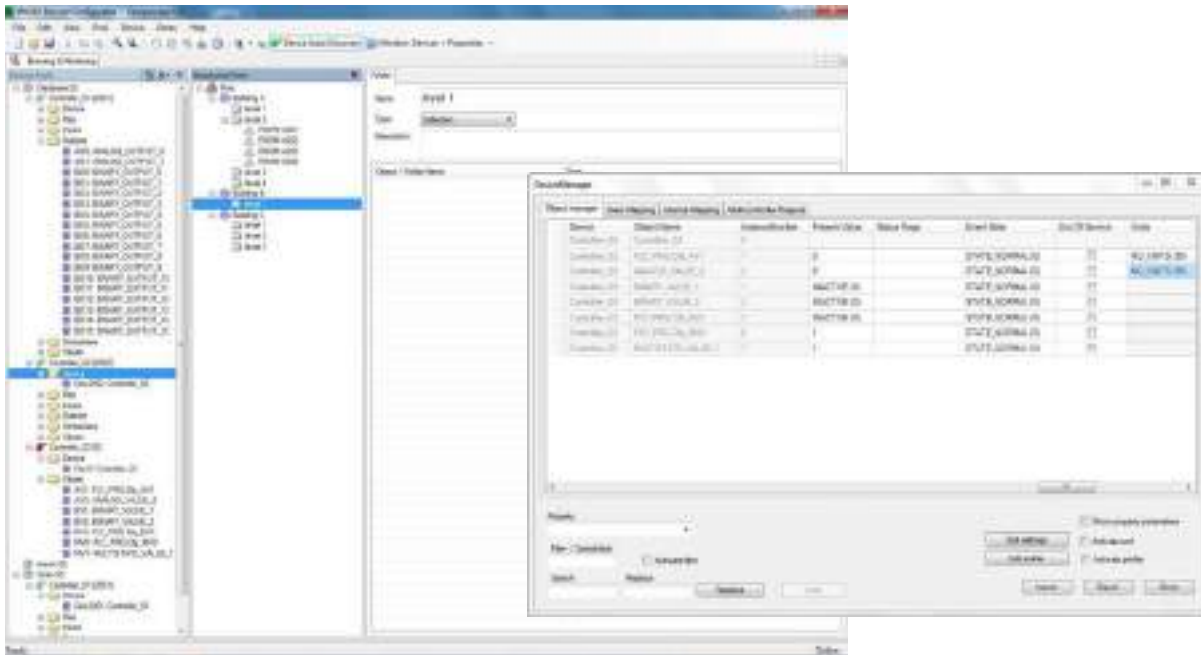
WAGO SMI Configurator
Download: www.wago.com

Supported operating systems	Windows 7; Windows 10
System Requirements	
Processor	1 GHz (min.)
Memory	1 GB (min.)
Hard disk space	20 MB (min.) for the SMI Configurator and 60 MB for the .NET Framework 4.0
Other system requirements	.NET Framework 4.0
Delivery type	Download

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WAGO BACnet Configurator

2



The BACnet Configurator is an independent commissioning, configuration and management software program. The configurator fully supports the BACnet-specific functions of WAGO's 750-829, 750-830 and 750-831 BACnet Controllers.

The configurator creates and configures WAGO BACnet Controllers and sets up data exchange between the IEC application and BACnet objects. Import and export functions allow further processing of the configuration data.

For integration into existing BACnet networks, the BACnet devices available can be scanned and displayed in a browser; also, data exchange can be implemented for WAGO devices.

Among the configurator's capabilities are the logical structuring of the project and network, addressing of the controller and client/server configuration in every WAGO BACnet Controller. The devices, objects and configuration data are displayed in a logical, structured network and browser view.

Depending on the function used, both online and offline operation is possible.

The configurator displays all configuration data. To edit BACnet objects, the configurator offers specific table views in which the corresponding properties of the object can be modified. Typical table editing functions, e.g., search/replace, sort, filter and show/hide, are available. The user can upload the updated configuration data to one or more controllers and save as a project.

The configurator provides a browser to view the BACnet object properties and modify current parameters (communicate value changes, write property values, utilize BACnet services, etc.). Additionally, a transaction log window is available for client services.

BACnet Configurator

The BACnet Configurator can be downloaded for free at:
see: www.wago.com

Supported operating systems

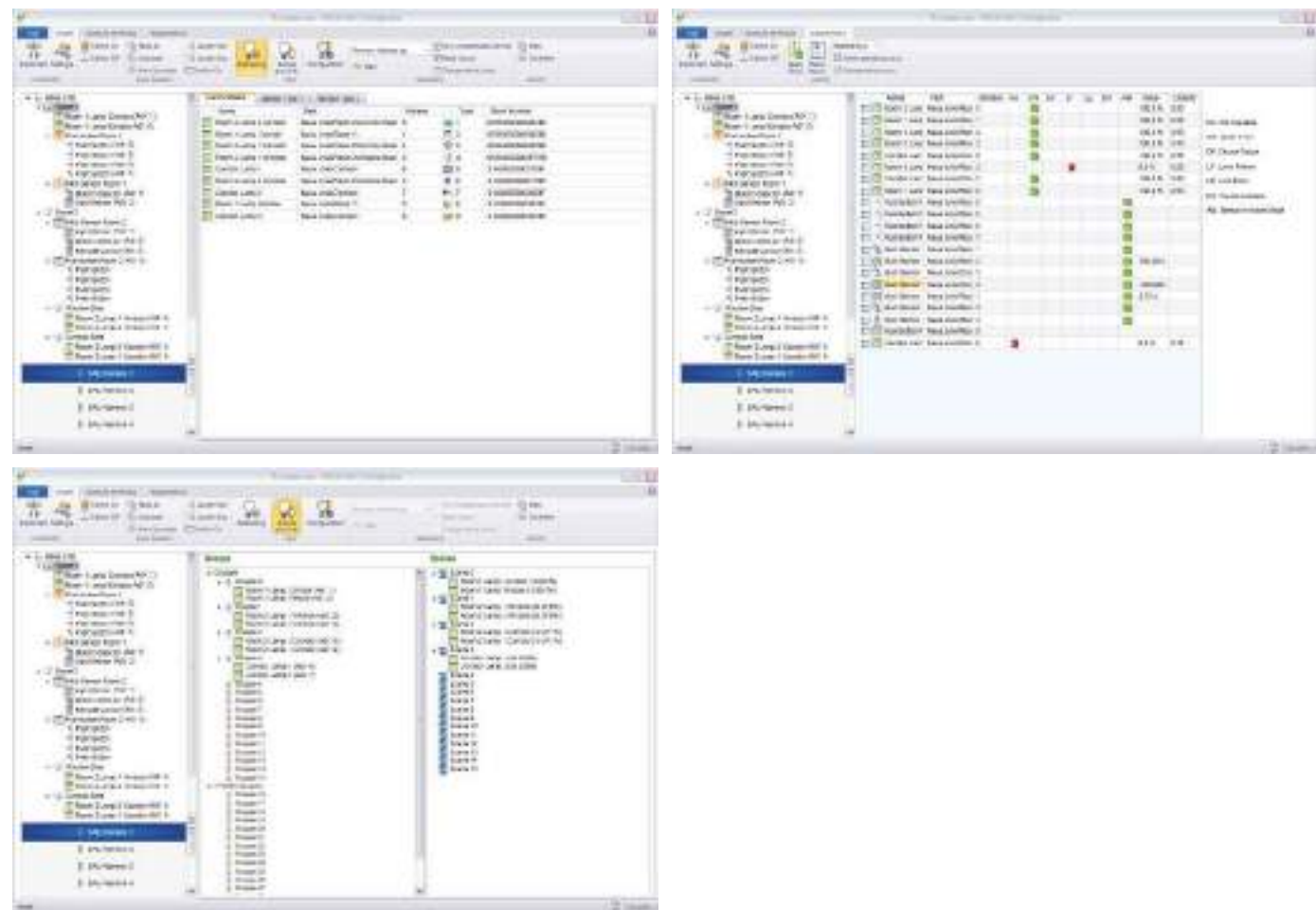
Windows 7; Windows 10

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„ Software WAGO-I/O-CHECK,
see page 33

„ Software WAGO-I/O-PRO V2.3,
see page 32

WAGO DALI Configurator



The DALI Configurator simplifies commissioning of a DALI network via 753-647 DALI Multi-Master. The configurator is available as a stand-alone Windows application or for use with WAGO-I/O-CHECK Software.

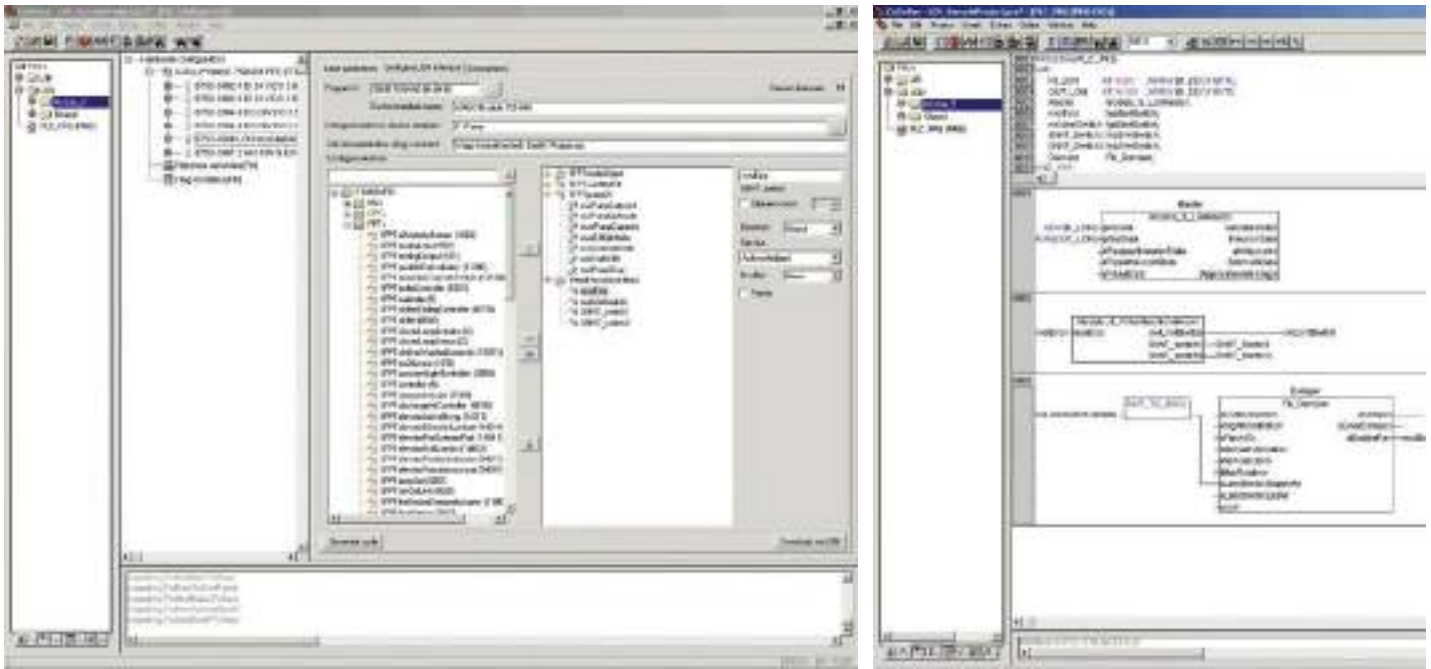
It provides the following functions: easy commissioning, configuration, service, support and maintenance of a DALI network. Comprehensive backup & restore features, as well as an offline configuration option for the entire DALI network (including ECGs and sensors) are available.

DALI Configurator
The DALI Configurator is available as part of WAGO-I/O-CHECK (Version 3.5.1 or higher) or as a stand-alone version (www.wago.com).

Features	Stand-alone software or for use with WAGO-I/O-CHECK
Commissioning function	Addressing, scenes and group formation; control gear configuration, optional offline configuration, import and export functions, project documentation
Service, support and maintenance functions	Backup & restore, reporting ECG illuminant failures, identification of doubled addresses, diagnostics report
Windows-compliant user interface	Multiple selection for time-optimized configuration and a clearly organized network display with tree structure support different commissioning workflows

WAGO LON® Configurator

2



The LON® Configurator is an integral part of the WAGO-I/O-PRO IEC-61131-3 programming environment. The configurator supports both the 753-648 LON® Module's LonWorks® network interface configuration and WAGO-I/O-PRO project integration.

Network variables of any type can be defined. In addition to standard network variable types (SNVTs) and standard configuration property types (SCPTs), user-defined types (UNVTs/UCPTs) and LonMark® functional profiles (FPTs) are also supported. Network variables are defined using the types and objects of the LonMark® resources installed on your computer.

IEC-61131-3 function blocks are automatically created in the IEC application, simplifying operation. The function blocks represent the LON® network interface in the IEC application. When starting the control unit, both network variable interface and configuration data are automatically downloaded into the I/O module.

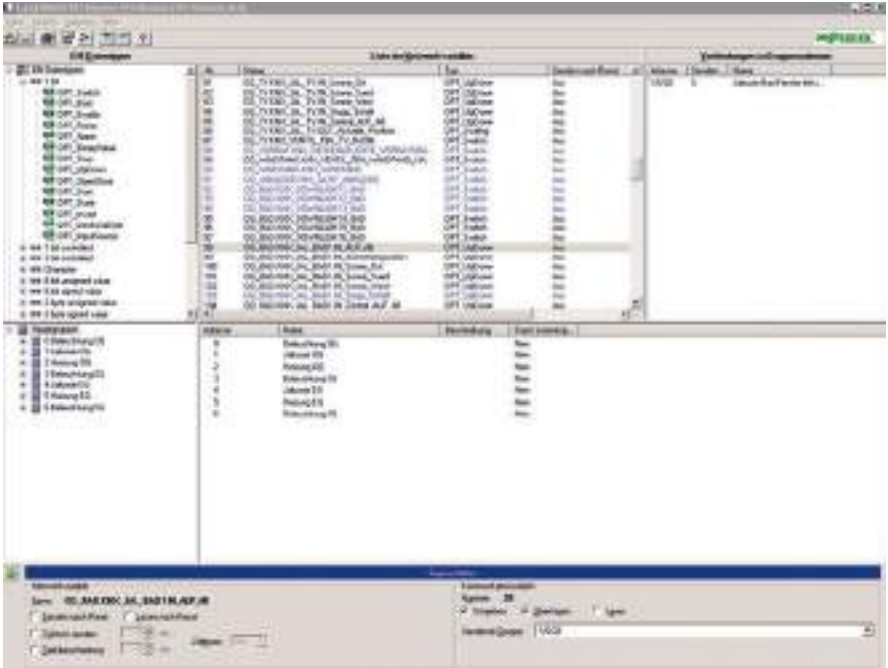
An external interface file (XIF) is created for offline configuration in a network management tool.

LON® Configurator

The LON® Configurator is available as part of WAGO-I/O-PRO (Version 2.3.9.34 or higher)

- Integral part of WAGO-I/O-PRO programming software
- Defines and implements a LON® network interface
- Automatically generates IEC 61131-3 function blocks to represent the LON® network interface within an IEC application
- Downloads both network interfaces and configuration data when controller is started
- Configuration check and test
- Generates XIF files

WAGO ETS Plug-In



The WAGO ETS Plug-In is a WAGO ETS product database extension that allows the use of WAGO devices, such as the 753-646 KNX/EIB/TP1 Interface, 750-889 KNX IP Controller and KNXnet/IP Router (consisting of KNX/EIB/TP1 Interface and KNX IP Controller).

The software's enhanced structure offers intuitive navigation – providing both new and experienced ETS users with exceptional usability.

The WAGO ETS Plug-In provides three clearly structured user interfaces for the various devices. Depending on the mode selected, either the KNX/EIB/TP1 Module, KNX IP Controller or the KNXnet/IP Router (IP Controller with KNX/EIB/TP1 Module in first position) are supported.

In the graphical interfaces, device parameters are easy to configure. Only the options pertaining to the selected device are displayed. During software development, creating a convenient and time-saving graphical user interface was heavily emphasized – and this is beneficial when assigning communication objects to group addresses. Two different drag-and-drop options and a context menu with automatic filter function are available allowing the user to select his favorite procedure.

WAGO ETS Plug-In

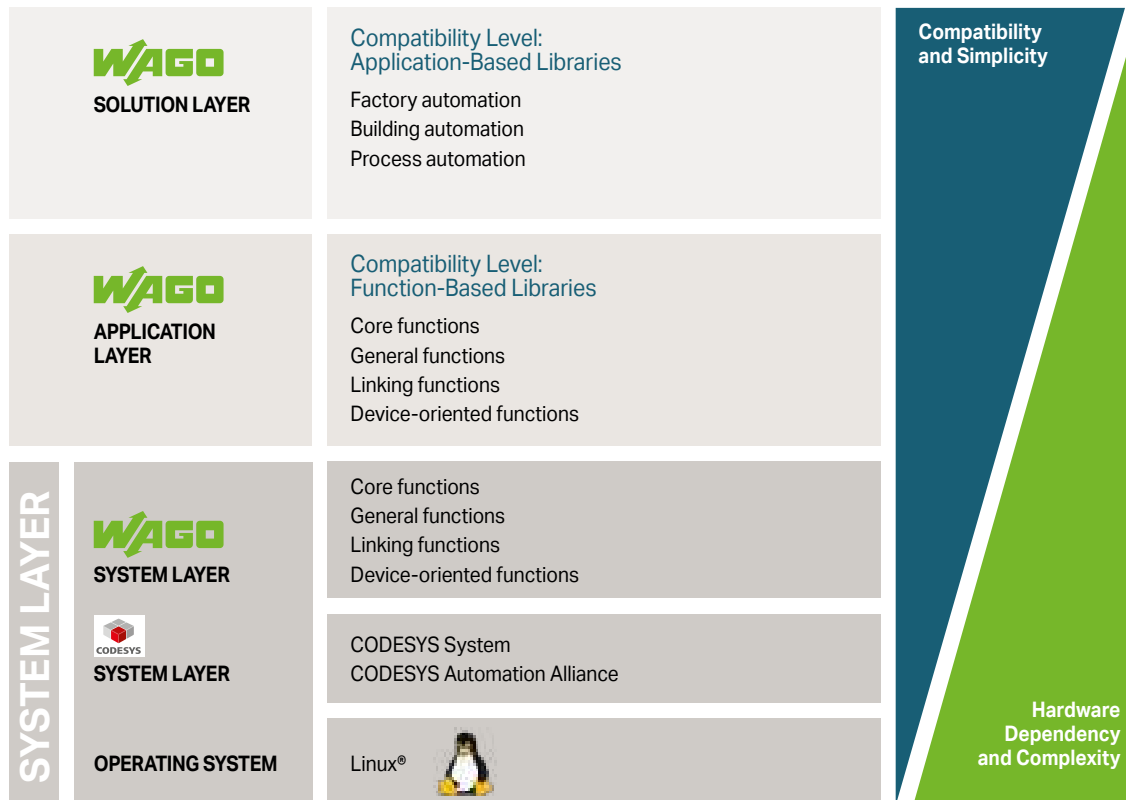
The WAGO ETS Plug-In can be downloaded for free at:
see: www.wago.com

Supported operating systems	Windows 7; Windows 10
Other	The plug-in requires the ETS product database.
Configuration	
KNX/EIB/TP1 Module	Load/assign IEC variables (communication objects); Create/configure group addresses
KNX IP Controller	Allocate IP addresses; Download IEC application to controller; Load/assign IEC variables (communication objects); Create/configure group addresses
KNXnet/IP Router	Allocate IP addresses; Set routing multicast addresses; Filter/transmit telegrams

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Runtime Software – Libraries

e!COCKPIT (Based on CODESYS V3)



Runtime Software Controls the Machine

Machines and systems are controlled by runtime software that determines behavior, while enabling both operation and current status monitoring for the user. It also transmits operating data to higher-level systems. Unlike engineering software, runtime software operates continuously – it is a part of the machine and ensures correct operation.

Ready-to-Use Function Blocks Save Development Time

Comprehensive, tried-and-tested software function blocks (IEC libraries) expedite development. Thus, e!COCKPIT is supplemented with comprehensive IEC libraries.

Essentially, the libraries are divided into three abstraction layers:

The solution layer primarily contains complete, easy-to-use software solutions for production, building and process automation.

The application layer contains technology functions, e.g., for communication, that are ideal for convenient, easy application. The system layer provides experts with complete system access.

The upper layers are separated by compatibility levels. Essentially, this enables software to be developed independently of the hardware it will be used on.

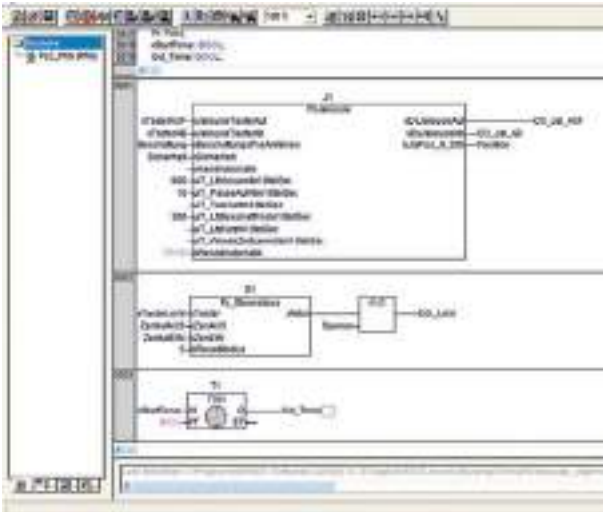
This provides the greatest degree of flexibility in selecting the right device for the right application, while retaining a uniform software base. It also provides investment security.

Function Modules and Libraries

Integrated into the e!COCKPIT Software

Runtime Software – Libraries

WAGO-I/O-PRO (Based on CODESYS V2.3)



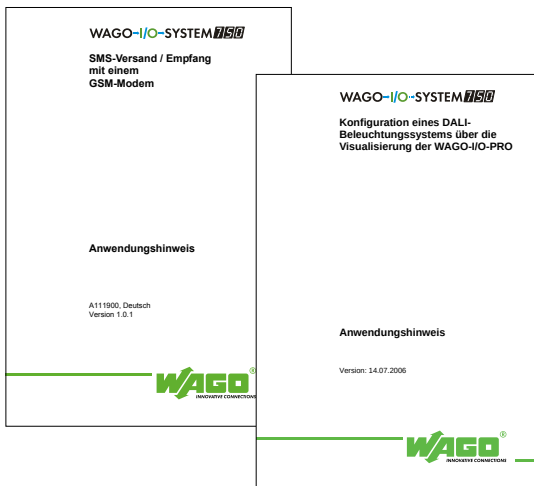
2

Room Applications

Integrated into WAGO-I/O-PRO Software

The library contains custom function blocks for building automation, which accelerate the programming of building applications.

- Lighting
- Only addressing Control Gears (ECG) without short address
- Lighting scenes
- Constant light control
- Sun protection
- Shading
- Other applications



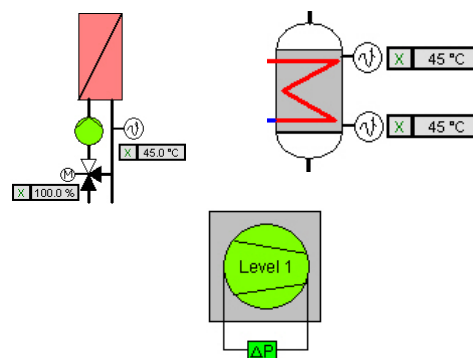
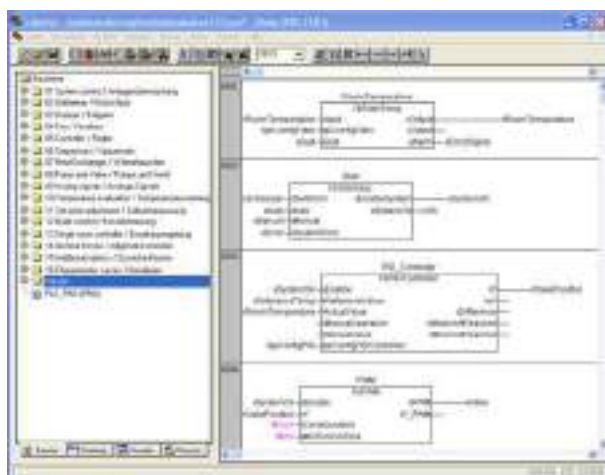
Application Notes

Download: Current application notes can be downloaded at: [see: www.wago.com](http://www.wago.com)

The application notes contain function blocks (FB) for communication applications.

- KNX/EIB
- DALI
- EnOcean Radio Technology
- MODBUS
- M-Bus
- MP-Bus
- SMI
- LonWorks®
- Email
- SMS
- Other applications

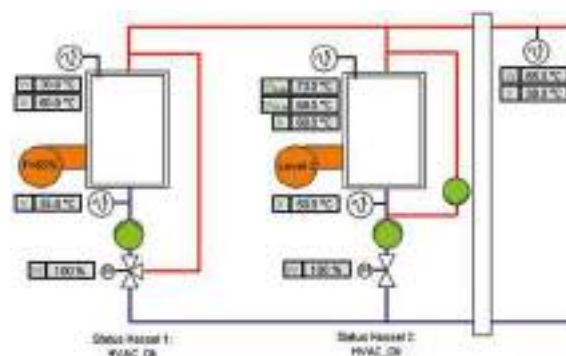
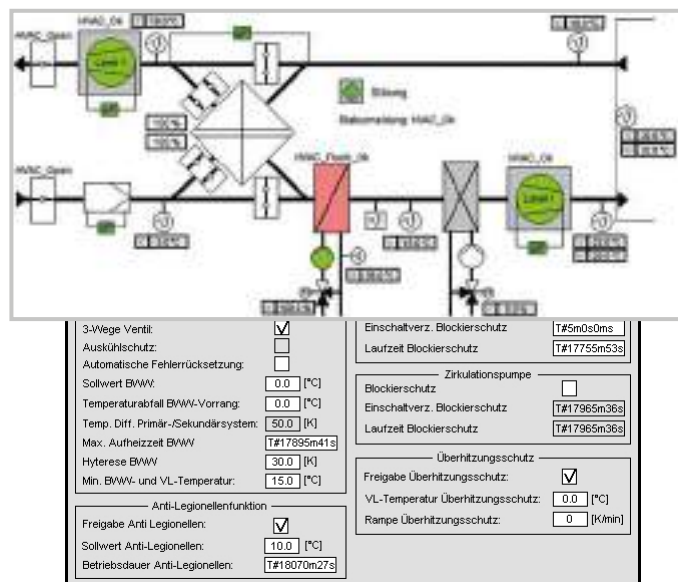
2



Graphical elements for HVAC applications

Integrated into WAGO-I/O-PRO Software

These include: fault monitoring, starter circuits, monitoring frost protection systems, fan control (stepped/continuous), air mixture valve control, air heater/cooler control, cascade control of room/feed air temperature, free night cooling, summer/winter compensators, enthalpy calculations, PID controllers, filter monitoring, blockage protection, heating circuit control, heat recovery control, boiler control (stepped/continuous), boiler sequence, domestic hot water control, start/stop optimization, humidification and dehumidification (climate) and more.



Boiler sequence control

Download: Current application notes can be downloaded at:
see: www.wago.com

- District heating transfer station macros
- Boiler macros
- Heating circuit macros
- Drinking water heating macros
- Ventilation macros

Runtime Software

e!RUNTIME EtherCAT Master 300

Function:

EtherCAT is a powerful real-time ETHERNET fieldbus system that has become standard in many industrial automation applications. The PFC200 controller (2nd generation) can run as an EtherCAT master. This requires a licence.

The EtherCAT system is configured via special configuration dialogs in the e!COCKPIT Engineering Software. These specify:

- That the controller should function as an EtherCAT master
- What field devices should be addressed
- What form the topology of the network takes
- What parameter values should be sent to the slaves upon startup

Besides the protocol stack in the form of a library, the run-time system also provides components for direct access to the ETHERNET interface and diagnostics.

Advantages:

- Using the PFC200 as an EtherCAT Master
- Controlling WAGO slaves with the EtherCAT fieldbus system, e.g., the EtherCAT fieldbus coupler of the WAGO-I/O-SYSTEM 750
- Controlling additional field devices, which can be declared in e!COCKPIT via a standardized device description

Use:

The licence is acquired in e!COCKPIT, assigned to a controller and loaded into the controller together with the project. No other installation steps are required.

Technical Data:

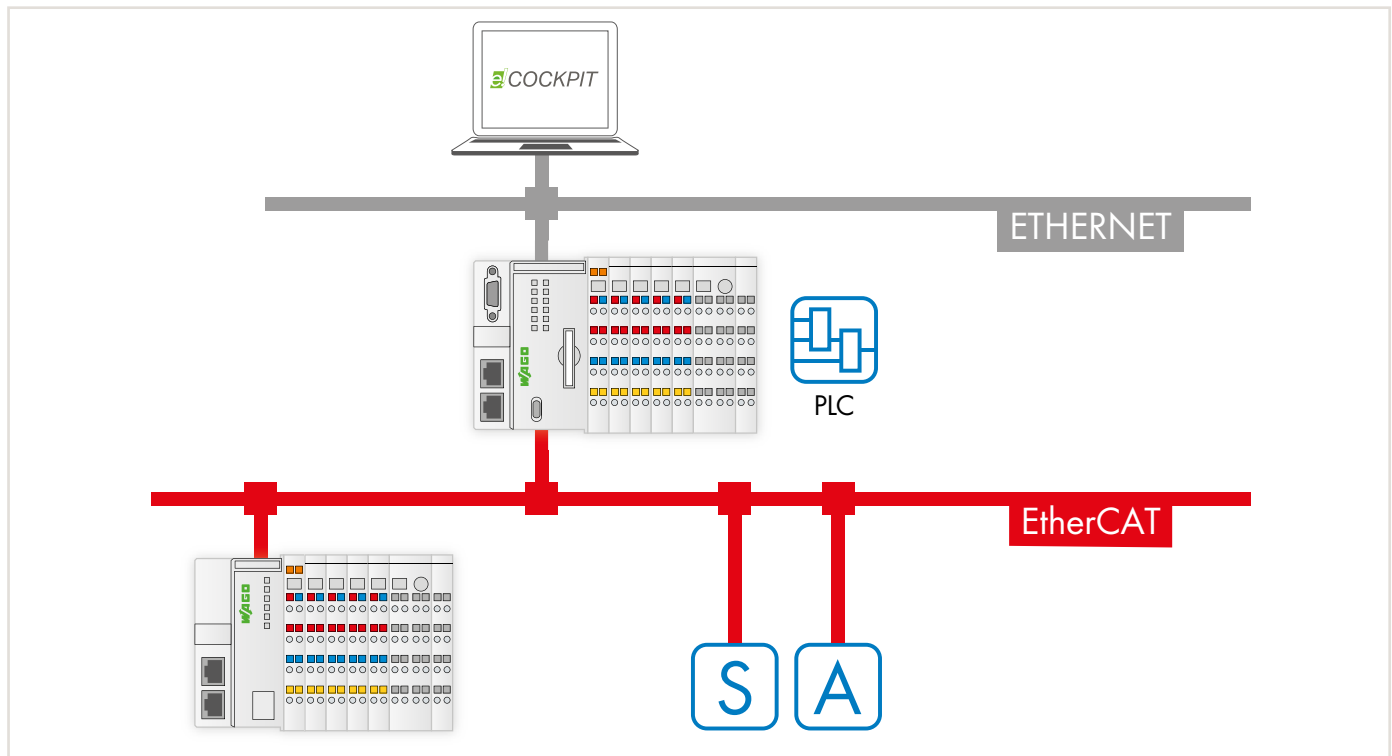
Distributed clocks

Hot connect

Bus diagnostics: In the configurator and with the PLC application

Supported layer 7 protocols:

- CoE (CANopen / CAN over EtherCAT)
- FoE (File over EtherCAT),
- VoE (Vendor over EtherCAT)



Item Description	
e!RUNTIME EtherCAT Master 300	Item No.
Single license	2759-263/210-1000
Compatible Controllers	
PFC200; G2; 2ETH RS	750-8212
PFC200; G2; 2ETH CAN	750-8213
PFC200; G2; 2ETH RS CAN	750-8214
PFC200; G2; 4ETH CAN USB	750-8215
PFC200; G2; 2ETH RS CAN DPS	750-8216

Besides the basic controller variants listed here, the licence can also be used on these controllers' variants. For details, see the product information of the corresponding controller.

You can find detailed information on the controllers in Section 4.1.

Minimum e!COCKPIT version	V1.5.0
Delivery type	Licence certificate via email (e!COCKPIT already contains the software itself)
Data sheet and further information, see:	wago.com/2759-263/210-1000

An Internet connection to the PC with the e!COCKPIT installation may be required for licence activation.

The single license allows installation on one controller.

One licence per controller is required.

WAGO WebVisu App For Mobile System Operation/Monitoring



With the WebVisu App, you can visualize web pages created for WAGO Controllers via *e!COCKPIT* or *CODESYS V2*. The app features both automated management and routing capabilities, allowing the website to be simply accessed via URL entry. The system or machine to be monitored can then be operated and monitored at any time on the go. You can define up to 100 controllers for direct and quick access via the URL.

The free WAGO WebVisu App is available in iOS for iPhones and iPads in the "Apple Store," and in Android for smartphones and tablets in the "Google Store."

Note: An overview of the supported WAGO controllers, operating manuals and application notes can be found on our website.



QR Code for WebVisu App

Simply scan the QR code with your mobile device and you will automatically be directed to the WebVisu App in "App Store" or "Google PlayTM."

Trademarks

Apple, the Apple logo, iPhone, iPad and iPod touch are registered trademarks of Apple Inc. registered in the USA and other countries. "App Store" is a service mark of Apple Inc.



Google PlayTM is a registered trademark of Google Inc.

WAGO WebVisu App

Download: Apple Store or Google Store

System Requirements

Operating system	iOS version 10.2 or later, Android version 4.2 or later
Compatibility	iPhone; iPad and iPad Air; Android smartphones and tablets
For additional information, see:	wago.com/webvisu

Accessories

2



USB Communication Cable; USB-A; Service Interface WAGO-I/O-SYSTEM 750		
Length	Item No.	Pack. Unit
2.5 m	750-923	1
5 m	750-923/000-001	1

RS-232 Communication Cable; RS-232 (D-Sub 9-pole); Service Interface WAGO-I/O-SYSTEM 750		
Length	Item No.	Pack. Unit
1 m	750-920	1

Bluetooth® Adapter; Service Interface WAGO-I/O-SYSTEM 750		
	Item No.	Pack. Unit
	750-921	1



Operation and Monitoring

Touch Panels 600 Standard Line

- High-performance touch panels with resistive touch-screens
- 10.9 ... 25.7 cm (4.3 ... 10.1")
- Models include Control, Visu or Web Panel for display of *e!COCKPIT* visualizations

Touch Panels 600 Advanced Line

- High-performance touch panels with capacitive touch-screens and glass surfaces
- 18 ... 25.7 cm (7 ... 10.1")
- Models include Control or Visu Panel

Controllers PFC100/PFC200

- Maximum performance in a minimum space
- Also programmable in high-level languages based on Linux®
- Security packages with SSH and SSL/TLS
- Runtime system for CODESYS V2 (only PFC200) and V3

Section 4.1 ►

Touch Panels 600 Marine Line

- High-performance touch panels with resistive touch-screens
- Ideal for marine applications
- 10.9 ... 25.7 cm (4.3 ... 10.1")
- Models include Visu Panel

Touch Panels *e!DISPLAY 7300T*

- Touch panels with resistive touchscreens
- 10.9 ... 25.7 cm (4.3 ... 10.1")
- Models include Web Panel for display of CODESYS V2 or *e!COCKPIT* visualizations

Controllers PFC200 XTR

The advantages of WAGO's PFC Controllers combined with the capabilities for extreme environments:

- High processing speed
- Multiple interfaces
- *eXTR*emely robust and maintenance-free

Section 4.2 ►►

Operation and Monitoring

Contents

	Page
General Product Information	52
Functional Variants	53
Interfaces and Types	54
Application and Installation Instructions	56
Item Number Key	57
Standards and Rated Conditions	57
Approvals	57

3



	CPU	Web Browser	Modbus (TCP, UDP)	EtherNet/IP	CANopen	IoT Protocols	Description	Hardware	Item No.	
Touch Panels 600 Standard Line	Cortex A9	x	M/S	S	M/S	x	Control Panel; 10.9 cm (4.3"); Resistive touchscreen	PIO3	762-4301/8000-002	58
		x	M/S	S	M/S	x	Control Panel; 14.5 cm (5.7"); Resistive touchscreen	PIO3	762-4302/8000-002	59
		x	M/S	S	M/S	x	Control Panel; 18 cm (7.0"); Resistive touchscreen	PIO3	762-4303/8000-002	60
		x	M/S	S	M/S	x	Control Panel; 25.7 cm (10.1"); Resistive touchscreen	PIO3	762-4304/8000-002	61
		x	M				Visu Panel; 10.9 cm (4.3"); Resistive touchscreen	PIO2	762-4201/8000-001	58
		x	M				Visu Panel; 14.5 cm (5.7"); Resistive touchscreen	PIO2	762-4202/8000-001	59
		x	M				Visu Panel; 18 cm (7.0"); Resistive touchscreen	PIO2	762-4203/8000-001	60
		x	M				Visu Panel; 25.7 cm (10.1"); Resistive touchscreen	PIO2	762-4204/8000-001	61
		x					Web Panel; 10.9 cm (4.3"); Resistive touchscreen	PIO1	762-4101	58
		x					Web Panel; 14.5 cm (5.7"); Resistive touchscreen	PIO1	762-4102	59
		x					Web Panel; 18 cm (7.0"); Resistive touchscreen	PIO1	762-4103	60
		x					Web Panel; 25.7 cm (10.1"); Resistive touchscreen	PIO1	762-4104	61
Touch Panels 600 Advanced Line	Cortex A9	x	M/S	S	M/S	x	Control Panel; 18 cm (7.0"); Capacitive touchscreen with glass surface	PIO3	762-5303/8000-002	62
		x	M/S	S	M/S	x	Control Panel; 25.7 cm (10.1"); Capacitive touchscreen with glass surface	PIO3	762-5304/8000-002	63
		x	M				Visu Panel; 18 cm (7.0"); Capacitive touchscreen with glass surface	PIO2	762-5203/8000-001	62
		x	M				Visu Panel; 25.7 cm (10.1"); Capacitive touchscreen with glass surface	PIO2	762-5204/8000-001	63
Touch Panels 600 Marine Line	Cortex A9	x	M				Visu Panel; 10.9 cm (4.3"); Resistive touchscreen, marine version	PIO2	762-6201/8000-001	64
		x	M				Visu Panel; 14.5 cm (5.7"); Resistive touchscreen, marine version	PIO2	762-6202/8000-001	64
		x	M				Visu Panel; 18 cm (7.0"); Resistive touchscreen, marine version	PIO2	762-6203/8000-001	65
		x	M				Visu Panel; 25.7 cm (10.1"); Resistive touchscreen, marine version	PIO2	762-6204/8000-001	65
Touch Panels eDISPLAY 7300T	Cortex A8	x					Web Panel; 10.9 cm (4.3"); Resistive touchscreen	PIO1	762-3000	66
		x					Web Panel; 14.5 cm (5.7"); Resistive touchscreen	PIO1	762-3001	66
		x					Web Panel; 18 cm (7.0"); Resistive touchscreen	PIO1	762-3002	67
		x					Web Panel; 25.7 cm (10.1"); Resistive touchscreen	PIO1	762-3003	67

Accessories

Memory cards; Mounting sets

68

M: Master; S: Slave

Operation and Monitoring

General Product Information

Operate, observe, visualize and diagnose in production and the process industry: WAGO's Touch Panels with various hardware configurations are available for small- to mid-sized control and visualization tasks. Focus on saving time with perfect usability and quickly created visualizations.

Adapted Versions

The right version is available for every application:

- Devices with resistive touchscreens for standard control cabinet applications
- Multi-touch devices with a glass surface for more extensive requirements
- Devices for marine applications

Touch Panels that Merge Aesthetics with High Performance

Underneath a contemporary design, WAGO's Touch Panels pack some of the industry's most powerful equipment, allowing you to solidify the high-tech image of your machine or through high-quality visualizations from both **e!COCKPIT** (CODESYS V3) and CODESYS V2 Engineering Software. The Web-based management feature of WAGO's controllers may also be operated using the stylish Web Panels. When configuring with **e!COCKPIT**, visualizations are created based on modern technologies such as HTML5.

Industry 4.0/IoT

Recording, digitizing and linking data profitably – this is the core concept behind Industry 4.0. Using a dedicated library, control panels become IoT controllers that send data from the field level to the cloud, where it can be aggregated and used for analysis. This creates true added value for your company – whether for increasing the efficiency of in-house production, implementing energy management in buildings or developing additional end-customer services. Existing systems also become IoT-ready, making them sustainable into the future.

Quick Installation via Unique Mounting Design

WAGO's Touch Panel directly latches onto the control cabinet via mounting clips for quick and easy tool-free installation. With specially developed clamps, the high IP65 degree of protection can be achieved for the front of the display. This design flexibility makes the display extremely versatile and suitable for a wide variety of applications. Furthermore, the VESA mount allows installation on a swivel arm or stand outside of the control cabinet.

Easy to Use – Directly on the Display

All touch panels have status LEDs that indicate operating status and provide operational feedback. A customized configuration interface is available for configuring and commissioning the touch panels. All important settings are made here via Web-based management. For quick and easy custom settings, the display brightness can also be manually adjusted via front-mount button.

Energy-Saving Sensors Ensure Safety

WAGO Touch Panel's integrated proximity sensor allows the visualization to be automatically re-displayed from the energy-saving screensaver. An integrated sensor simultaneously detects ambient lighting levels for brightness control.

Integrated Controller

In the Control Panel function, the devices offer an integrated PLC function, which is configured via **e!COCKPIT**, based on IEC 61131-compatible CODESYS. This makes them programmable in five standardized languages. In addition to pure programming, **e!COCKPIT** is also used for offline simulation, fieldbus configuration, recipe management and much more.

Scaled Visualization Functions

Displaying a visualization in a Web browser makes flexible options available. In addition to the Web Panels, visualizations can be displayed on nearly any device with a browser including smartphones and tablets by using the WebVisu app.

When greater performance is required, devices are used as Visu Panels. In the process, all operating functions are evaluated within the device without a delay and can affect the visualization directly. The data to be displayed are read in via standardized bus systems, e.g. via Modbus TCP.

Open-Source Software and Linux®

We unite what belongs together: WAGO's high-performance hardware and the future-ready Linux® operating system. For complex tasks, you have the choice between programming in either IEC 61131 or directly in Linux®. WAGO's "Embedded Linux" Controllers impress with base images that are expandable via open-source packages. As a "Gold Member" of the Open Source Automation Development Lab (OSADL), WAGO supports both financing and further development of Linux® in the industrial sector. The controller firmware itself is available as a "Board Support Package" (BSP).

If you are interested, simply contact our **AUTOMATION** technical support.

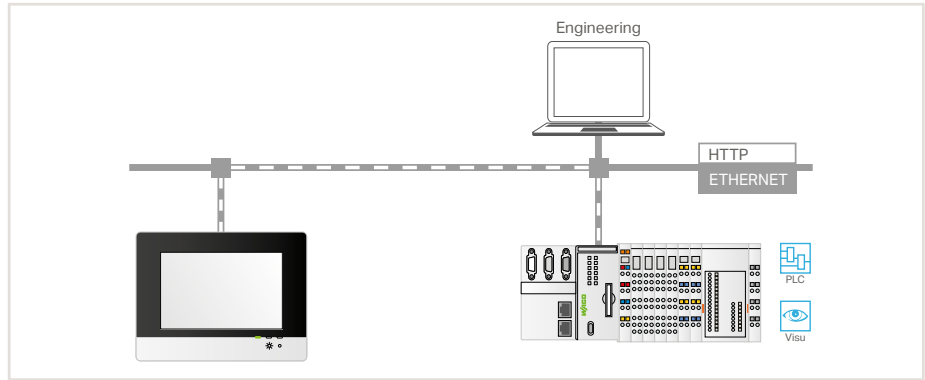
Advantages:

- An aesthetic design meets high performance
- Scaled portfolio in design and functionality
- Easy to use – directly on the display
- Quick installation via unique mounting design
- IoT ready

Operation and Monitoring Functional Variants

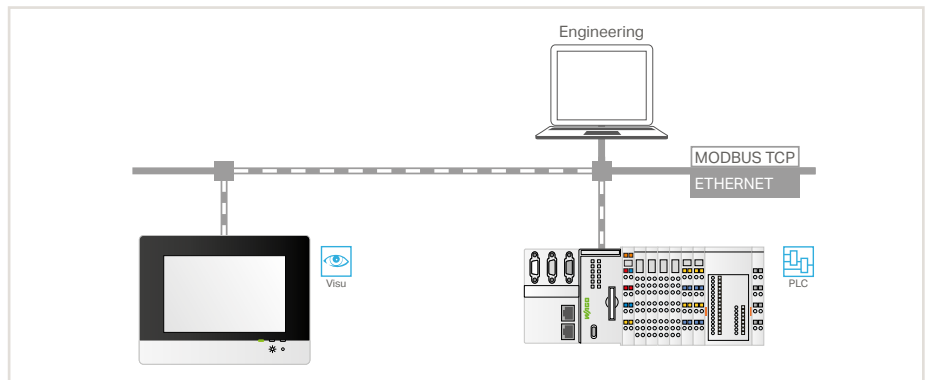
Web Panels

The operating and display devices in the Web Panel software configuration are provided with a Web browser for accessing WAGO Controllers via standard Web protocols with integrated Web visualization for display. Depending on the type of execution, Web visualizations that are created with *e!COCKPIT* (based on CODESYS V3) and/or with CODESYS V2 can be displayed. Web visualizations have the advantage of being displayed not only on special Visu Panels, but also on standard commercial mobile devices.



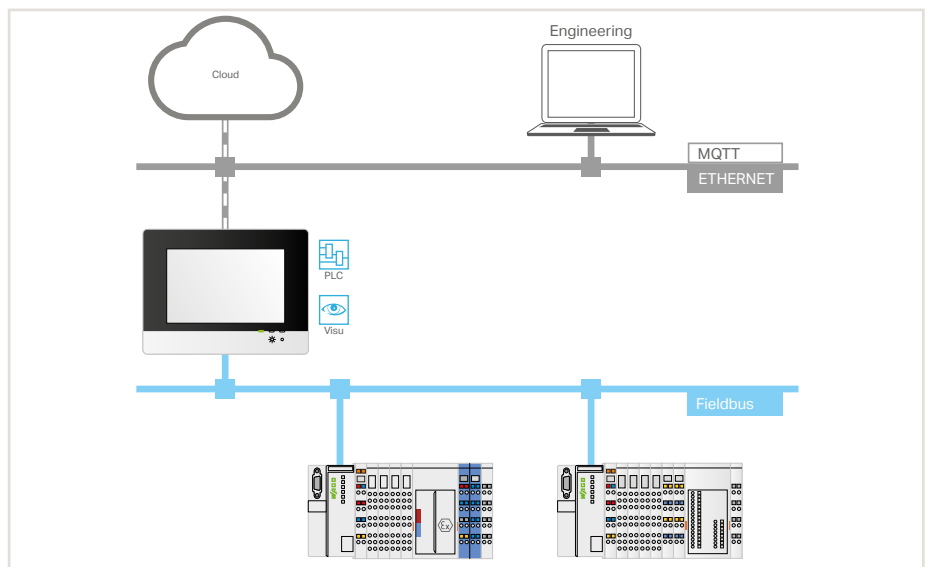
Visu Panels

Operating and display devices in the Visu Panel software configuration are suitable for displaying a visualization generated with *e!COCKPIT* and obtaining the data referenced in it from any field devices via TCP, e.g., from PFC200-type controllers. In contrast to Web Panels, the computing power required here is divided between two devices, so the computing necessary for displaying the visualization is basically performed by the Visu Panel, offloading the controller. The Visu Panel can also provide a Web visualization via the integrated Webserver.



Control Panels

Operating and display devices in the Control Panel software configuration allow control and visualization to be performed simultaneously, representing a very compact form for an automation solution. WAGO's Control Panels handle all the usual tasks that would otherwise be performed by a separate controller, including establishing a connection to the cloud, for example.



Operation and Monitoring Interfaces and Types

Touch Panels Standard Line

By default, the WAGO Touch Panels are equipped with resistive touch. In addition, they have two capacitive buttons (A), (B) for on-device brightness settings. A 3-color status LED (D) indicates the device status. An integrated motion and brightness sensor (C) detects when a person is approaching and automatically turns off the screensaver. In addition, it can be used for automatic brightness change (day/night).

Available sizes:

- 10.9 cm (4.3")
- 14.5 cm (5.7")
- 18 cm (7.0")
- 25.7 cm (10.1")

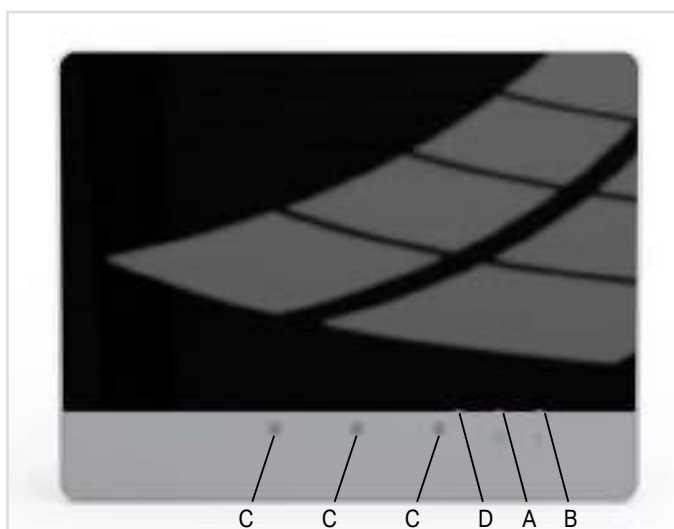


Touch Panels Advanced Line

In contrast to the standard version, these devices are equipped with a capacitive touch and a glass surface. This allows gesture recognition, e.g., to swipe for turning pages or to enlarge. In addition, the glass front is characterized by a stronger mechanical and chemical resistance. Glove operation is also possible.

Available sizes:

- 18 cm (7.0")
- 25.7 cm (10.1")

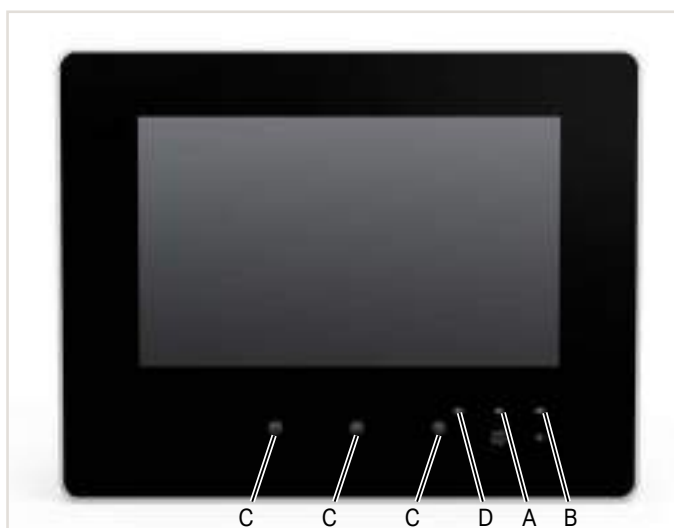


Touch Panels Marine Line

In this version, WAGO's Touch Panels are ideal for marine applications. They have special marine approvals. The matt black surface prevents disturbing reflections.

Available sizes:

- 10.9 cm (4.3")
- 14.5 cm (5.7")
- 18 cm (7.0")
- 25.7 cm (10.1")



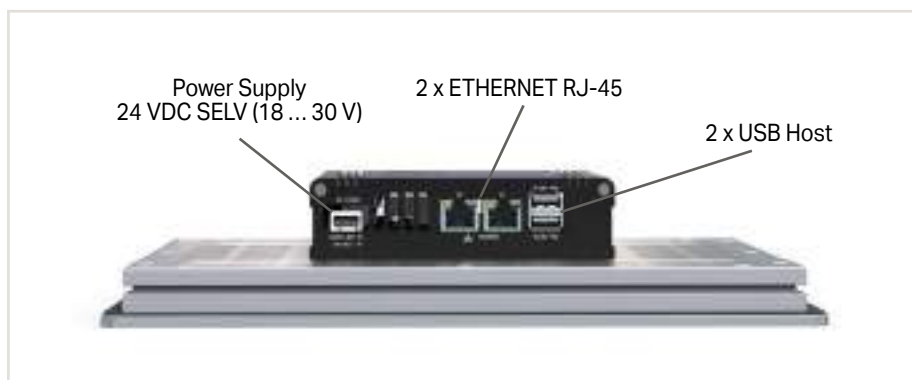
Operation and Monitoring Interfaces and Types

Hardware Configuration PIO1

Besides the power supply connection, devices with the PIO1 hardware configuration provide:

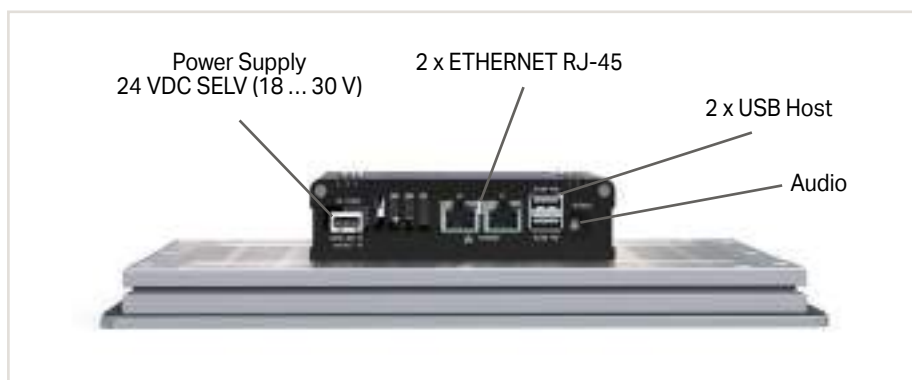
- Two ETHERNET ports for connecting to field devices and the engineering tool
- Two USB ports for optional connection of a USB stick, mouse or keyboard

Devices of this type are primarily used as Web Panels.



Hardware Configuration PIO2

The PIO2 hardware configuration contains the same connections as PIO1 hardware. In addition, the devices are equipped with an audio interface for connecting headphones or a loudspeaker. Devices of this type are primarily used as Visu Panels.

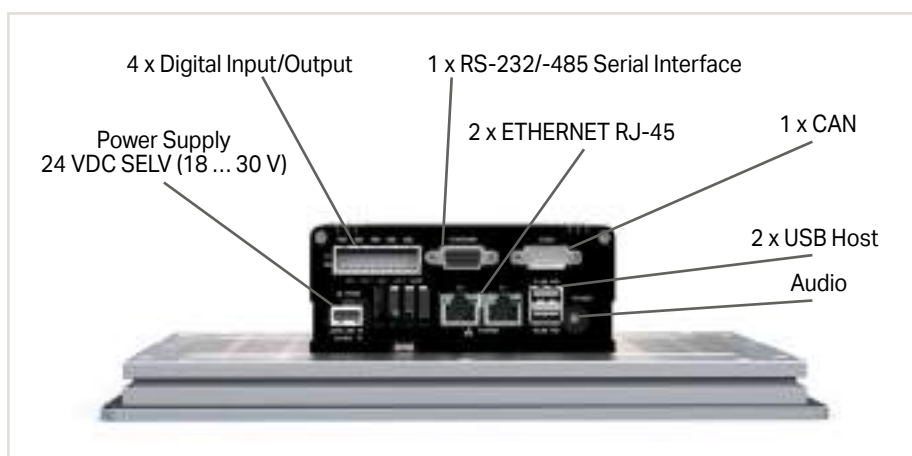


Hardware Configuration PIO3

Devices of this type are primarily used as Control Panels. Besides the interfaces of the PIO2 configuration, they also have the following interfaces:

- CAN for controlling field devices
- RS-232/-485 interface for controlling field devices with a serial interface
- Four digital inputs/outputs for reading/trig-gering digital signals

In addition, this hardware configuration has a rapid, power-failure-proof storage component that can back up retain variables of the controller without additional UPS measures.



Common Control Elements

The following control elements are provided on the side of the devices:

Touch Panels 600:

- Run/Stop switch (only relevant for Control Panels)
- Service Switch
- Five LEDs for signaling:
 - General device states
 - Special states of the PLC runtime environment
 - States of the fieldbus connections
- One microSD card for data exchange

Touch Panels e!DISPLAY:

- One microSD card for data exchange



Operation and Monitoring

Application and Installation Instructions

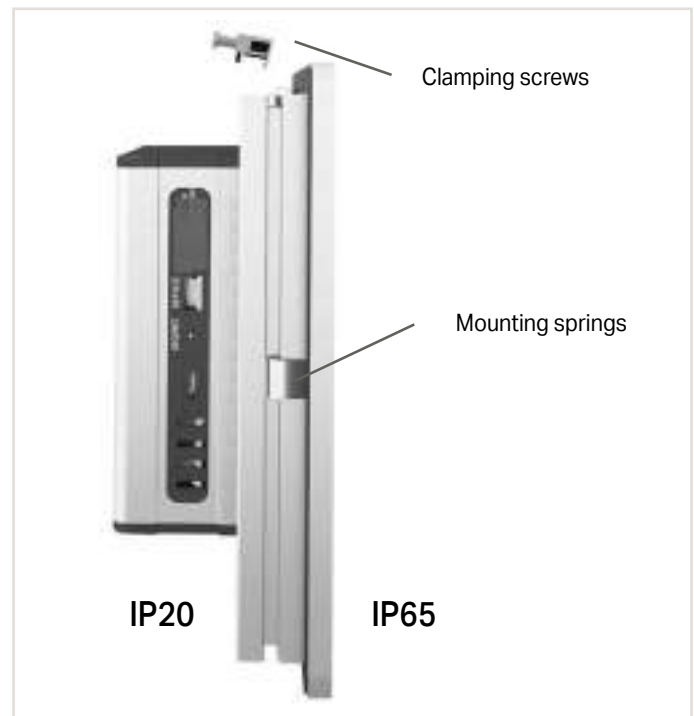
3



Two brightness adjustment keys are located directly on the front of the device, along with three diagnostics LEDs.

Mounting

WAGO's Touch Panel directly latches onto the control cabinet via mounting spring clips for quick and easy tool-free installation. IP65 levels of protection can be achieved for the front of the display via additional clamping screws. This design flexibility makes the display extremely versatile and suitable for a wide variety of applications.



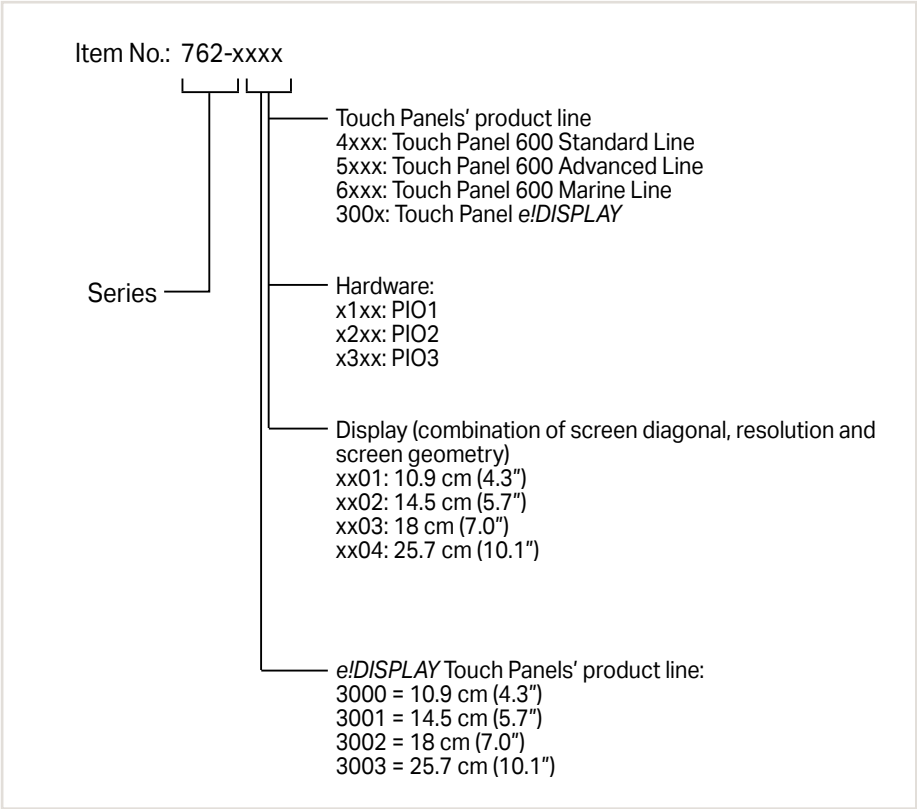
VESA mount system

The VESA mount (VESA 75 standard, 75 mm hole spacing) allows universal mounting accessories to be conveniently used outside of the control cabinet.

Operation and Monitoring

Item Number Key

Explanation of item number key's components



3

Standards and Rated Conditions

General Specifications	
Operating system	Linux®
Control elements	Resistive touch panel; Two capacitive keys; Proximity switch
Durability	100,000 activations with touch pen
Power Supply	24 VDC, SELV (-25 ... +30 %) with reverse voltage protection
Indicators	Diagnostic indication (LED)
Surrounding air temperature (operation)	0 ... +55 °C
Surrounding air temperature (storage)	-20 ... +80 °C
Relative humidity	10 ... 90 %; non-condensing
Protection type	IP65 (front side); IP20 (rear side)

Approvals

Overview of the approvals in the article comparison in Section 11, Technical Appendix, or online at www.wago.com



Touch Panel 600 Standard Line; Resistive Touchscreen; 10.9 cm (4.3")



Item Description	Touch Panel; 10.9 cm (4.3"); 480 x 272 pixels; Resistive touchscreen		
Version	Hardware configuration PIO3; Control Panel	Hardware configuration PIO2; Visu Panel	Hardware configuration PIO1; Web Panel
Item No.	762-4301/8000-002	762-4201/8000-001	762-4101
Order Text	TP600; 4.3; 480x272; PIO3; CP	TP600; 4.3; 480x272; PIO2; VP	TP600; 4.3; 480x272; PIO1; WP
Technical Data			
Display/front view	Resistive touchscreen		
Screen size (diagonal)	10.9 cm (4.3")		
Aspect	16:9		
Display colors	16 million		
Graphics resolution	480 x 272		
Operating elements	Two brightness settings (Up and Down) on the front		
Communication	Modbus® (TCP)		
	EtherNet/IP adapter (slave) ¹ ; CANopen; Modbus® (UDP); RS-232/485 interface; MQTT		
	DHCP; DNS; FTP; FTPS; HTTP; HTTPS; SSH		
	e!COCKPIT (based on CODESYS V3)		
	Real-time Linux (with RT-Preempt patch)		
	Cortex A9		
	2 GB / 4 GB		
	60 MB* / 60 MB* / 128 KB	60 MB* / 60 MB* / -	
	microSD (max. 2 GB); microSDHC (max. 32 GB)		
	2 x USB host 2.0 (type A)		
	Audio; 4 x DIO, configurable	Audio	
	155 x 135 x 78 mm	155 x 135 x 58 mm	
	140 x 120 mm		
	Clamping elements (included) or VESA mount (4 x M4x8)		
	24 VDC, SELV (–25 ... +30 %) with reverse voltage protection		
	0 ... +55 °C		
	CE;  OrdLoc**		
	wago.com/762-4301/8000-002	wago.com/762-4201/8000-001	wago.com/762-4101
Accessories	Item No.	Page	
Memory card; 2 GB	758-879/000-3102	68	
Clamping elements (included)	762-9001	68	

¹ Library for e!RUNTIME

*For memory configuration via e!RUNTIME, the program and data memory together have a maximum size of 60 MB and can be distributed dynamically.

**Pending

Touch Panel 600 Standard Line; Resistive Touchscreen; 14.5 cm (5.7")



Item Description	Touch Panel; 14.5 cm (5.7"); 640 x 480 pixels; Resistive touchscreen		
Version	Hardware configuration PIO3; Control Panel	Hardware configuration PIO2; Visu Panel	Hardware configuration PIO1; Web Panel
Item No.	762-4302/8000-002	762-4202/8000-001	762-4102
Order Text	TP600; 5.7; 640x480; PIO3; CP	TP600; 5.7; 640x480; PIO2; VP	TP600; 5.7; 640x480; PIO1; WP
Technical Data			
Display/front view			
Screen size (diagonal)			
Aspect			
Display colors			
Graphics resolution			
Operating elements			
Communication			
ETHERNET protocols			
Programming environment			
Operating system			
Processor			
Main memory (RAM)/internal memory (flash)			
Program memory/data memory/non-volatile memory (software)			
Memory expansion			
Interfaces (USB)			
Onboard I/Os			
Dimensions (W x H x D)			
Panel cutout (W x H)			
Mounting			
Supply voltage			
Surrounding air temperature (operation)			
Approvals			
Data sheet and further information, see:			
Accessories	Item No.	Page	
Memory card; 2 GB	758-879/000-3102	68	
Clamping elements (included)	762-9001	68	

Resistive touchscreen		
14.5 cm (5.7")		
4:3		
262.000		
640 x 480		
Two brightness settings (Up and Down) on the front		
Modbus® (TCP)		
EtherNet/IP adapter (slave) ¹ ; CANopen; Modbus® (UDP); RS-232/485 interface; MQTT		
DHCP; DNS; FTP; FTPS; HTTP; HTTPS; SSH		
e!COCKPIT (based on CODESYS V3)		
Real-time Linux (with RT-Preempt patch)		
Cortex A9		
2 GB / 4 GB		
60 MB* / 60 MB* / 128 KB	60 MB* / 60 MB* / -	
microSD (max. 2 GB); microSDHC (max. 32 GB)		
2 x USB host 2.0 (type A)		
Audio; 4 x DIO, configurable	Audio	
172 x 163 x 78 mm	172 x 163 x 58 mm	
157 x 148 mm		
Clamping elements (included) or VESA mount (4 x M4x8)		
24 VDC, SELV (–25 ... +30 %) with reverse voltage protection		
0 ... +55 °C		
CE;  OrdLoc**		
wago.com/762-4302/8000-002	wago.com/762-4202/8000-001	wago.com/762-4102

¹Library for e!RUNTIME

*For memory configuration via e!RUNTIME, the program and data memory together have a maximum size of 60 MB and can be distributed dynamically.

**Pending

Touch Panel 600 Standard Line; Resistive Touchscreen; 17.8 cm (7.0")



Item Description	Touch Panel; 17.8 cm (7.0"); 800 x 480 pixels; Resistive touchscreen		
Version	Hardware configuration PIO3; Control Panel	Hardware configuration PIO2; Visu Panel	Hardware configuration PIO1; Web Panel
Item No.	762-4303/8000-002	762-4203/8000-001	762-4103
Order Text	TP600; 7.0; 800x480; PIO3; CP	TP600; 7.0; 800x480; PIO2; VP	TP600; 7.0; 800x480; PIO1; WP
Technical Data			
Display/front view	Resistive touchscreen		
Screen size (diagonal)	18 cm (7.0")		
Aspect	16:9		
Display colors	16 million		
Graphics resolution	800 x 480		
Operating elements	Two brightness settings (Up and Down) on the front		
Communication	Modbus® (TCP)		
	EtherNet/IP adapter (slave) ¹ ; CANopen; Modbus® (UDP); RS-232/485 interface; MQTT		
ETHERNET protocols	DHCP; DNS; FTP; FTPS; HTTP; HTTPS; SSH		
Programming environment	e!COCKPIT (based on CODESYS V3)		
Operating system	Real-time Linux (with RT-Preempt patch)		
Processor	Cortex A9		
Main memory (RAM)/internal memory (flash)	2 GB / 4 GB		
Program memory/data memory/non-volatile memory (software)	60 MB* / 60 MB* / 128 KB	60 MB* / 60 MB* / -	
Memory expansion	microSD (max. 2 GB); microSDHC (max. 32 GB)		
Interfaces (USB)	2 x USB host 2.0 (type A)		
Onboard I/Os	Audio; 4 x DIO, configurable	Audio	
Dimensions (W x H x D)	213 x 167 x 78 mm	213 x 167 x 58 mm	
Panel cutout (W x H)	198 x 152 mm		
Mounting	Clamping elements (included) or VESA mount (4 x M4x8)		
Supply voltage	24 VDC, SELV (–25 ... +30 %) with reverse voltage protection		
Surrounding air temperature (operation)	0 ... +55 °C		
Approvals	CE;  OrdLoc**		
Data sheet and further information, see:	wago.com/762-4303/8000-002	wago.com/762-4203/8000-001	wago.com/762-4103
Accessories	Item No.	Page	
Memory card; 2 GB	758-879/000-3102	68	
Clamping elements (included)	762-9001	68	

¹Library for e!RUNTIME

*For memory configuration via e!RUNTIME, the program and data memory together have a maximum size of 60 MB and can be distributed dynamically.

**Pending

Touch Panel 600 Standard Line; Resistive Touchscreen; 25.7 cm (10.1")



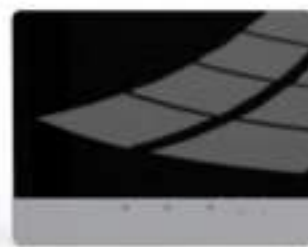
Item Description	Touch Panel; 25.7 cm (10.1"); 1280 x 800 pixels; Resistive touchscreen		
Version	Hardware configuration PIO3; Control Panel	Hardware configuration PIO2; Visu Panel	Hardware configuration PIO1; Web Panel
Item No.	762-4304/8000-002	762-4204/8000-001	762-4104
Order Text	TP600; 10.1; 1280x800; PIO3; CP	TP600; 10.1; 1280x800; PIO2; VP	TP600; 10.1; 1280x800; PIO1; WP
Technical Data			
Display/front view	Resistive touchscreen		
Screen size (diagonal)	25.7 cm (10.1")		
Aspect	16:9		
Display colors	16 million		
Graphics resolution	1280 x 800		
Operating elements	Two brightness settings (Up and Down) on the front		
Communication	Modbus® (TCP)		
	EtherNet/IP adapter (slave) ¹ ; CANopen; Modbus® (UDP); RS-232/485 interface; MQTT		
ETHERNET protocols	DHCP; DNS; FTP; FTPS; HTTP; HTTPS; SSH		
Programming environment	e!COCKPIT (based on CODESYS V3)		
Operating system	Real-time Linux (with RT-Preempt patch)		
Processor	Cortex A9		
Main memory (RAM)/internal memory (flash)	2 GB / 4 GB		
Program memory/data memory/non-volatile memory (software)	60 MB* / 60 MB* / 128 KB	60 MB* / 60 MB* / -	
Memory expansion	microSD (max. 2 GB); microSDHC (max. 32 GB)		
Interfaces (USB)	2 x USB host 2.0 (type A)		
Onboard I/Os	Audio; 4 x DIO, configurable	Audio	
Dimensions (W x H x D)	293 x 223 x 78 mm	293 x 223 x 58 mm	
Panel cutout (W x H)	278 x 208 mm		
Mounting	Clamping elements (included) or VESA mount (4 x M4x8)		
Supply voltage	24 VDC, SELV (~25 ... +30 %) with reverse voltage protection		
Surrounding air temperature (operation)	0 ... +55 °C		
Approvals	CE; ; OrdLoc**		
Data sheet and further information, see:	wago.com/762-4304/8000-002	wago.com/762-4204/8000-001	wago.com/762-4104
Accessories	Item No.	Page	
Memory card; 2 GB	758-879/000-3102	68	
Clamping elements (included)	762-9001	68	

¹Library for e!RUNTIME

*For memory configuration via e!RUNTIME, the program and data memory together have a maximum size of 60 MB and can be distributed dynamically.

**Pending

Touch Panel 600 Advanced Line; Capacitive Touchscreen with a Glass Surface; 17.8 cm (7.0")



Item Description	Touch Panel; 17.8 cm (7.0"); 800 x 480 pixels; Capacitive touchscreen with a glass surface	
Version	Hardware configuration PIO3; Control Panel	Hardware configuration PIO2; Visu Panel
Item No.	762-5303/8000-002	762-5203/8000-001
Order Text	TP600; 7.0; 800x480; PIO3; CP	TP600; 7.0; 800x480; PIO2; VP
Technical Data		
Display/front view	Multitouch glass front; Capacitive touchscreen with a glass surface	
Screen size (diagonal)	18 cm (7.0")	
Aspect	16:9	
Display colors	16 million	
Graphics resolution	800 x 480	
Operating elements	Two brightness settings (Up and Down) on the front	
Communication	Modbus® (TCP)	
ETHERNET protocols	DHCP; DNS; FTP; FTPS; HTTP; HTTPS; SSH	
Programming environment	e!COCKPIT (based on CODESYS V3)	
Operating system	Real-time Linux (with RT-Preempt patch)	
Processor	Cortex A9	
Main memory (RAM)/internal memory (flash)	2 GB / 4 GB	
Program memory/data memory/non-volatile memory (software)	60 MB* / 60 MB* / 128 KB	60 MB* / 60 MB* / -
Memory expansion	microSD (max. 2 GB); microSDHC (max. 32 GB)	
Interfaces (USB)	2 x USB host 2.0 (type A)	
Onboard I/Os	Audio; 4 x DIO, configurable	Audio
Dimensions (W x H x D)	213 x 167 x 78 mm	213 x 167 x 58 mm
Panel cutout (W x H)	198 x 152 mm	
Mounting	Clamping elements (included) or VESA mount (4 x M4x8)	
Supply voltage	24 VDC, SELV (-25 ... +30 %) with reverse voltage protection	
Surrounding air temperature (operation)	0 ... +55 °C	
Approvals	CE; OrdLoc**	
Data sheet and further information, see:	wago.com/762-5303/8000-002	wago.com/762-5203/8000-001
Accessories	Item No.	Page
Memory card; 2 GB	758-879/000-3102	68
Clamping elements (included)	762-9001	68

¹ Library for e!RUNTIME

*For memory configuration via e!RUNTIME, the program and data memory together have a maximum size of 60 MB and can be distributed dynamically.

**Pending

Touch Panel 600 Advanced Line; Capacitive Touchscreen with a Glass Surface; 25.7 cm (10.1")



3

Item Description	Touch Panel; 25.7 cm (10.1"); 1280 x 800 pixels; Capacitive touchscreen with a glass surface	
Version	Hardware configuration PIO3; Control Panel	Hardware configuration PIO2; Visu Panel
Item No.	762-5304/8000-002	762-5204/8000-001
Order Text	TP600; 10.1; 1280x800; PIO3; CP	TP600; 10.1; 1280x800; PIO2; VP
Technical Data		
Display/front view	Multitouch glass front; Capacitive touchscreen with a glass surface	
Screen size (diagonal)	25.7 cm (10.1")	
Aspect	16:9	
Display colors	16 million	
Graphics resolution	1280 x 800	
Operating elements	Two brightness settings (Up and Down) on the front	
Communication	Modbus® (TCP)	
	EtherNet/IP adapter (slave) ¹ ; CANopen; Modbus® (UDP); RS-232/485 interface; MQTT	
ETHERNET protocols	DHCP; DNS; FTP; FTPS; HTTP; HTTPS; SSH	
Programming environment	e!COCKPIT (based on CODESYS V3)	
Operating system	Real-time Linux (with RT-Preempt patch)	
Processor	Cortex A9	
Main memory (RAM)/internal memory (flash)	2 GB / 4 GB	
Program memory/data memory/non-volatile memory (software)	60 MB* / 60 MB* / 128 KB	60 MB* / 60 MB* / -
Memory expansion	microSD (max. 2 GB); microSDHC (max. 32 GB)	
Interfaces (USB)	2 x USB host 2.0 (type A)	
Onboard I/Os	Audio; 4 x DIO, configurable	Audio
Dimensions (W x H x D)	293 x 223 x 78 mm	293 x 223 x 58 mm
Panel cutout (W x H)	278 x 208 mm	
Mounting	Clamping elements (included) or VESA mount (4 x M4x8)	
Supply voltage	24 VDC, SELV (-25 ... +30 %) with reverse voltage protection	
Surrounding air temperature (operation)	0 ... +55 °C	
Approvals	CE, RoHS, OrdLoc**	
Data sheet and further information, see:	wago.com/762-5304/8000-002	wago.com/762-5204/8000-001
Accessories	Item No.	Page
Memory card; 2 GB	758-879/000-3102	68
Clamping elements (included)	762-9001	68

¹ Library for e!RUNTIME

*For memory configuration via e!RUNTIME, the program and data memory together have a maximum size of 60 MB and can be distributed dynamically.

**Pending

Touch Panel 600 Marine Line; Resistive Touchscreen; 10.9 cm (4.3") or 14.5 cm (5.7")



Item Description	Touch Panel; 10.9 cm (4.3"); 480 x 272 pixels; Resistive touchscreen, marine version		Touch Panel; 14.5 cm (5.7"); 640 x 480 pixels; Resistive touchscreen, marine version	
Version	Hardware configuration PIO2; Visu Panel		Hardware configuration PIO2; Visu Panel	
Item No.	762-6201/8000-001		762-6202/8000-001	
Order Text	TP600; 4.3; 480x272; PIO2; VP		TP600; 5.7; 640x480; PIO2; VP	
Technical Data				
Display/front view	Resistive touchscreen; Black front		Resistive touchscreen; Black front	
Screen size (diagonal)	10.9 cm (4.3")		14.5 cm (5.7")	
Aspect	16:9		4:3	
Display colors	16 million		262.000	
Graphics resolution	480 x 272		640 x 480	
Operating elements	Two brightness settings (Up and Down) on the front		Two brightness settings (Up and Down) on the front	
Communication	Modbus® (TCP)		Modbus® (TCP)	
ETHERNET protocols	DHCP; DNS; FTP; FTPS; HTTP; HTTPS; SSH		DHCP; DNS; FTP; FTPS; HTTP; HTTPS; SSH	
Programming environment	e!COCKPIT (based on CODESYS V3)		e!COCKPIT (based on CODESYS V3)	
Operating system	Real-time Linux (with RT-Preempt patch)		Real-time Linux (with RT-Preempt patch)	
Processor	Cortex A9		Cortex A9	
Main memory (RAM)/internal memory (flash)	2 GB / 4 GB		2 GB / 4 GB	
Program memory/data memory	60 MB* / 60 MB*		60 MB* / 60 MB*	
Memory expansion	microSD (max. 2 GB); microSDHC (max. 32 GB)		microSD (max. 2 GB); microSDHC (max. 32 GB)	
Interfaces (USB)	2 x USB host 2.0 (type A)		2 x USB host 2.0 (type A)	
Onboard I/Os	Audio		Audio	
Dimensions (W x H x D)	155 x 135 x 58 mm		172 x 163 x 58 mm	
Panel cutout (W x H)	140 x 120 mm		157 x 148 mm	
Mounting	Clamping elements (included) or VESA mount (4 x M4x8)		Clamping elements (included) or VESA mount (4 x M4x8)	
Supply voltage	24 VDC, SELV (–25 ... +30 %); with reverse voltage protection		24 VDC, SELV (–25 ... +30 %); with reverse voltage protection	
Surrounding air temperature (operation)	0 ... +55 °C		0 ... +55 °C	
Approvals	CE;  OrdLoc**; DNV GL**		CE;  OrdLoc**; DNV GL**	
Data sheet and further information, see:	wago.com/762-6201/8000-001		wago.com/762-6202/8000-001	
Accessories	Item No.	Page	Item No.	Page
Memory card; 2 GB	758-879/000-3102	68	758-879/000-3102	68
Clamping elements (included)	762-9001	68	762-9001	68

*For memory configuration via e!RUNTIME, the program and data memory together have a maximum size of 60 MB and can be distributed dynamically.

**Pending

*For memory configuration via e!RUNTIME, the program and data memory together have a maximum size of 60 MB and can be distributed dynamically.

**Pending

„ Software e!COCKPIT, see page 26

„ Approvals and corresponding ratings, see page 528 or www.wago.com

Touch Panel 600 Marine Line; Resistive Touchscreen; 17.8 cm (7.0") or 25.7 cm (10.1")



Item Description
Version
Item No.
Order Text

Touch Panel; 17.8 cm (7.0"); 800 x 480 pixels; Resistive touchscreen, marine version
Hardware configuration PIO2; Visu Panel
762-6203/8000-001
TP600; 7.0; 800x480; PIO2; VP

Touch Panel; 25.7 cm (10.1"); 1280 x 800 pixels; Resistive touchscreen, marine version
Hardware configuration PIO2; Visu Panel
762-6204/8000-001
TP600; 10.1; 1280x800; PIO2; VP

Technical Data	
Display/front view	Resistive touchscreen; Black front
Screen size (diagonal)	18 cm (7.0")
Aspect	16:9
Display colors	16 million
Graphics resolution	800 x 480
Operating elements	Two brightness settings (Up and Down) on the front
Communication	Modbus® (TCP)
ETHERNET protocols	DHCP; DNS; FTP; FTPS; HTTP; HTTPS; SSH
Programming environment	<i>e!COCKPIT</i> (based on CODESYS V3)
Operating system	Real-time Linux (with RT-Preempt patch)
Processor	Cortex A9
Main memory (RAM)/internal memory (flash)	2 GB / 4 GB
Program memory/data memory	60 MB* / 60 MB*
Memory expansion	microSD (max. 2 GB); microSDHC (max. 32 GB)
Interfaces (USB)	2 x USB host 2.0 (type A)
Onboard I/Os	Audio
Dimensions (W x H x D)	213 x 167 x 58 mm
Panel cutout (W x H)	198 x 152 mm
Mounting	Clamping elements (included) or VESA mount (4 x M4x8)
Supply voltage	24 VDC, SELV (-25 ... +30 %); with reverse voltage protection
Surrounding air temperature (operation)	0 ... +55 °C
Approvals	CE; OrdLoc**; DNV GL**
Data sheet and further information, see:	wago.com/762-6203/8000-001

Technical Data	
Display/front view	Resistive touchscreen; Black front
Screen size (diagonal)	25.7 cm (10.1")
Aspect	16:9
Display colors	16 million
Graphics resolution	1280 x 800
Operating elements	Two brightness settings (Up and Down) on the front
Communication	Modbus® (TCP)
ETHERNET protocols	DHCP; DNS; FTP; FTPS; HTTP; HTTPS; SSH
Programming environment	<i>e!COCKPIT</i> (based on CODESYS V3)
Operating system	Real-time Linux (with RT-Preempt patch)
Processor	Cortex A9
Main memory (RAM)/internal memory (flash)	2 GB / 4 GB
Program memory/data memory	60 MB* / 60 MB*
Memory expansion	microSD (max. 2 GB); microSDHC (max. 32 GB)
Interfaces (USB)	2 x USB host 2.0 (type A)
Onboard I/Os	Audio
Dimensions (W x H x D)	293 x 223 x 58 mm
Panel cutout (W x H)	278 x 208 mm
Mounting	Clamping elements (included) or VESA mount (4 x M4x8)
Supply voltage	24 VDC, SELV (-25 ... +30 %); with reverse voltage protection
Surrounding air temperature (operation)	0 ... +55 °C
Approvals	CE; OrdLoc**; DNV GL**
Data sheet and further information, see:	wago.com/762-6204/8000-001

Technical Data	
Display/front view	Resistive touchscreen; Black front
Screen size (diagonal)	25.7 cm (10.1")
Aspect	16:9
Display colors	16 million
Graphics resolution	1280 x 800
Operating elements	Two brightness settings (Up and Down) on the front
Communication	Modbus® (TCP)
ETHERNET protocols	DHCP; DNS; FTP; FTPS; HTTP; HTTPS; SSH
Programming environment	<i>e!COCKPIT</i> (based on CODESYS V3)
Operating system	Real-time Linux (with RT-Preempt patch)
Processor	Cortex A9
Main memory (RAM)/internal memory (flash)	2 GB / 4 GB
Program memory/data memory	60 MB* / 60 MB*
Memory expansion	microSD (max. 2 GB); microSDHC (max. 32 GB)
Interfaces (USB)	2 x USB host 2.0 (type A)
Onboard I/Os	Audio
Dimensions (W x H x D)	293 x 223 x 58 mm
Panel cutout (W x H)	278 x 208 mm
Mounting	Clamping elements (included) or VESA mount (4 x M4x8)
Supply voltage	24 VDC, SELV (-25 ... +30 %); with reverse voltage protection
Surrounding air temperature (operation)	0 ... +55 °C
Approvals	CE; OrdLoc**; DNV GL**
Data sheet and further information, see:	wago.com/762-6204/8000-001

Accessories
Memory card; 2 GB
Clamping elements (included)

Item No.	Page
758-879/000-3102	68
762-9001	68

Item No.	Page
758-879/000-3102	68
762-9001	68

*For memory configuration via *e!RUNTIME*, the program and data memory together have a maximum size of 60 MB and can be distributed dynamically.

**Pending

*For memory configuration via *e!RUNTIME*, the program and data memory together have a maximum size of 60 MB and can be distributed dynamically.

**Pending

Touch Panel *e!DISPLAY 3000T*; Resistive Touchscreen; 10.9 cm (4.3") or 14.5 cm (5.7")



Item Description	Touch Panel; 10.9 cm (4.3"); 480 x 272 pixels; Resistive touchscreen		Touch Panel; 14.5 cm (5.7"); 640 x 480 pixels; Resistive touchscreen	
Version	Hardware configuration PIO1; Web Panel		Hardware configuration PIO1; Web Panel	
Item No.	762-3000		762-3001	
Order Text	WP; 4.3; 480x272; PIO1		WP; 5.7; 640x480; PIO1	
Technical Data				
Display/front view	Resistive touchscreen		Resistive touchscreen	
Screen size (diagonal)	10.9 cm (4.3")		14.5 cm (5.7")	
Aspect	16:9		4:3	
Display colors	16 million		262.000	
Graphics resolution	480 x 272		640 x 480	
Operating elements	Two brightness settings (Up and Down) on the front		Two brightness settings (Up and Down) on the front	
ETHERNET protocols	DHCP; DNS; FTP; FTPS; HTTP; HTTPS; SSH		DHCP; DNS; FTP; FTPS; HTTP; HTTPS; SSH	
Operating system	Real-time Linux (with RT-Preempt patch)		Real-time Linux (with RT-Preempt patch)	
Processor	Cortex A8		Cortex A8	
Main memory (RAM)/internal memory (flash)	512 Mb / 1024 Mb		512 Mb / 1024 Mb	
Memory expansion	microSD (max. 2 GB); microSDHC (max. 32 GB)		microSD (max. 2 GB); microSDHC (max. 32 GB)	
Interfaces (USB)	2 x USB host 2.0 (type A)		2 x USB host 2.0 (type A)	
Dimensions (W x H x D)	155 x 135 x 58 mm		172 x 163 x 58 mm	
Panel cutout (W x H)	140 x 120 mm		157 x 148 mm	
Mounting	Clamping elements (included) or VESA mount (4 x M4x8)		Clamping elements (included) or VESA mount (4 x M4x8)	
Supply voltage	24 VDC, SELV (–25 ... +30 %); with reverse voltage protection		24 VDC, SELV (–25 ... +30 %); with reverse voltage protection	
Surrounding air temperature (operation)	0 ... +55 °C		0 ... +55 °C	
Approvals	CE;   OrdLoc; DNV GL		CE;   OrdLoc; DNV GL	
Data sheet and further information, see:	wago.com/762-3000		wago.com/762-3001	
Accessories	Item No.	Page	Item No.	Page
Memory card; 2 GB	758-879/000-3102	68	758-879/000-3102	68
Clamping elements (included)	762-9001	68	762-9001	68

Touch Panel e!DISPLAY 300T; Resistive Touchscreen; 17.8 cm (7.0") or 25.7 cm (10.1")



Item Description
Version
Item No.
Order Text

Touch Panel; 17.8 cm (7.0"); 800 x 480 pixels; Resistive touchscreen
Hardware configuration PIO1; Web Panel
762-3002
WP; 7.0; 800x480; PIO1

Touch Panel; 25.7 cm (10.1"); 1280 x 800 pixels; Resistive touchscreen
Hardware configuration PIO1; Web Panel
762-3003
WP 10.1 1280x800 PIO1

Technical Data
Display/front view
Screen size (diagonal)
Aspect
Display colors
Graphics resolution
Operating elements
ETHERNET protocols
Operating system
Processor
Main memory (RAM)/internal memory (flash)
Memory expansion
Interfaces (USB)
Dimensions (W x H x D)
Panel cutout (W x H)
Mounting
Supply voltage
Surrounding air temperature (operation)
Approvals
Data sheet and further information, see:

Resistive touchscreen
18 cm (7.0")
16:9
16 million
800 x 480
Two brightness settings (Up and Down) on the front
DHCP; DNS; FTP; FTPS; HTTP; HTTPS; SSH
Real-time Linux (with RT-Preempt patch)
Cortex A8
512 Mb / 1024 Mb
microSD (max. 2 GB); microSDHC (max. 32 GB)
2 x USB host 2.0 (type A)
213 x 167 x 58 mm
198 x 152 mm
Clamping elements (included) or VESA mount (4 x M4x8)
24 VDC, SELV (-25 ... +30 %); with reverse voltage protection
0 ... +55 °C
CE; OrdLoc; DNV GL
wago.com/762-3002

Resistive touchscreen
25.7 cm (10.1")
16:9
16 million
1280 x 800
Two brightness settings (Up and Down) on the front
DHCP; DNS; FTP; FTPS; HTTP; HTTPS; SSH
Real-time Linux (with RT-Preempt patch)
Cortex A8
512 Mb / 1024 Mb
microSD (max. 2 GB); microSDHC (max. 32 GB)
2 x USB host 2.0 (type A)
293 x 223 x 58 mm
278 x 208 mm
Clamping elements (included) or VESA mount (4 x M4x8)
24 VDC, SELV (-25 ... +30 %); with reverse voltage protection
0 ... +50 °C, 0 ... +55 °C (vertical mounting position)
CE; OrdLoc; DNV GL
wago.com/762-3003

Accessories
Memory card; 2 GB
Clamping elements (included)

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762-9001	68

Accessories



Item Description	Memory Card microSD; SLC-NAND; 2 GB; Temperature range: -40 ... +90 °C
Item No.	758-879/000-3102
Technical Data	
Memory	2 GB (SLC)
Read/write cycles (max.)	17 MB/s / 20 MB/s
MTBF	4,000,000 hrs.
Service life	2,000,000 program/operating cycles
Surrounding air temperature (operation)	-40 ... +90 °C
Surrounding air temperature (storage)	-40 ... +90 °C
Relative humidity	95 % non-condensing
Dimensions W x H x D	15 x 11 x 1 mm
Vibration resistance	15 g
Shock resistance	50 g
Data transmission rate	Up to 20 Mb/s



Connecting Cable		
USB A-B	Item No.	Pack. Unit
3 m	758-879/000-101	1

Clamping Element; for Touch Panels		
	Item No.	Pack. Unit
4 pcs	762-9001	1



Controllers

Touch-Panel 600 Standard/Advanced Line; Hardware configuration Control Panel

- Merging of control and visualization
- 10.9 ... 25.7 cm (4.3 ... 10.1")

◀ Section 3

Controllers PFC200 XTR

The advantages of the PFC Controller combined with the capabilities for extreme environments:

- High processing speed
- Multiple interfaces
- eXTREMely robust and maintenance-free

Section 4.2 ▶▶

Controllers 750 XTR

For demanding applications in which the following are critical:

- Extreme temperature stability
- Immunity to electromagnetic interference and impulse voltages
- Vibration and shock resistance

Section 4.4 ▶▶▶▶

Controllers PFC100/PFC200

- Maximum performance in a minimum space
- Also programmable in high-level languages based on Linux®
- Security packages with SSH and SSL/TLS
- Runtime system for CODESYS V2 (only PFC200) and V3

Section 4.1 ▶

Controllers 750

- Controllers for all prominent fieldbus systems
- Programmable to IEC 61131-3
- Combinable with the modules of the WAGO-I/O-SYSTEM 750

Section 4.3 ▶▶▶

Starter Kits

To get you up and running quickly, we offer starter kits to suit the most diverse applications:

- With Controller PFC100
- With Controller PFC200
- With Controller 750 ETHERNET
- With Controller 750 KNX IP or BACnet/IP

Section 4.5 ▶▶▶▶▶

Controllers
Overview

		Section	Page
	Touch-Panel 600 Standard/Advanced Line; Hardware configuration Control Panel Combining controller and visualization into one device	3	58
	Controllers PFC100 and PFC200 Scalable IP20 controller family with various interfaces	4.1	72
	Controllers PFC200 XTR Scalable IP20 controllers with various interfaces for eXTReme environmental conditions	4.2	94
	Controllers 750 IP20 microcontrollers	4.3	102
	Controllers 750 XTR IP20 microcontrollers for eXTReme environments	4.4	120
	Starter Kits To get you up and running quickly, we offer starter kits to suit the most diverse applications.	4.5	128

Advantages:

- Fieldbus-independent – Support all standard fieldbus protocols and ETHERNET standards
- Scalable performance – Controllers, Control Panels, PFC100 and PFC200
- Programming per IEC 61131-3
- Flexible platform adapts to diverse applications and environments
- Combinable with the WAGO-I/O-SYSTEM 750 – Modular, compact, versatile



Controllers PFC100/PFC200

Touch-Panel 600 Standard/Advanced Line; Hardware configuration Control Panel

- Merging of control and visualization
- 10.9 ... 25.7 cm (4.3 ... 10.1")

◀ Section 3

Controllers PFC200 XTR

The advantages of the PFC Controller combined with the capabilities for extreme environments:

- High processing speed
- Multiple interfaces
- eXTREMely robust and maintenance-free

Section 4.2 ▶

Controllers 750 XTR

For demanding applications in which the following are critical:

- Extreme temperature stability
- Immunity to electromagnetic interference and impulse voltages
- Vibration and shock resistance

Section 4.4 ▶▶▶

Controllers PFC100/PFC200

- Maximum performance in a minimum space
- Also programmable in high-level languages based on Linux®
- Security packages with SSH and SSL/TLS
- Runtime system for CODESYS V2 (only PFC200) and V3

Controllers 750

- Controllers for all prominent fieldbus systems
- Programmable to IEC 61131-3
- Combinable with the modules of the WAGO-I/O-SYSTEM 750

Section 4.3 ▶▶

Starter Kits

To get you up and running quickly, we offer starter kits to suit the most diverse applications:

- With Controller PFC100
- With Controller PFC200
- With Controller 750 ETHERNET
- With Controller 750 KNX IP or BACnet/IP

Section 4.5 ▶▶▶▶

Controllers PFC100/PFC200

Contents

General Product Information													Page	
Versions													75	
Interfaces and Types													75	
Installation Instructions													76	
Item Number Key													76	
Standards and Rated Conditions													77	
Approvals													77	
	CPU	Modbus (TCP, UDP)	EtherNet/IP	EtherCAT	PROFINET	PROFIBUS	CANopen	Modbus RTU	Telecontrol protocols	IoT Protocols	Description	Item No.		
												Default	Ext. Temperature	
	Cortex A8; 600 MHz	M/S	S							x	Controller PFC100; 2 x ETHERNET; Eco	750-8100		78
	Cortex A8; 600 MHz	M/S	S							x	Controller PFC100; 2 x ETHERNET	750-8101	750-8101/025-000	79
		M/S	S				x		x	Controller PFC100; 2 x ETHERNET, RS-232/-485	750-8102	750-8102/025-000	79	
	Cortex A8; 1 GHz	M/S	S	M*				x		x	Controller PFC200; 2nd generation; 2 x ETHERNET, RS-232/-485	750-8212	750-8212/025-000	80
		M/S						x	x	x	Controller PFC200; 2nd generation; 2 x ETHERNET, RS-232/-485; Telecontrol technology		750-8212/025-001 750-8212/025-002	80
	Cortex A8; 1 GHz	M/S	S	M*			M/S			x	Controller PFC200; 2nd generation; 2 x ETHERNET, CAN, CANopen	750-8213		81
	Cortex A8; 1 GHz	M/S	S	M*			M/S	x		x	Controller PFC200; 2nd generation; 2 x ETHERNET, RS-232/-485, CAN, CANopen	750-8214		82
	Cortex A8; 1 GHz	M/S	S	M*	S		M/S			x	Controller PFC200; 2nd generation; 4 x ETHERNET, CAN, CANopen, USB	750-8215		83
	Cortex A8; 1 GHz	M/S	S	M*		S	M/S	x		x	Controller PFC200; 2nd generation; 2 x ETHERNET, RS-232/-485, CAN, CANopen, PROFIBUS Slave	750-8216	750-8216/025-000	84
		M/S				S	M/S	x	x	x	Controller PFC200; 2nd generation; 2 x ETHERNET, RS-232/-485, CAN, CANopen, PROFIBUS Slave; Telecontrol technology		750-8216/025-001	84
	Cortex A8; 600 MHz	M/S	S					x		x	Controller PFC200; 2 x ETHERNET, RS-232/-485, Mobile radio module	750-8207	750-8207/025-000	85
		M/S						x	x	x	Controller PFC200; 2 x ETHERNET, RS-232/-485, Mobile radio module; Telecontrol technology; Ext. temperature		750-8207/025-001	85
	Cortex A8; 600 MHz	M/S	S			M		x		x	Controller PFC200; 2 x ETHERNET, RS-232/-485, CAN, CANopen, PROFIBUS Master	750-8208	750-8208/025-000	86
		M/S				M		x	x	x	Controller PFC200; 2 x ETHERNET, RS-232/-485, CAN, CANopen, PROFIBUS Master; Telecontrol technology		750-8208/025-001	86
	Cortex A8; 600 MHz	M/S	S							x	Controller PFC100; FG0; 2 x ETHERNET	750-8101/000-010		89
	Cortex A8; 600 MHz	M/S	S					x		x	Controller PFC200; FG1; 2 x ETHERNET, RS-232/-485	750-8202/000-011		90
		M/S	S					x		x	Controller PFC200; FG2; 2 x ETHERNET, RS-232/-485	750-8202/000-012		91
		M/S	S					x		x	Controller PFC200; Energy data management application; 2 x ETHERNET; RS-232/-485	750-8202/000-022		92
	Cortex A8; 600 MHz	M/S	S					x		x	Controller PFC200; Energy data management application; 2 x ETHERNET, RS-232/-485; Mobile radio module	750-8207/000-022		93

M: Master, S: Slave; *requires an additional license

Controllers PFC100/PFC200

General Product Information

PFC100/PFC200: Maximum Performance in a Minimum Space

As a member of the WAGO control family, the PFC100 and PFC200 Controllers with *e!RUNTIME* excel with high processing speed and multiple interfaces for parallel communication. They offer at least two ETHERNET connections in all variants and, depending on the version, additional interfaces. The CANopen, PROFIBUS DP, Modbus TCP/UPD/RTU, PROFINET, EtherNet/IP and EtherCAT protocols provide a flexible connection to fieldbus systems and external input/output devices. These fieldbus systems can be easily configured directly in WAGO's easy-to-use *e!COCKPIT* development environment.

The ETHERNET interfaces with an integrated switch also support all major IT protocols. In addition to multiple interfaces, the PFC100/PFC200 offers ample memory for your applications thanks to the internal Flash memory and an integrated interface for memory cards.

Industry 4.0 / IoT

Recording, digitizing and linking data profitably – this is the core concept behind Industry 4.0. Using a dedicated library, the WAGO PFC100 and PFC200 Controllers become IoT controllers that send data from the field level to the cloud. Here, they can be aggregated and used for analysis. This creates true added value for your company – be it for increasing the efficiency of in-house production, implementing energy management in buildings, or developing further end customer services. Existing systems also become IoT-ready, making them sustainable into the future. The WAGO PFC family of controllers thus forms the basis for a sustainable corporate world.

Telecontrol Technology

Standardized telecontrol protocols according to IEC 60870-5, IEC 61850, IEC 61400-25 or DNP3 ensure use of the PFC Controllers in telecontrol technology.

Starter Kits

For a quick start, WAGO offers every customer the unique opportunity to purchase a starter kit that already contains all the components needed to begin programming and getting to know the controllers. For starter kits, see Section 4.5.

Link between Process Data and IT Application

The PFC100/PFC200 ideally combines real-time requirements with IT functionality. It supports both MODBUS/TCP and ETHERNET/IP for use in industrial environments. HTTP, SNMP, FTP, BootP, DHCP, DNS, Telnet, SSH and other protocols simplify integration into IT environments. Integrated Web pages and Web-based visualization provide IT applications with real-time process data. Furthermore, the 750 Series Controllers incorporate library functions for email, SOAP, ASP, IP configuration, ETHERNET sockets and file system.

Security on Board

The topics of ETHERNET communication and security are closely linked. To provide PFC Controller users with a high level of security, mechanisms for secure connections such as VPN, integrated firewall, HTTPS, FTPS, SSH and SSL/TLS are standard.

Demand-Oriented Extensibility

Some controllers offer the option of activating functions that go beyond the standard via runtime licenses, making it possible to price as needed. This also offers the advantage that with the same exact controller, different functions can be realized and also combined, which otherwise would only be replicated via additional variants. The licenses are simply loaded into the controller together with the project. The additional licenses available for each controller are specified by the controller and described in detail in the "Software" section.

Application Controllers

For some specific solutions, variants of standard controllers are available that must be paired with the appropriate solutions. You will find these solutions in Section 1.

Modular and Expandable

With the WAGO I/O-SYSTEM 750, the PFC100/PFC200 can be expanded to almost any input/output interface. A modular, DIN-rail-mount design permits easy installation, expansion and modification of the I/O node without tools. The straightforward design prevents installation errors. In addition, proven CAGE CLAMP® technology offers fast, vibration-proof and maintenance-free connections that are independent of operator skill. Depending on the I/O module's granularity, field levels can be directly wired using 1-, 2-, 3- or 4-wire technology.

Maximum Reliability and Ruggedness

The PFC100/PFC200 is engineered and tested for use in the most demanding environments (e.g., temperature cycling, shock/vibration loading and ESD) according to the highest standards. Spring pressure connection technology guarantees continuous operation. Integrated QA measures in the production process and 100% function testing ensure consistent quality.

Open-Source Software and Linux®

We unite what belongs together: High-performance WAGO hardware and the future-ready Linux® operating system. WAGO's controllers offer programming in either IEC 61131 or directly in Linux® to create complex tasks. WAGO's "Embedded Linux" Controllers impress with base images that are expandable via open-source packages. As a "Gold Member" of the Open Source Automation Development Lab (OSADL), WAGO supports both financing and further development of Linux® in the industrial sector. The controller firmware itself is available as a "Board Support Package" (BSP). If you are interested, simply contact our Technical Support *AUTOMATION*.

Advantages:

- Programming per IEC 61131-3
- Applications with higher-level languages
- Linux® real-time operating system
- Robust and maintenance-free
- Integrated cybersecurity packages
- IoT ready

Controllers PFC100/PFC200 Versions

Extended Temperature Range

Industrial automation technology is typically operated in temperatures ranging from 0°C to 55°C. However, there are applications like telecontrol technology that require an extended temperature range. These versions are available in an extended temperature range of -20°C to +60°C.



Eco

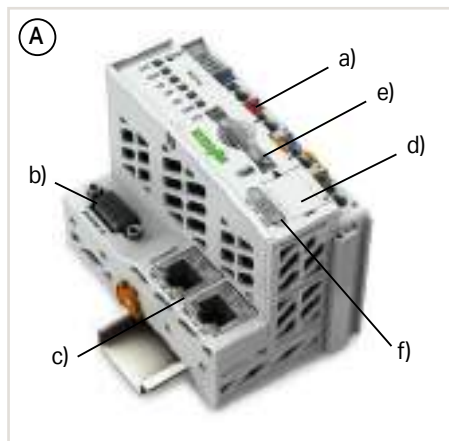
The Eco version of the PFC200 limits the number of stackable I/O modules to four.

Telecontrol Technology

The telecontrol technology versions of the PFC200 are distinguished by their integrated, standardized telecontrol technology:

- IEC 60870-5
- IEC 61850
- IEC 61400-25
- DNP3

Interfaces and Types



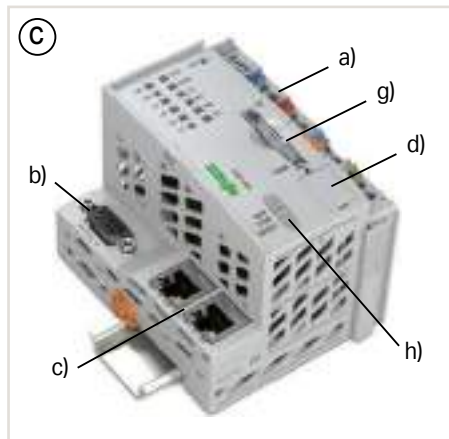
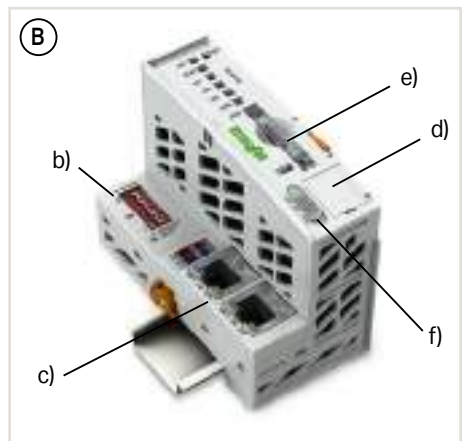
- Including supply module to power downstream I/O modules (a)
- Technical differences on the connection level (b)
- ETHERNET 2 x RJ-45 (c)
- Service interface (d)

Housing design (A)

- microSD card slot for external storage media (e)
- Start/stop switch (f)
- W x H x D (mm) 61.5 x 71.9 x 100
- Connection technology (system/field supply): CAGE CLAMP®
- Conductor cross section: 0.08 ... 2.5 mm²/28 ... 14 AWG

Housing design (B)

- microSD card slot for external storage media (e)
- Start/stop switch (f)
- W x H x D (mm) 49.5 x 71.9 x 96.8
- Connection technology (system supply): CAGE CLAMP®
- Conductor cross section: 0.08 ... 1.5 mm²/28 ... 16 AWG

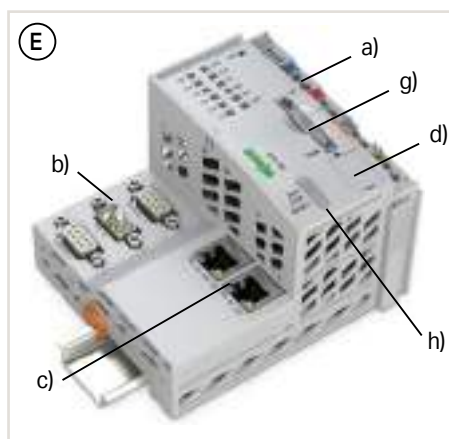
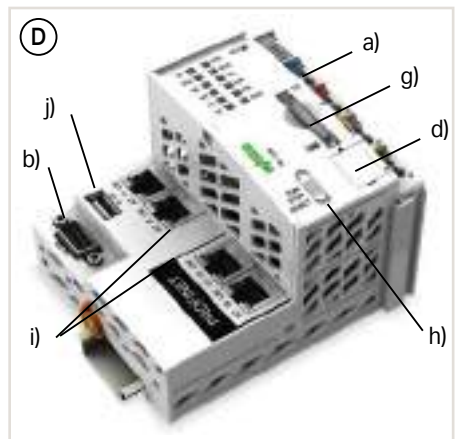


Housing design (C)

- SD card slot for external storage media (g)
- Start/stop switch (h)
- W x H x D (mm) 78.6 x 71.9 x 100
- Connection technology (system/field supply): CAGE CLAMP®
- Conductor cross section: 0.08 ... 2.5 mm²/28 ... 14 AWG

Housing design (D)

- SD card slot for external storage media (g)
- Start/stop switch (h)
- ETHERNET 4 x RJ-45 (i)
- USB interface (j)
- W x H x D (mm) 112 x 71.9 x 100
- Connection technology (system/field supply): CAGE CLAMP®
- Conductor cross section: 0.08 ... 2.5 mm²/28 ... 14 AWG

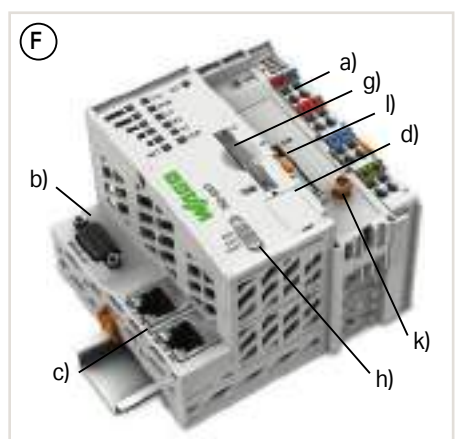


Housing design (E)

- SD card slot for external storage media (g)
- Start/stop switch (h)
- W x H x D (mm) 112 x 71.9 x 100
- Connection technology (system/field supply): CAGE CLAMP®
- Conductor cross section: 0.08 ... 2.5 mm²/28 ... 14 AWG

Housing design (F)

- SD card slot for external storage media (g)
- Start/stop switch (h)
- GSM antenna connection (k)
- SIM card slot (l)
- W x H x D (mm) 102.5 x 71.9 x 100
- Connection technology (system/field supply): CAGE CLAMP®
- Conductor cross section: 0.08 ... 2.5 mm²/28 ... 14 AWG

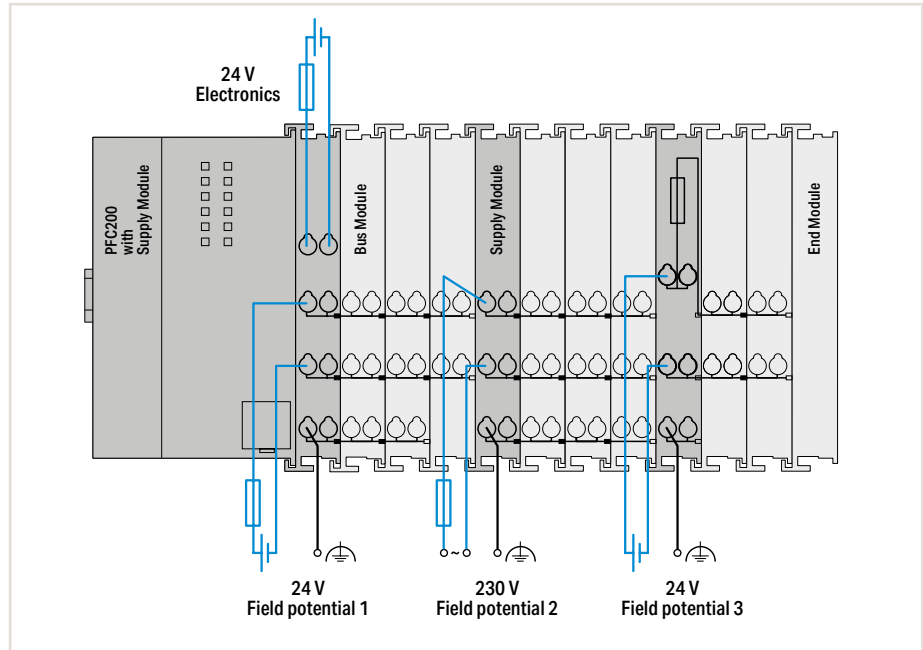


Controllers PFC100/PFC200

Installation Instructions

Power Supply

The internal electronics are powered by the controller. The power supply to the field-side supply is electrically isolated. The division enables a separate supply for sensors and actuators. Snapping the I/O modules together automatically routes the supply voltages. Supply modules with diagnostics enable additional monitoring of the power supply. This configuration ensures a flexible, user-specific supply design for a station. The current supply to the electronics is limited by a maximum value. If the sum of the internal current demand of all the I/O modules should exceed this value, an additional system supply module is necessary. Even in this case, power supply to the field-side supply of 10 A may not be exceeded. However, different power supply modules allow a new power supply, formation of potential groups and the implementation of emergency stops.



Notes

Additional steps must be implemented based on where the I/O system is installed:

Specific power and field-side power supply filters (750-624 or 750-626) are required for marine and onshore/offshore applications. A specific supply module (750-606) is required to operate intrinsically safe Ex i modules.

Additionally, both a supply module and a field-side power supply filter are recommended when operating intrinsically safe Ex i modules for marine and onshore/offshore applications.

As part of operating safety-related I/O modules, PELV/SELV power supply units must be used for 24 VDC supply of electronics and field. In addition, specific power and field-side power supply filters must be provided (750-626).

Please refer to the manual for details about the power supply's design.

Item Number Key

Explanation of the components of an item number key

Item No.: 750-81xx = PFC100

- 00: 2 x ETHERNET, Eco
- 01: 2 x ETHERNET
- 02: 2 x ETHERNET, RS-232/-485

Item No.: 750-82xy = PFC200

- 0y: Generation 1
- 1y: Generation 2
 - x2: 2 x ETHERNET, RS-232/-485
 - x3: 2 x ETHERNET, CAN
 - x4: 2 x ETHERNET, RS-232/-485, CAN
 - x5: 4 x ETHERNET, CAN, CANopen, USB
 - x6: 2 x ETHERNET, RS-232/-485, CAN, PROFIBUS-DP slave
 - x7: 2 x ETHERNET, RS-232/-485, mobile radio module
 - x8: 2 x ETHERNET, RS-232/-485, CAN, CANopen, PROFIBUS master

.../025-yyy: Extended temperature range of -20 ... +60 °C

- 000: Standard
- 001: Telecontrol technology
- 002: Telecontrol Eco

Controllers PFC100/PFC200

Standards and Rated Conditions

General Specifications

Supply voltage (system)	24 VDC (-25 ... +30 %)*; *for all marine-certified controllers
Isolation	500 V (system/supply)
Surrounding air temperature (operation)	0 ... +55 °C
Surrounding air temperature (operation) for versions with an extended temperature range	-20 ... +60 °C
Surrounding air temperature (storage)	-40 ... +85 °C
Relative humidity	95 % (non condensing)
Relative humidity for versions with an extended temperature range	Max. 95 %, short-term condensation per Class 3K6 / IEC EN 60721-3-3 and E DIN 40046-721-3, taking a temperature range of -20 ... +60 °C into consideration (except wind-driven precipitation, water and ice formation)
Operating altitude	0 ... 2000 m
Pollution degree	2 per IEC 61131-2
Vibration resistance	0.5g (4g for all marine-certified controllers) per IEC 60068-2-6
Shock resistance	15g per IEC 60068-2-27
EMC immunity to interference	Per EN 61000-6-2
EMC emission of interference	Per EN 61000-6-3
Protection type	IP20
Mounting type	DIN-35 rail
Housing material	Polycarbonate; polyamid 6.6
Exposure to pollutants	Per IEC 60068-2-42 and IEC 60068-2-43
Permissible SO ₂ contaminant concentration at a relative humidity < 75 %	25 ppm
Permissible H ₂ S contaminant concentration at a relative humidity < 75 %	10 ppm
Connection technology	CAGE CLAMP®
Conductor cross sections; strip length Standard PFC100/200	0.08 ... 2.5 mm ² /28 ... 14 AWG; 8 ... 9 mm / 0.31 ... 0.35 inch
Conductor cross sections; strip length PFC100 Eco	0.08 ... 1.5 mm ² /28 ... 16 AWG; 5 ... 6 mm / 0.2 ... 0.24 inch
Current carrying capacity (power jumper contacts)	10 A

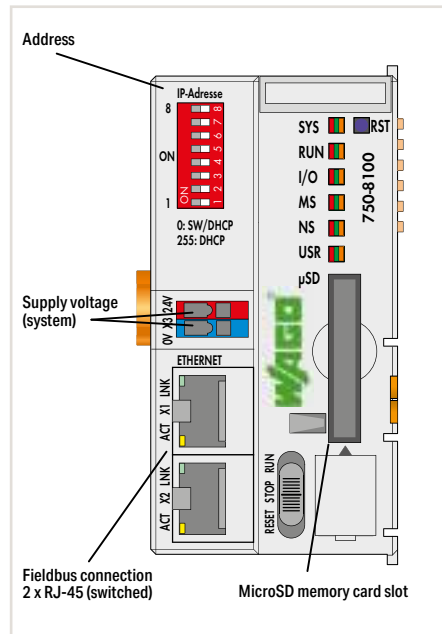
4.1

Approvals

Overview of the approvals in the article comparison in Section 11, Technical Appendix, or online at www.wago.com



Controller PFC100; 2 x ETHERNET; Eco



4.1

Item description	Controller PFC100; 2 x ETHERNET; Eco	
Version	Default	
Item No.	750-8100	
Order text	PFC100; 2ETH; Eco	
Technical Data		
Communication	Modbus (TCP, UDP); EtherNet/IP adapter (slave) ¹⁾ ; MQTT	
ETHERNET protocols	DHCP; DNS; NTP; FTP; FTPS; SNMP; HTTP; HTTPS; SSH	
Visualization	Web-Visu	
Programming	e!COCKPIT (based on CODESYS V3)	
CPU	Cortex A8; 600 MHz	
Operating system	Real-time Linux (with RT-Preempt patch)	
Non-volatile memory (hardware)	64 KB	
Program memory/data memory/non-volatile memory (software)	10 MB* / 10 MB* / 64 KB	
Number of modules per node (max.)	250	
Input and output process image (internal) max.	1000 words	
Input and output process image (MODBUS) max.	32000 words	
Supply voltage (system)	24 VDC (–25 ... +30 %), via wiring level	
Input current (typ.) at nominal load (24 V)	300 mA	
Total current (system supply)	700 mA	
Surrounding air temperature (operation)	0 ... +55 °C	
Dimensions W x H x D	49.5 x 71.9 x 96.8 mm	
Approvals	CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX	
Data sheet and further information, see:	wago.com/750-8100	
Accessories	Item No.	Page
microSD memory card; 2 GB	758-879/000-3102	470

¹⁾Library for e!RUNTIME

*For memory configuration via e!RUNTIME, the program and data memory together have a maximum size of 10 MB and can be distributed dynamically.

„ Software e!COCKPIT, WAGO-I/O-PRO V2.3, see Section 2, page 26 and 32

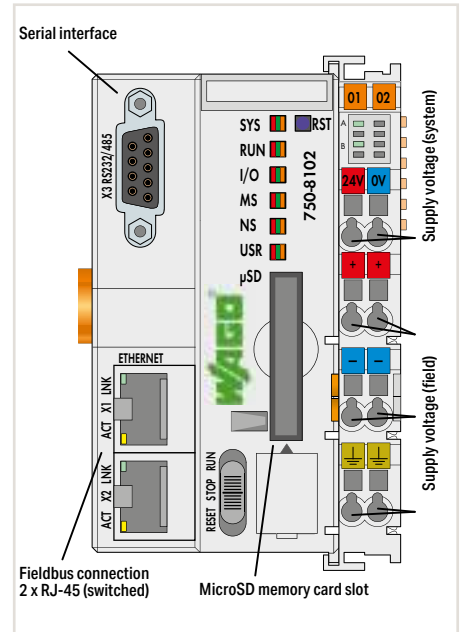
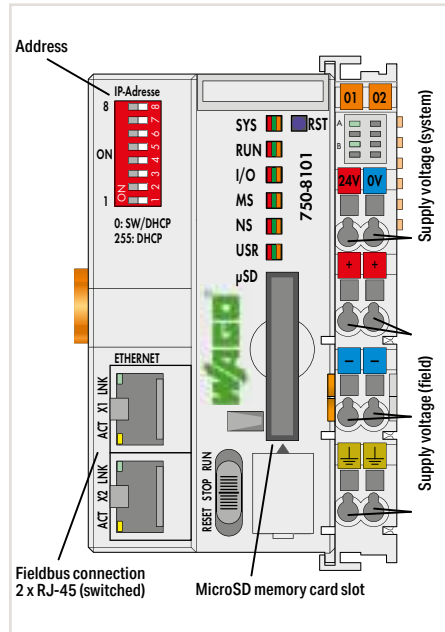
„ Mini-USB marker card and mounting accessories, see Section "Accessories and Tools"

„ Approvals and corresponding ratings, see page 516 or www.wago.com

Controller PFC100; 2 x ETHERNET or 2 x ETHERNET; RS-232/-485



Figure: 750-8102



Item description	Controller PFC100; 2 x ETHERNET		PFC100 Controller; 2 x ETHERNET; RS-232/-485	
Version	Default	Ext. temperature	Default	Ext. temperature
Item No.	750-8101	750-8101/025-000	750-8102	750-8102/025-000
Order text	PFC100; 2ETH	PFC100; 2ETH; T	PFC100; 2ETH RS	PFC100; 2ETH RS; T
Technical Data				
Communication	Modbus (TCP, UDP); EtherNet/IP adapter (slave) ¹⁾ ; MQTT		Modbus (TCP, UDP, RTU); EtherNet/IP adapter (slave) ¹⁾ ; MQTT; RS-232/-485 interface	
ETHERNET protocols	DHCP; DNS; NTP; FTP; FTPS; SNMP; HTTP; HTTPS; SSH		DHCP; DNS; NTP; FTP; FTPS; SNMP; HTTP; HTTPS; SSH	
Visualization	Web-Visu		Web-Visu	
Programming	e!COCKPIT (based on CODESYS V3)		e!COCKPIT (based on CODESYS V3)	
CPU	Cortex A8; 600 MHz		Cortex A8; 600 MHz	
Operating system	Real-time Linux 3.18 (with RT-Preempt patch)		Real-time Linux 3.18 (with RT-Preempt patch)	
Non-volatile memory (hardware)	64 KB		128 KB	
Program memory/data memory/non-volatile memory (software)	12 MB* / 12 MB* / 64 KB		12 MB* / 12 MB* / 128 KB	
Number of modules per node (max.)	250		250	
Input and output process image (internal) max.	1000 words		1000 words	
Input and output process image (MODBUS) max.	32000 words		32000 words	
Supply voltage (system)	24 VDC (–25 ... 30 %); via wiring level (CAGE CLAMP® connection)		24 VDC (–25 ... 30 %); via wiring level (CAGE CLAMP® connection)	
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts		24 VDC (–25 ... +30 %); via power jumper contacts	
Input current (typ.) at nominal load (24 V)	550 mA		550 mA	
Total current (system supply)	1700 mA		1700 mA	
Surrounding air temperature (operation)	0 ... +55 °C	–20 ... +60 °C	0 ... +55 °C	–20 ... +60 °C
Dimensions W x H x D	61.5 x 71.9 x 100 mm		61.5 x 71.9 x 100 mm	
Approvals	CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx		CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx	
Data sheet and further information, see:	wago.com/750-8101		wago.com/750-8102	
Accessories	Item No.	Page	Item No.	Page
microSD memory card; 2 GB	758-879/000-3102	470	758-879/000-3102	470

¹⁾Library for e!RUNTIME

*For memory configuration via e!RUNTIME, the program and data memory together have a maximum size of 12 MB and can be distributed dynamically.

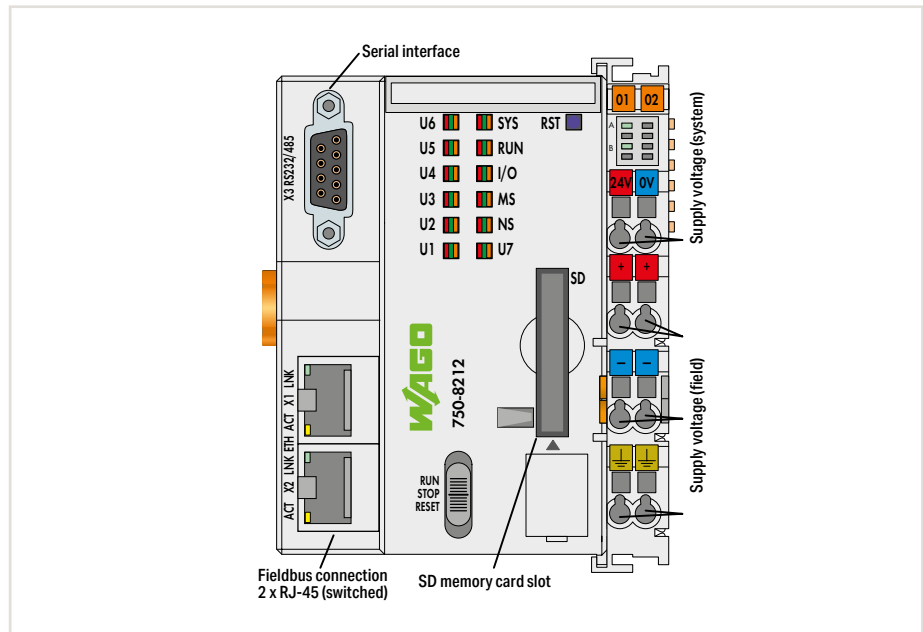
¹⁾Library for e!RUNTIME

*For memory configuration via e!RUNTIME, the program and data memory together have a maximum size of 12 MB and can be distributed dynamically.

Controller PFC200; 2nd Generation; 2 x ETHERNET, RS-232/-485



Figure: 750-8212



4.1

Item description		Controller PFC200; 2nd generation; 2 x ETHERNET, RS-232/-485	
Version		Default	Ext. temperature
Item No.		750-8212	750-8212/025-000
Order text		PFC200; G2; 2ETH RS	PFC200; G2; 2ETH RS; T
Technical Data		Telecontrol technology; ext. temperature	
Communication		Telecontrol technology; ext. temperature; Eco	
ETHERNET protocols		750-8212/025-001	
Telecontrol protocols		750-8212/025-002	
Visualization		PFC200; G2; 2ETH RS; Tele; T	
Programming		PFC200; G2; 2ETH RS; Tele; T; Eco	
CPU		Modbus (TCP, UDP, RTU); EtherNet/IP adapter (slave) ¹ ; MQTT; RS-232/-485 interface; EtherCAT-Master ²	
Operating system		DHCP; DNS; NTP; FTP; FTPS; SNMP; HTTP; HTTPS; SSH	
Main memory (RAM)/internal memory (flash)/non-volatile memory (hardware)		IEC 60870-5-101/-103/-104; IEC 61850-7-4; IEC 61400-25; DNP3	
Program memory/data memory/non-volatile memory (software)		Web-Visu	
Number of modules per node (max.)		WAGO-I/O-PRO V2.3 (based on CODESYS V2.3); e!COCKPIT (based on CODESYS V3)	
Input and output process image (internal) max.		Cortex A8; 1 GHz	
Input and output process image (MODBUS) max.		Real-time Linux (with RT-Preempt patch)	
Supply voltage (system)		512 MB / 4 GB / 128 KB	
Supply voltage (field)		CODESYS V2: 16 MB / 64 MB / 128 KB	
Input current (typ.) at nominal load (24 V)		e!RUNTIME: 60 MB* / 60 MB* / 128 KB	
Total current (system supply)		250	
Surrounding air temperature (operation)		1000 words	
Dimensions W x H x D		CODESYS V2: 1000 words	
Approvals		e!RUNTIME: 32000 words	
Data sheet and further information, see:		24 VDC (-25 ... 30 %); via wiring level (CAGE CLAMP® connection)	
Accessories		24 VDC (-25 ... +30 %); via power jumper contacts	
SD memory card; 2 GB		550 mA	
e!RUNTIME; EtherCAT Master 300; Single license		1700 mA	
		0 ... +55 °C	
		-20 ... +60 °C	
		78.6 x 71.9 x 100 mm	
		CE; Marine; OrdLoc**/HazLoc; ATEX/IECEx	
		wago.com/750-8212	
Item No.		Page	
758-879/000-001		470	
2759-263/210-1000		45	

* Software e!COCKPIT, WAGO-I/O-PRO V2.3, see Section 2, page 26 and 32

* Approvals and corresponding ratings, see page 516 or www.wago.com

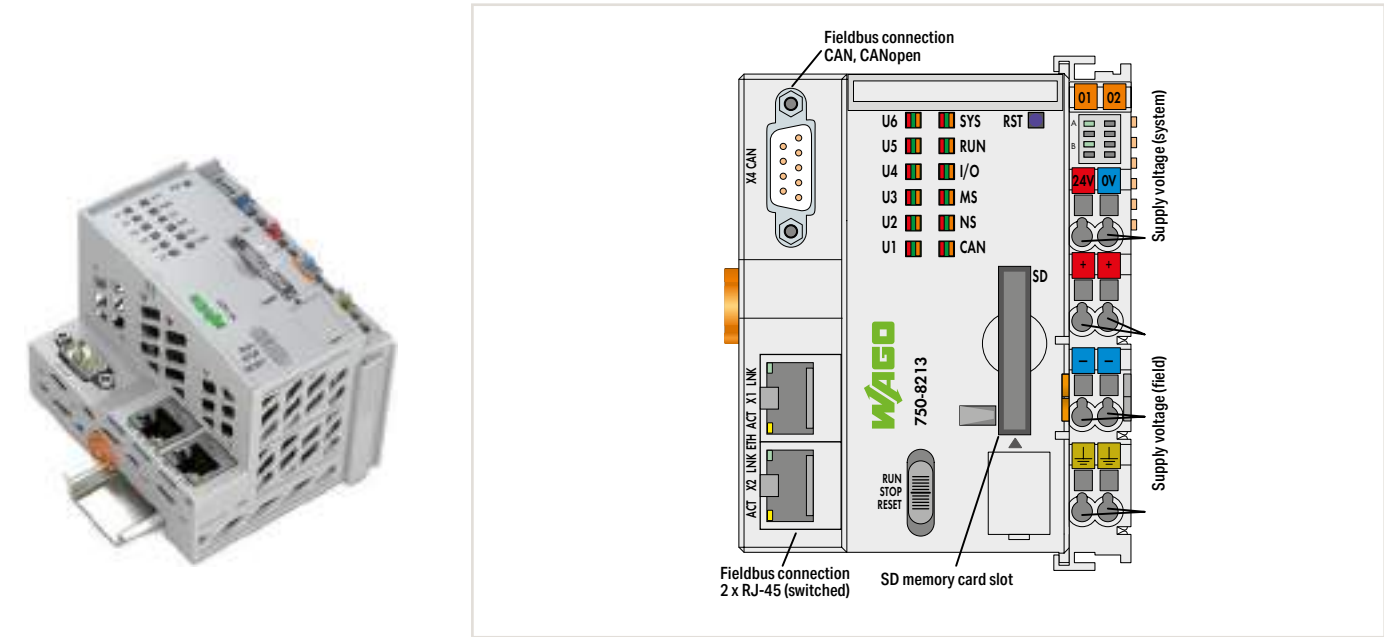
¹Library for e!RUNTIME

²for e!RUNTIME; requires an additional license

*For memory configuration via e!RUNTIME, the program and data memory together have a maximum size of 60 MB and can be distributed dynamically.

**Pending

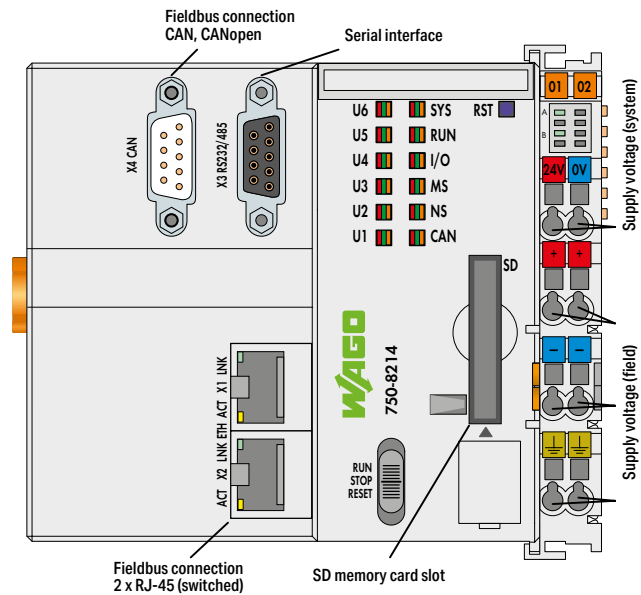
Controller PFC200; 2nd Generation; 2 x ETHERNET, CAN, CANopen



Item description	Controller PFC200; 2nd generation; 2 x ETHERNET, CAN, CANopen	
Version	Default	
Item No.	750-8213	
Order text	PFC200; G2; 2ETH CAN	
Technical Data		
Communication	Modbus (TCP, UDP); EtherNet/IP adapter (slave) ¹⁾ ; MQTT; CANopen; EtherCAT Master ²⁾	
ETHERNET protocols	DHCP; DNS; NTP; FTP; FTPS; SNMP; HTTP; HTTPS; SSH	
Visualization	Web-Visu	
Programming	WAGO-I/O-PRO V2.3 (based on CODESYS V2.3); e!COCKPIT (based on CODESYS V3)	
CPU	Cortex A8; 1 GHz	
Operating system	Real-time Linux (with RT-Preempt patch)	
Main memory (RAM)/internal memory (flash)/non-volatile memory (hardware)	512 MB / 4 GB / 128 KB	
Program memory/data memory/non-volatile memory (software)	CODESYS V2:	16 MB / 64 MB / 128 KB
Number of modules per node (max.)	e!RUNTIME:	60 MB* / 60 MB* / 128 KB
Input and output process image (internal) max.		250
Input and output process image (MODBUS)/(CAN) max.		1000 words
Supply voltage (system)	CODESYS V2:	1000 words / 2000 words
Supply voltage (field)	e!RUNTIME:	32000 words / 2000 words
Input current (typ.) at nominal load (24 V)		24 VDC (–25 ... 30 %); via wiring level (CAGE CLAMP® connection)
Total current (system supply)		24 VDC (–25 ... +30 %); via power jumper contacts
Surrounding air temperature (operation)		550 mA
Dimensions W x H x D		1700 mA
Approvals		0 ... +55 °C
Data sheet and further information, see:		78.6 x 71.9 x 100 mm
		CE; Marine; OrdLoc**/HazLoc; ATEX/IECEX
		wago.com/750-8213
Accessories	Item No.	Page
SD memory card; 2 GB	758-879/000-001	470
e!RUNTIME; EtherCAT Master 300; Single license	2759-263/210-1000	45

¹⁾Library for e!RUNTIME
²⁾for e!RUNTIME; requires an additional license
*For memory configuration via e!RUNTIME, the program and data memory together have a maximum size of 60 MB and can be distributed dynamically.
**Pending

Controller PFC200; 2nd Generation; 2 x ETHERNET, RS-232/-485, CAN, CANopen



4.1

Item description	Controller PFC200; 2nd generation; 2 x ETHERNET, RS-232/-485, CAN, CANopen	
Version	Default	
Item No.	750-8214	
Order text	PFC200; G2; 2ETH RS CAN	
Technical Data		
Communication	Modbus (TCP, UDP, RTU); EtherNet/IP adapter (slave)1); MQTT; CANopen; RS-232/-485 interface; EtherCAT Master ²⁾	
ETHERNET protocols	DHCP; DNS; NTP; FTP; HTTPS; SNMP; HTTP; HTTPS; SSH	
Visualization	Web-Visu	
Programming	WAGO-I/O-PRO V2.3 (based on CODESYS V2.3); e!COCKPIT (based on CODESYS V3)	
CPU	Cortex A8; 1 GHz	
Operating system	Real-time Linux (with RT-Preempt patch)	
Main memory (RAM)/internal memory (flash)/non-volatile memory (hardware)	512 MB / 4 GB / 128 KB	
Program memory/data memory/non-volatile memory (software)	CODESYS V2:	16 MB / 64 MB / 128 KB
	e!RUNTIME:	60 MB* / 60 MB* / 128 KB
Number of modules per node (max.)	250	
Input and output process image (internal) max.	1000 words	
Input and output process image (MODBUS)/(CAN) max.	CODESYS V2:	1000 words / 2000 words
	e!RUNTIME:	32000 words / 2000 words
Supply voltage (system)	24 VDC (–25 ... 30 %); via wiring level (CAGE CLAMP® connection)	
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts	
Input current (typ.) at nominal load (24 V)	550 mA	
Total current (system supply)	1700 mA	
Surrounding air temperature (operation)	0 ... +55 °C	
Dimensions W x H x D	78.6 x 71.9 x 100 mm	
Approvals	CE; Marine; OrdLoc**/HazLoc; ATEX/IECEx	
Data sheet and further information, see:	wago.com/750-8214	
Accessories	Item No.	Page
SD memory card; 2 GB	758-879/000-001	470
e!RUNTIME; EtherCAT Master 300; Single license	2759-263/210-1000	45

¹⁾Library for e!RUNTIME²⁾for e!RUNTIME; requires an additional license

*For memory configuration via e!RUNTIME, the program and data memory together have a maximum size of 60 MB and can be distributed dynamically.

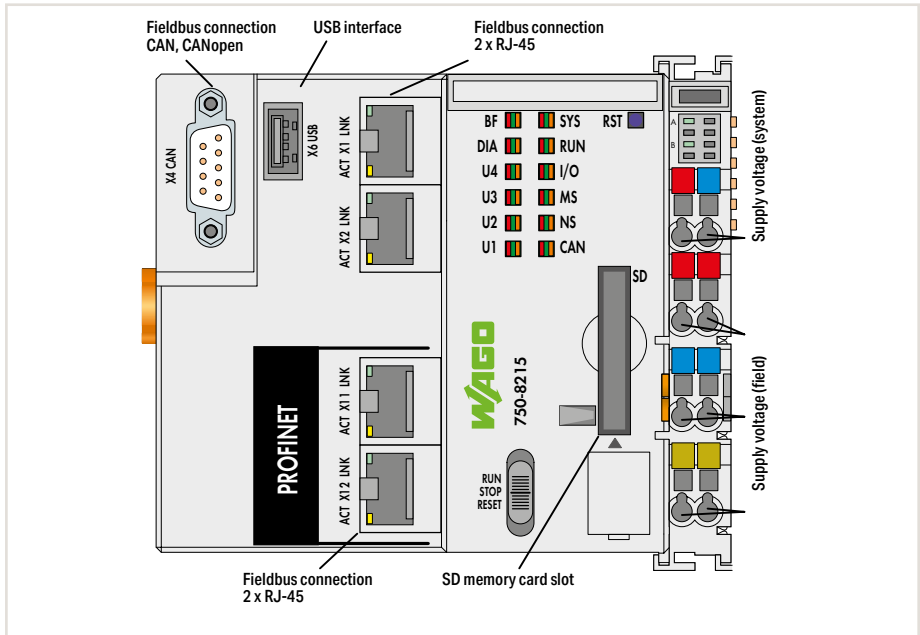
**Pending

„ Software e!COCKPIT, WAGO-I/O-PRO V2.3, see Section 2, page 26 and 32

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 516 or www.wago.com

Controller PFC200; 2nd Generation; 4 x ETHERNET, CAN, CANopen, USB



Item description	Controller PFC200; 2nd generation; 4 x ETHERNET, CAN, CANopen, USB	
Version	Default	
Item No.	750-8215	
Order text	PFC200; G2; 4ETH CAN USB	
Technical Data		
Communication	PROFINET RT (Slave); Modbus (TCP, UDP); CANopen, EtherNet/IP adapter (slave) ¹⁾ ; MQTT; EtherCAT Master ²⁾	
ETHERNET protocols	DHCP; DNS; NTP; FTP; HTTPS; SNMP; HTTP; HTTPS; SSH	
PROFINET IO features	PROFINET IO V2.3; Media redundancy (MRP); Shared device	
Visualization	Web-Visu	
Programming	e!COCKPIT (based on CODESYS V3)	
CPU	Cortex A8; 1 GHz	
Operating system	Real-time Linux (with RT-Preempt patch)	
Main memory (RAM)/internal memory (flash)/non-volatile memory (hardware)	512 MB / 4 GB / 128 KB	
Program memory/data memory/non-volatile memory (software)	16 MB* / 64 MB* / 128 KB	
Number of modules per node (max.)	250	
Input and output process image (internal) max.	1000 words	
Input and output process image (MODBUS)/(PROFINET)/(CAN) max.	1000 words / 1024 bytes** / 2000 words	
Supply voltage (system)	24 VDC (–25 ... 30 %); via wiring level (CAGE CLAMP® connection)	
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts	
Input current (typ.) at nominal load (24 V)	550 mA	
Total current (system supply)	1700 mA	
Surrounding air temperature (operation)	0 ... +55 °C	
Dimensions W x H x D	112 x 71.9 x 100 mm	
Approvals	CE; Marine***; OrdLoc***/HazLoc; ATEX/IECEx	
Data sheet and further information, see:	wago.com/750-8215	
Accessories	Item No.	Page
SD memory card; 2 GB	758-879/000-001	470
e!RUNTIME; EtherCAT Master 300; Single license	2759-263/210-1000	45

¹⁾Library for e!RUNTIME

²⁾for e!RUNTIME; requires an additional license

*For memory configuration via e!RUNTIME, the program and data memory together have a maximum size of 60 MB and can be distributed dynamically.

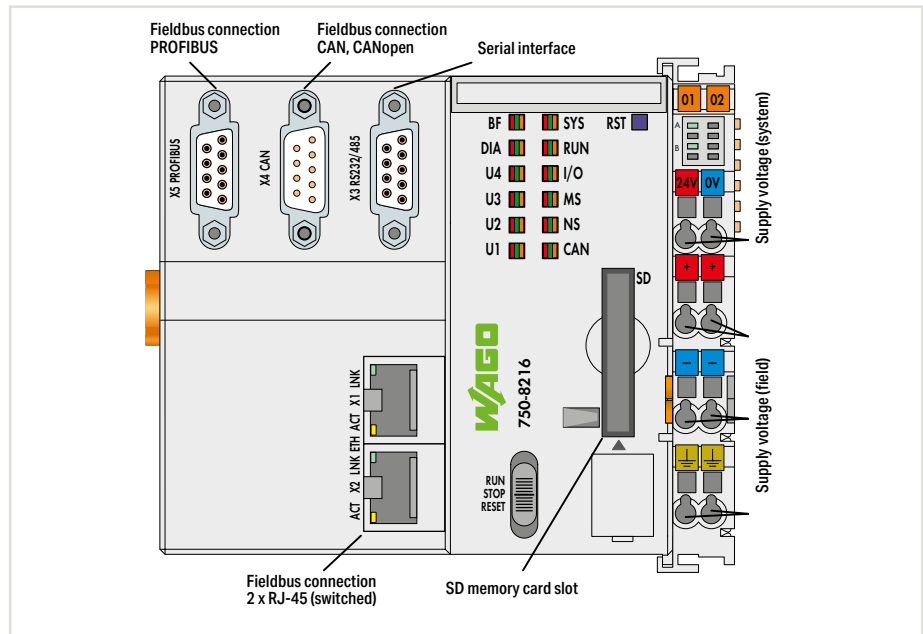
**per application relation (AR)

***Pending

Controller PFC200; 2nd Generation; 2 x ETHERNET, RS-232/-485, CAN, CANopen, PROFIBUS Slave



Figure: 750-8216



4.1

Item description		
Version		
Item No.		
Order text		
Controller PFC200; 2nd generation; 2 x ETHERNET, RS-232/-485, CAN, CANopen, PROFIBUS Slave		
Default		
Ext. temperature		
Telecontrol technology; ext. temperature		
750-8216	750-8216/025-000	750-8216/025-001
PFC200; G2; 2ETH RS CAN DPS	PFC200; G2; 2ETH RS CAN DPS; T	PFC200; G2; 2ETH RS CAN DPS; Tele; T
Technical Data		
Communication		
ETHERNET protocols		
Telecontrol protocols		
Visualization		
Programming		
CPU		
Operating system		
Main memory (RAM)/internal memory (flash)/non-volatile memory (hardware)		
Program memory/data memory/non-volatile memory (software)		
Number of modules per node (max.)		
Input and output process image (internal) max.		
Input and output process image (MODBUS)/(PROFIBUS)/(CAN) max.		
Supply voltage (system)		
Supply voltage (field)		
Input current (typ.) at nominal load (24 V)		
Total current (system supply)		
Surrounding air temperature (operation)		
Dimensions W x H x D		
Approvals		
Data sheet and further information, see:		
Accessories		
SD memory card; 2 GB		
e!RUNTIME; EtherCAT Master 300; Single license		
Modbus (TCP, UDP, RTU); EtherNet/IP adapter (slave)1); MQTT; PROFIBUS; CANopen; RS-232/-485 interface; EtherCAT-Master ²⁾		
DHCP; DNS; NTP; FTP; FTPS; SNMP; HTTP; HTTPS; SSH		
IEC 60870-5-101/-103/-104; IEC 61850-7-4; IEC 61400-25; DNP3		
Web-Visu		
WAGO-I/O-PRO V2.3 (based on CODESYS V2.3); e!COCKPIT (based on CODESYS V3)		
Cortex A8; 1 GHz		
Real-time Linux (with RT-Preempt patch)		
512 MB / 4 GB / 128 KB		
CODESYS V2: 16 MB / 64 MB / 128 KB		
e!RUNTIME: 60 MB* / 60 MB* / 128 KB		
250		
1000 words		
CODESYS V2: 1000 words / 244 bytes / 2000 words		
e!RUNTIME: 32000 words / 244 bytes / 2000 words		
24 VDC (-25 ... 30 %); via wiring level (CAGE CLAMP® connection)		
24 VDC (-25 ... +30 %); via power jumper contacts		
550 mA		
1700 mA		
0 ... +55 °C		
-20 ... +60 °C		
112 x 71.9 x 100 mm		
CE; Marine; OrdLoc**/HazLoc; ATEX/IECEx		
wago.com/750-8216		
Item No.		
Page		
758-879/000-001	470	
2759-263/210-1000	45	

¹⁾Library for e!RUNTIME; ²⁾for e!RUNTIME; requires an additional license

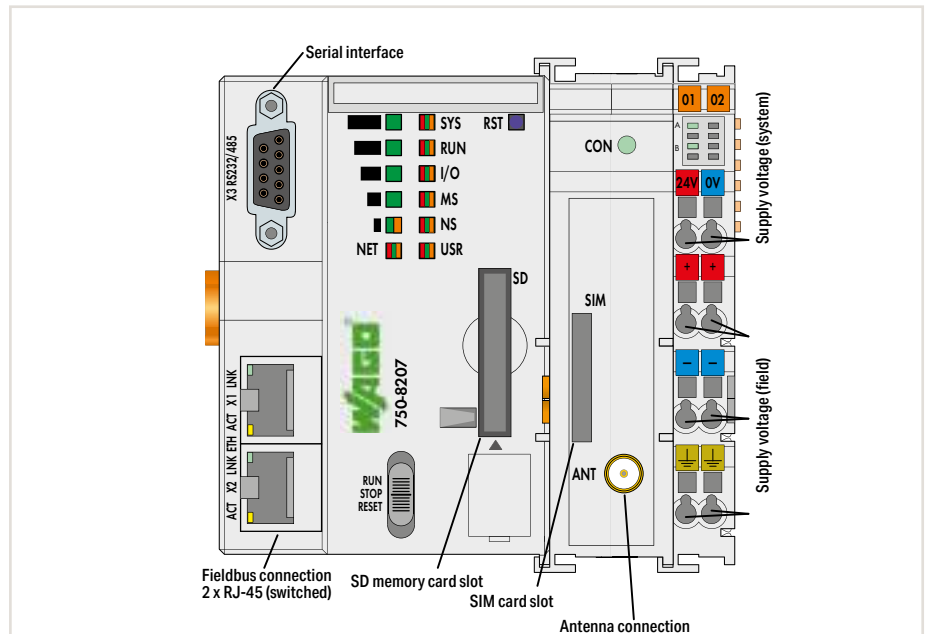
*For memory configuration via e!RUNTIME, the program and data memory together have a maximum size of 60 MB and can be distributed dynamically.

**Pending

Controller PFC200; 2 x ETHERNET, RS-232/-485, Mobile Radio Module



Figure: 750-8207



Item description		
Version		
Item No.		
Order text		
Technical Data		
Communication		
ETHERNET protocols		
Telecontrol protocols		
Radio technology		
Frequency band		
Services		
Security encryption		
Visualization		
Programming		
CPU		
Operating system		
Main memory (RAM)/internal memory (flash)/non-volatile memory (hardware)		
Program memory/data memory/non-volatile memory (software)		
Number of modules per node (max.)		
Input and output process image (internal) max.		
Input and output process image (MODBUS) max.		
Supply voltage (system)		
Supply voltage (field)		
Input current (typ.) at nominal load (24 V)		
Total current (system supply)		
Surrounding air temperature (operation)		
Dimensions W x H x D		
Approvals		
Data sheet and further information, see:		
Accessories		
SD memory card; 2 GB		
Antenna, GSM		
Controller PFC200; 2 x ETHERNET, RS-232/-485, Mobile radio module		
Default	Ext. temperature	Telecontrol technology; ext. temperature
750-8207	750-8207/025-000	750-8207/025-001
PFC200; 2ETH RS 3G	PFC200; 2ETH RS 3G; T	PFC200; 2ETH RS 3G; Tele; T
Modbus (TCP, UDP, RTU); EtherNet/IP adapter (slave) ¹⁾ ; MQTT; RS-232/-485 interface		Modbus (TCP, UDP, RTU); MQTT; Telecontrol protocols; RS-232/-485 interface
DHCP; DNS; NTP; FTP; HTTPS; SNMP; HTTP; HTTPS; SSH		
GSM/Edge/UMTS/HSPA+		IEC 60870-5-101/-103/-104; IEC 61850-7-4; IEC 61400-25; DNP3
GSM quad-band		
SMS (bidirectional); GPRS connection to Internet		
OpenVPN; IPsec; firewall		
Web-Visu		
WAGO-I/O-PRO V2.3 (based on CODESYS V2.3); e!COCKPIT (based on CODESYS V3)		WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)
Cortex A8; 600 MHz		
Real-time Linux (with RT-Preempt patch)		
256 MB / 256 MB / 128 KB		
CODESYS V2:		16 MB / 64 MB / 128 KB
e!RUNTIME:		60 MB* / 60 MB* / 128 KB
250		
1000 words		
CODESYS V2:		1000 words
e!RUNTIME:		32000 words
24 VDC (–25 ... 30 %); via wiring level (CAGE CLAMP® connection)		
24 VDC (–25 ... +30 %); via power jumper contacts		
550 mA		
700 mA		
0 ... +55 °C		–20 ... +60 °C
102.5 x 71.9 x 100 mm		
CE, OrdLoc**		
wago.com/750-8207		
Item No.	Page	
758-879/000-001	470	
758-965	471	

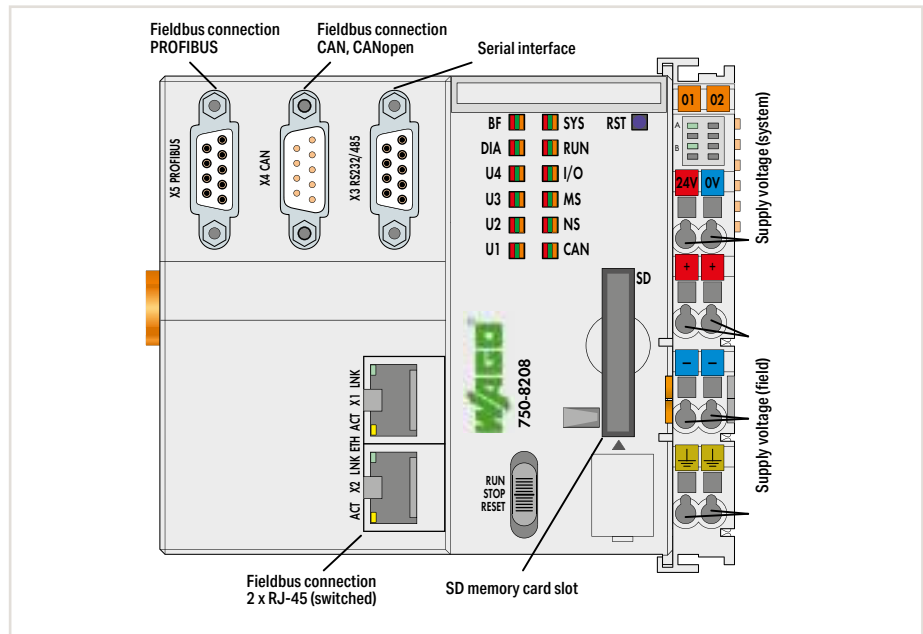
¹⁾Library for e!RUNTIME; *For memory configuration via e!RUNTIME, the program and data memory together have a maximum size of 60 MB and can be distributed dynamically.

**Pending

Controller PFC200; 2 x ETHERNET, RS-232/-485, CAN, CANopen, PROFIBUS Master



Figure: 750-8208



4.1

Item description		
Version		
Item No.		
Order text		
Controller PFC200; 2 x ETHERNET, RS-232/-485, CAN, CANopen, PROFIBUS Master		
Default	Ext. temperature	Telecontrol technology; ext. temperature
750-8208	750-8208/025-000	750-8208/025-001
PFC200; 2ETH RS CAN DPM	PFC200; 2ETH RS CAN DPM; T	PFC200; 2ETH RS CAN DPM; Tele; T
Technical Data		
Communication	PROFIBUS DP Master; CAN; CANopen; Modbus (TCP, UDP, RTU); MQTT; RS-232/-485 interface	
ETHERNET protocols	DHCP; DNS; NTP; FTP; HTTPS; SNMP; HTTP; HTTPS; SSH	
Telecontrol protocols	PROFIBUS DP Master; CAN; CANopen; Modbus (TCP, UDP, RTU); MQTT; Telecontrol protocols; RS-232/-485 interface	
Visualization	Web-Visu	
Programming	WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)	
CPU	Cortex A8; 600 MHz	
Operating system	Real-time Linux (with RT-Preempt patch)	
Main memory (RAM)/internal memory (flash)/non-volatile memory (hardware)	256 MB / 256 MB / 128 KB	
Program memory/data memory/non-volatile memory (software)	16 MB / 64 MB / 128 KB	
Number of modules per node (max.)	250	
Input and output process image (internal) max.	1000 words	
Input and output process image (MODBUS)/(PROFIBUS)/(CAN) max.	1000 words / 5000 bytes* / 2000 words	
Supply voltage (system)	24 VDC (–25 ... 30 %); via wiring level (CAGE CLAMP® connection)	
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts	
Input current (typ.) at nominal load (24 V)	550 mA	
Total current (system supply)	1700 mA	
Surrounding air temperature (operation)	0 ... +55 °C	–20 ... +60 °C
Dimensions W x H x D (mm)	112 x 71.9 x 100 mm	
Approvals	CE; Marine; OrdLoc**; ATEX/IECEx	
Data sheet and further information, see:	wago.com/750-8208	

Accessories					
SD memory card; 2 GB	<table> <tr> <th>Item No.</th><th>Page</th></tr> <tr> <td>758-879/000-001</td><td>470</td></tr> </table>	Item No.	Page	758-879/000-001	470
Item No.	Page				
758-879/000-001	470				

* Software WAGO-I/O-PRO V2.3, see Section 2, page 32

* Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

* Approvals and corresponding ratings, see page 516 or www.wago.com

*Input and output process image (PROFIBUS) max.: 5000 bytes (a maximum 125 slaves are supported, because a slave's process image can have up to 244 bytes/244 bytes)

**Pending

4.1

WAGO Application Controllers

Machine Data Collection with MTConnect		Item No.
Application Controllers	Controller PFC100; FG0; 2 x ETHERNET	750-8101/000-010
Software	digitalTAP™ Application Software	Download: wago.com/applicationcontroller
Room Management with <i>flexROOM</i> ®		
Application Controllers	Controller PFC200; FG1; 2 x ETHERNET; RS-232/-485	750-8202/000-011
Software	<i>flexROOM</i> ® Application Software	Download: wago.com/applicationcontroller
Lighting Management		
Application Controllers	Controller PFC200; FG2; 2 x ETHERNET; RS-232/-485	750-8202/000-012
Software	Lighting Management	Download: wago.com/applicationcontroller
Energy Data Management		
Application Controllers	Controller PFC200; Energy data management application; 2 x ETHERNET; RS-232/-485	750-8202/000-022
	Controller PFC200; Energy data management application; 2 x ETHERNET; RS-232/-485; Mobile radio module	750-8207/000-022
Software	Energy Data Management	Download: wago.com/applicationcontroller

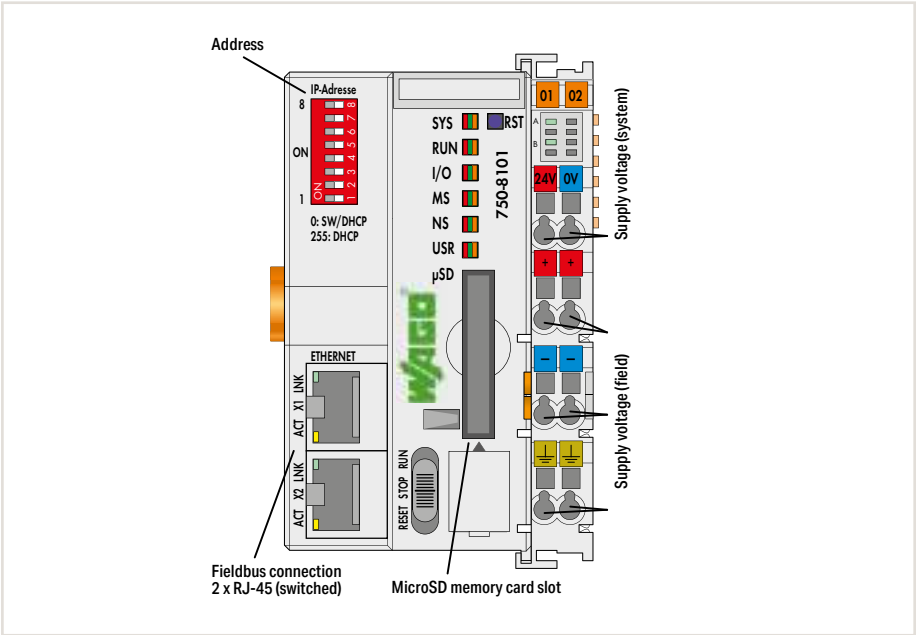
4.1

Application controllers are designed for special solutions and must be paired appropriately. You will find the appropriate solutions in Section 1.

Controller PFC100; FG0; 2 x ETHERNET



Figure: 750-8101



Item description	Controller PFC100; FG0; 2 x ETHERNET	
Item No.	750-8101/000-010	
Order text	PFC100; FG0; 2ETH	
Technical Data		
Communication	Modbus (TCP, UDP); EtherNet/IP adapter (slave) ¹⁾	
ETHERNET protocols	DHCP; DNS; NTP; FTP; FTPS; SNMP; HTTP; HTTPS; SSH	
Visualization	Web-Visu	
Programming	e!COCKPIT (based on CODESYS V3)	
CPU	Cortex A8; 600 MHz	
Operating system	Real-time Linux 3.18 (with RT-Preempt patch)	
Non-volatile memory (hardware)	64 KB	
Program memory/data memory/non-volatile memory (software)	12 MB* / 12 MB* / 64 KB	
Number of modules per node (max.)	250	
Input and output process image (internal) max.	1000 words	
Input and output process image (MODBUS) max.	32000 words	
Supply voltage (system)	24 VDC (–25 ... 30 %); via wiring level (CAGE CLAMP® connection)	
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts	
Input current (typ.) at nominal load (24 V)	550 mA	
Total current (system supply)	1700 mA	
Surrounding air temperature (operation)	0 ... +55 °C	
Dimensions W x H x D	61.5 x 71.9 x 100 mm	
Approvals	CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx	
Data sheet and further information, see:	wago.com/750-8101/000-010	
Accessories	Item No.	Page
microSD memory card; 2 GB	758-879/000-3102	470

¹⁾Library for e!RUNTIME

*For memory configuration via e!RUNTIME, the program and data memory together have a maximum size of 12 MB and can be distributed dynamically.

Suitable software application:

- Machine Data Collection with MTConnect

see Section 1

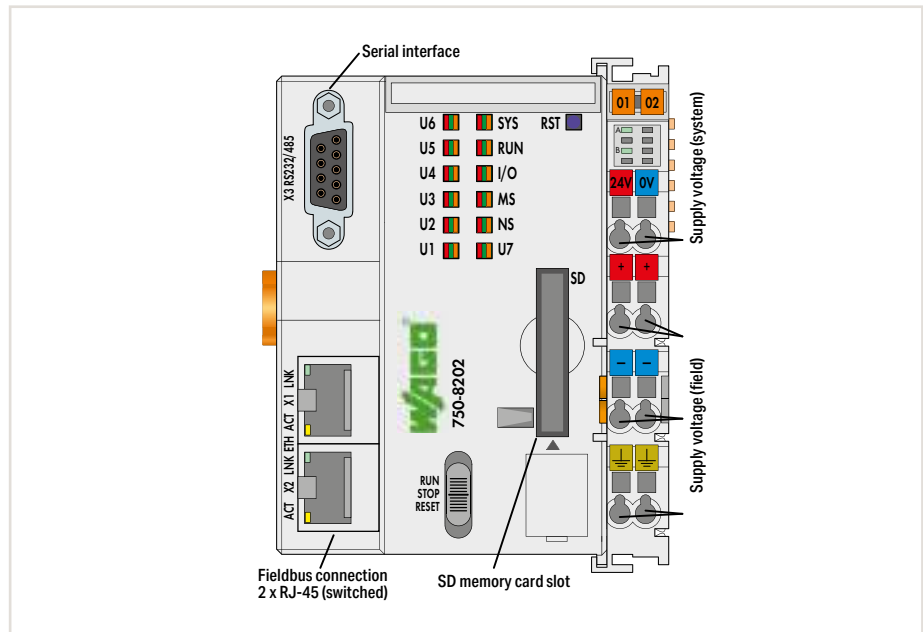
„ e!COCKPIT Software, see Section 2, page 26

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

Controller PFC200; FG1; 2 x ETHERNET; RS-232/-485



Figure: 750-8202



4.1

Item description	
Item No.	750-8202/000-011
Order text	PFC200; FG1; 2ETH RS
Technical Data	
Communication	Modbus (TCP, UDP, RTU); EtherNet/IP adapter (slave) ¹⁾ ; RS-232/-485 interface
ETHERNET protocols	DHCP; DNS; NTP; FTP; HTTPS; SNMP; HTTP; HTTPS; SSH
Visualization	Web-Visu
Programming	WAGO-I/O-PRO V2.3 (based on CODESYS V2.3), e!COCKPIT (based on CODESYS V3)
CPU	Cortex A8; 600 MHz
Operating system	Real-time Linux (with RT-Preempt patch)
Main memory (RAM)/internal memory (flash)/non-volatile memory (hardware)	256 MB / 256 MB / 128 KB
Program memory/data memory/non-volatile memory (software)	CODESYS V2: 16 MB / 64 MB / 128 KB
Number of I/O modules per node (max.)	e!RUNTIME: 60 MB* / 60 MB* / 128 KB
Input and output process image (internal) max.	250
Input and output process image (MODBUS) max.	1000 words
Supply voltage (system)	CODESYS V2: 1000 words
Supply voltage (field)	e!RUNTIME: 32000 words
Input current (typ.) at nominal load (24 V)	24 VDC (~25 ... 30 %); via wiring level (CAGE CLAMP® connection)
Total current (system supply)	24 VDC (~25 ... +30 %); via power jumper contacts
Surrounding air temperature (operation)	550 mA
Dimensions W x H x D	1700 mA
Approvals	0 ... +55 °C
Data sheet and further information, see:	78.6 x 71.9 x 100 mm
Accessories	CE, UL, Marine, OrdLoc/HazLoc, ATEX/IECEx
SD memory card; 2 GB	wago.com/750-8202/000-011
WAGO Communication Cable	
Item No.	Page
758-879/000-001	470
750-923	469

¹⁾Library for e!RUNTIME

*For memory configuration via e!RUNTIME, the program and data memory together have a maximum size of 60 MB and can be distributed dynamically.

Suitable software application:

- Machine Data Collection with MTConnect
- Room Management with flexROOM®

see Section 1

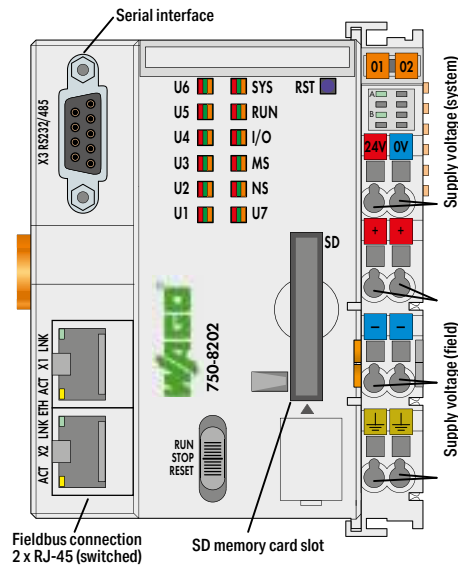
„ Software e!COCKPIT, WAGO-I/O-PRO V2.3, see Section 2, page 26 and 32

„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

Controller PFC200; FG2; 2 x ETHERNET; RS-232/-485



Figure: 750-8202



Item description	
Item No.	750-8202/000-012
Order text	PFC200; FG2; 2ETH RS
Technical Data	
Communication	Modbus (TCP, UDP, RTU); EtherNet/IP adapter (slave) ¹⁾ ; RS-232/-485 interface
ETHERNET protocols	DHCP; DNS; NTP; FTP; FTPS; SNMP; HTTP; HTTPS; SSH
Visualization	Web-Visu
Programming	WAGO-I/O-PRO V2.3 (based on CODESYS V2.3); e!COCKPIT (based on CODESYS V3)
CPU	Cortex A8; 600 MHz
Operating system	Real-time Linux (with RT-Preempt patch)
Main memory (RAM)/internal memory (flash)/non-volatile memory (hardware)	256 MB / 256 MB / 128 KB
Program memory/data memory/non-volatile memory (software)	CODESYS V2: 16 MB / 64 MB / 128 KB
Number of I/O modules per node (max.)	e!RUNTIME: 60 MB* / 60 MB* / 128 KB
Input and output process image (internal) max.	250
Input and output process image (MODBUS) max.	1000 words
Supply voltage (system)	CODESYS V2: 1000 words
Supply voltage (field)	e!RUNTIME: 32000 words
Input current (typ.) at nominal load (24 V)	24 VDC (-25 ... 30 %); via wiring level (CAGE CLAMP® connection)
Total current (system supply)	24 VDC (-25 ... +30 %); via power jumper contacts
Surrounding air temperature (operation)	550 mA
Dimensions W x H x D	1700 mA
Approvals	0 ... +55 °C
Data sheet and further information, see:	78.6 x 71.9 x 100 mm
Accessories	CE, Marine, OrdLoc/HazLoc, ATEX/IECEX
SD memory card; 2 GB	wago.com/750-8202/000-012
WAGO Communication Cable	
Item No.	Page
758-879/000-001	470
750-923	469

¹⁾Library for e!RUNTIME

*For memory configuration via e!RUNTIME, the program and data memory together have a maximum size of 60 MB and can be distributed dynamically.

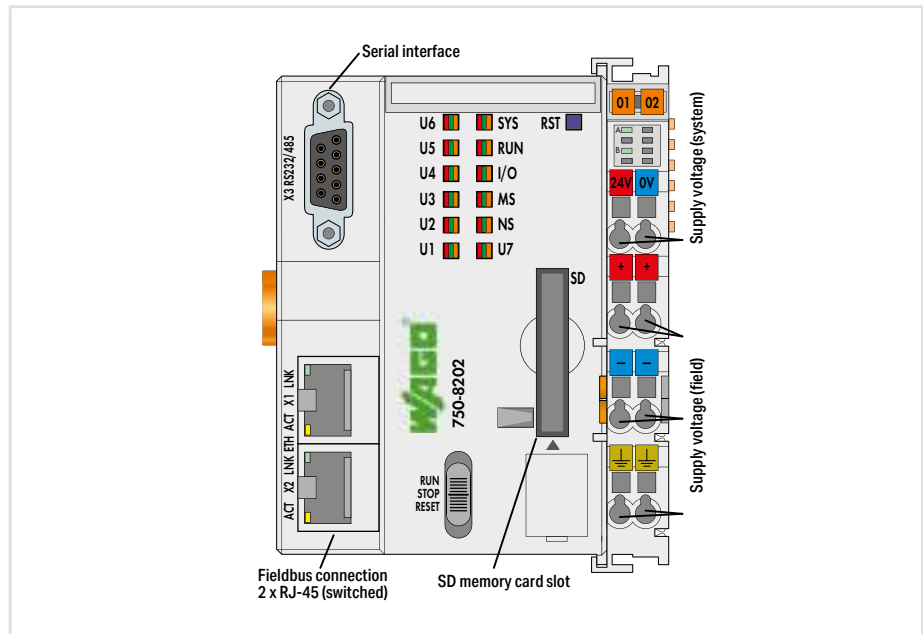
Suitable software application:

- Machine Data Collection with MTConnect
 - Lighting Management
- see Section 1

Controller PFC200; Energy Data Management Application; 2 x ETHERNET; RS-232/-485



Figure: 750-8202



4.1

Item description	Controller PFC200; Energy data management application; 2 x ETHERNET; RS-232/-485	
Item No.	750-8202/000-022	
Order text	PFC200; FGE; 2ETH RS	
Technical Data		
Communication	Modbus (TCP, UDP, RTU); EtherNet/IP adapter (slave) ¹⁾ ; RS-232/-485 interface	
ETHERNET protocols	DHCP; DNS; NTP; FTP; HTTPS; SNMP; HTTP; HTTPS; SSH	
Visualization	Web-Visu	
Programming	WAGO-I/O-PRO V2.3 (based on CODESYS V2.3); e!COCKPIT (based on CODESYS V3)	
CPU	Cortex A8; 600 MHz	
Operating system	Real-time Linux (with RT-Preempt patch)	
Main memory (RAM)/internal memory (flash)/non-volatile memory (hardware)	256 MB / 256 MB / 128 KB	
Program memory/data memory/non-volatile memory (software)	CODESYS V2:	16 MB / 64 MB / 128 KB
Number of I/O modules per node (max.)	e!RUNTIME:	60 MB* / 60 MB* / 128 KB
Input and output process image (internal) max.		250
Input and output process image (MODBUS) max.		1000 words
Supply voltage (system)	CODESYS V2:	1000 words
Supply voltage (field)	e!RUNTIME:	32000 words
Input current (typ.) at nominal load (24 V)	24 VDC (-25 ... 30 %); via wiring level (CAGE CLAMP® connection)	
Total current (system supply)	24 VDC (-25 ... +30 %); via power jumper contacts	
Surrounding air temperature (operation)	550 mA	
Dimensions W x H x D	1700 mA	
Approvals	0 ... +55 °C	
Data sheet and further information, see:	78.6 x 71.9 x 100 mm	
Accessories	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx	
SD memory card; 2 GB	wago.com/750-8202/000-022	
WAGO Communication Cable		
	Item No.	Page
	758-879/000-001	470
	750-923	469

¹⁾Library for **e!RUNTIME***For memory configuration via **e!RUNTIME**, the program and data memory together have a maximum size of 60 MB and can be distributed dynamically.

Suitable software application:

- Energy Data Management
- see Section 1

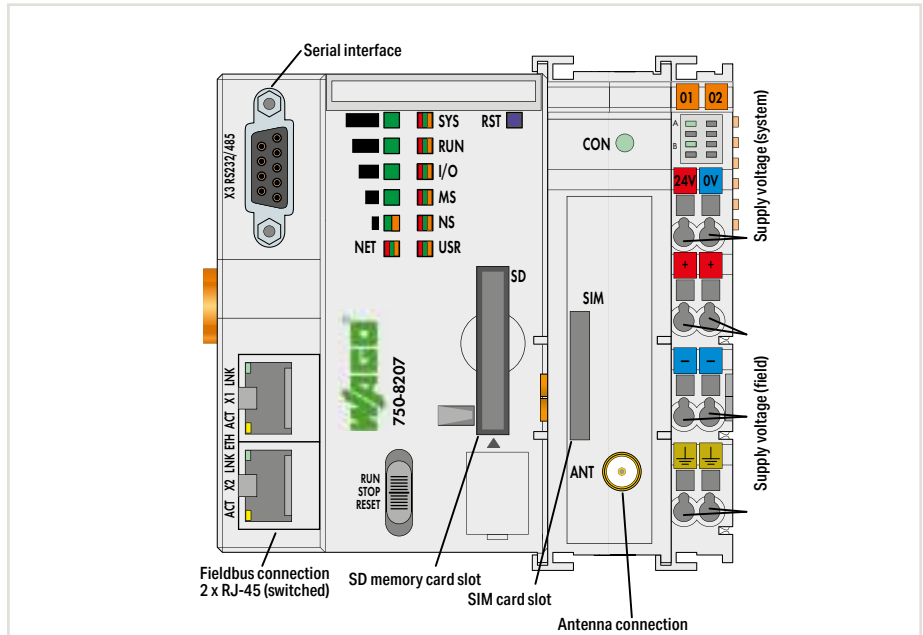
„ Software **e!COCKPIT**, WAGO-I/O-PRO V2.3, see Section 2, page 26 and 32

„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

Controller PFC200; Energy Data Management Application; 2 x ETHERNET; RS-232/-485; Mobile Radio Module



Figure: 750-8207



Item description	
Item No.	750-8207/000-022
Order text	PFC200; FGE; 2ETH RS 3G
Technical Data	
Communication	Modbus (TCP, UDP, RTU); EtherNet/IP adapter (slave) ¹⁾ ; RS-232/-485 interface
ETHERNET protocols	DHCP; DNS; NTP; FTP; HTTPS; SNMP; HTTP; HTTPS; SSH
Radio technology	GSM/Edge/UMTS/HSPA+
Frequency band	GSM quad-band
Services	SMS (bidirectional); GPRS connection to Internet
Security encryption	OpenVPN; IPsec; firewall
Visualization	Web-Visu
Programming	WAGO-I/O-PRO V2.3 (based on CODESYS V2.3); e!COCKPIT (based on CODESYS V3)
CPU	Cortex A8; 600 MHz
Operating system	Real-time Linux (with RT-Preempt patch)
Main memory (RAM)/internal memory (flash)/non-volatile memory (hardware)	256 MB / 256 MB / 128 KB
Program memory/data memory/non-volatile memory (software)	CODESYS V2: 16 MB / 64 MB / 128 KB e!RUNTIME: 60 MB* / 60 MB* / 128 KB
Number of I/O modules per node (max.)	250
Input and output process image (internal) max.	1000 words
Input and output process image (MODBUS) max.	CODESYS V2: 1000 words e!RUNTIME: 32000 words
Supply voltage (system)	24 VDC (-25 ... +30 %); via wiring level (CAGE CLAMP® connection)
Supply voltage (field)	24 VDC (-25 ... +30 %); via power jumper contacts
Input current (typ.) at nominal load (24 V)	550 mA
Total current (system supply)	700 mA
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	102.5 x 71.9 x 100 mm
Approvals	CE, OrdLoc
Data sheet and further information, see:	wago.com/750-8207/000-022
Accessories	
SD memory card; 2 GB	Item No. 758-879/000-001 Page 470
WAGO Communication Cable	750-923 469
Antenna; GSM	758-965 471

¹⁾Library for e!RUNTIME

*For memory configuration via e!RUNTIME, the program and data memory together have a maximum size of 60 MB and can be distributed dynamically.

Suitable software application:

- Energy Data Management
- see Section 1



Controllers PFC200 XTR

Touch-Panel 600 Standard/Advanced Line; Hardware configuration Control Panel

- Merging of control and visualization
- 10.9 ... 25.7 cm (4.3 ... 10.1")

◀ Section 3

Controllers PFC200 XTR

The advantages of the PFC Controller combined with the capabilities for extreme environments:

- High processing speed
- Multiple interfaces
- eXTREMely robust and maintenance-free

Controllers PFC100/PFC200

- Maximum performance in a minimum space
- Also programmable in high-level languages based on Linux®
- Security packages with SSH and SSL/TLS
- Runtime system for CODESYS V2 (only PFC200) and V3

◀ Section 4.1

Controllers 750

- Controllers for all prominent fieldbus systems
- Programmable to IEC 61131-3
- Combinable with the modules of the WAGO-I/O-SYSTEM 750

Section 4.3 ▶

Controllers 750 XTR

For demanding applications in which the following are critical:

- Extreme temperature stability
- Immunity to electromagnetic interference and impulse voltages
- Vibration and shock resistance

Section 4.4 ▶▶

Starter Kits

To get you up and running quickly, we offer starter kits to suit the most diverse applications:

- With Controller PFC100
- With Controller PFC200
- With Controller 750 ETHERNET
- With Controller 750 KNX IP or BACnet/IP

Section 4.5 ▶▶▶

Controllers PFC200 XTR

Contents

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Versions	97
Interfaces and Types	97
Item Number Key	97
Installation Instructions	98
Standards and Rated Conditions for Rail Applications (EN 50155)	98
Standards and Rated Conditions	99
Approvals	99

	CPU	Modbus (TCP, UDP)	EtherNet/IP	PROFIBUS	CANopen	Modbus RTU	Telecontrol Protocols: IEC 60870, IEC 61850/61400, DNP3	IoT Protocols: MQTT	Description	Item No.	
	Cortex A8; 600 MHz	M/S	S			x		x	Controller PFC200; 2 x ETHERNET, RS-232/-485; extreme	750-8202/040-000	100
	Cortex A8; 600 MHz	M/S	S			x	x	x	Controller PFC200; 2 x ETHERNET, RS-232/485; Telecontrol technology; extreme	750-8202/040-001	100
	Cortex A8; 600 MHz	M/S	S	S	M/S	x		x	Controller PFC200; 2 x ETHERNET, RS-232/-485, CAN, CANopen, PROFIBUS Slave; extreme	750-8206/040-000	101
	Cortex A8; 600 MHz	M/S	S	S	M/S	x	x	x	Controller PFC200; 2 x ETHERNET, RS-232/-485, CAN, CANopen, PROFIBUS Slave; Telecontrol technology; extreme	750-8206/040-001	101

M: Master, S: Slave

Controllers PFC200 XTR

General Product Information

PFC200 XTR:

Taking It to the eXTReme – The Standard for 750 XTR

With the dark gray XTR version of the PFC200 Controller, you will benefit from the unique added value of this fast and highly communicative multi-talented controller for applications that are subjected to extreme environments.

The PFC200 XTR Controller excels with high processing speed and multiple interfaces for parallel communication. All variants of this controller feature two ETHERNET ports and – depending on the model – additional interfaces. The CANopen, PROFIBUS DP and MODBUS TCP/UDP/RTU protocols provide a flexible connection to fieldbus systems and external input/output devices. These fieldbus systems can be easily configured directly in WAGO's easy-to-use e!COCKPIT development environment. The ETHERNET interfaces with an integrated switch also support all major IT protocols. In addition to multiple interfaces, the PFC200 XTR offers ample memory for your applications, provided by the internal flash memory and an integrated interface for SD/SDHC cards.

Extremely temperature-resistant, immune to interference, as well as unfazed by vibrations and impulse voltages – WAGO's 750 XTR is the first choice for demanding applications including:

- Marine systems and onshore/offshore industry
- Renewable energy systems (wind turbines, solar systems and biogas plants)
- Transformer stations and power distribution systems
- Petrochemical processing
- Water and wastewater treatment systems
- Custom machines
- Railway applications

Industry 4.0 / IoT

Recording, digitizing and linking data profitably – this is the core concept behind Industry 4.0. Using a dedicated library, the WAGO PFC100 and PFC200 Controllers now become IoT controllers that send data from the field level to the cloud. Here, they can be aggregated and used for analysis. This creates true added value for your company – be it for increasing the efficiency of in-house production, implementing energy management in buildings, or developing further end customer services. Existing systems also become IoT-ready, making them sustainable into the future. The WAGO PFC family of controllers thus forms the basis for a sustainable corporate world.

Link between Process Data and IT Application – Even under eXTReme Conditions

The PFC200 XTR ideally combines real-time requirements with IT functionality. It supports both MODBUS/TCP and ETHERNET/IP for use in industrial environments. HTTP, SNMP, FTP, BootP, DHCP, DNS and other protocols simplify integration into IT environments. Integrated Web pages and Web-based visualization provide IT applications with real-time process data. Furthermore, the 750 Series Controllers incorporate library functions for email, SOAP, ASP, IP configuration, ETHERNET sockets and file system.

Security on Board

The topics of ETHERNET communication and security are closely linked. To provide PFC Controller users with a high level of security, mechanisms for secure connections such as HTTPS, FTPS, SSH and SSL/TLS are standard.

Worldwide Approvals

International approvals for industrial automation, building technology, shipbuilding and onshore/offshore applications guarantee worldwide use even under harsh operating conditions, e.g., Germanischer Lloyd, Det Norske Veritas, American Bureau of Shipping, Korean Register of Shipping, Nippon Kaiji Kyokai, Registro Italiano Navale and Polski Rejestr Stratkow.

Superior Reliability in Extreme Climates

Engineered for freezing cold, extreme heat and high humidity, the WAGO-I/O-SYSTEM 750 XTR provides absolute dependability in virtually any weather. The XTR version of the PFC200 is unfazed by both freezing cold down to -40°C and scorching heat up to +70°C. And this applies equally for both start-up and ongoing operation. The maximum approved operating altitude of 5,000 m is another highlight. Even in the thin air of a mountain-top station, the system impressively demonstrates its high performance and availability.

Additional Protection Against Interference Pulses

The WAGO-I/O-SYSTEM 750 XTR provides greater isolation up to 5 kV of impulse voltage, lower EMC emission of interference and higher insensitivity to EMC interference. These strengths add up to trouble-free operation.

High Mechanical Performance

Automation systems must be incredibly vibration-resistant, especially when installed close to vibration-prone and shock-generating system components. Powerful motors and power circuit breakers are just two examples from a wide range of applications that can stress automation systems. The WAGO-I/O-SYSTEM 750 XTR continues to set new standards here. Count on long-lasting, trouble-free operation and industry-topping levels of safety – even in the most severe applications, such as tunnel boring machines.

Modular and Expandable

With the WAGO-I/O-SYSTEM 750 XTR, the PFC200 can be expanded to almost any input/output interface. Using an industry-leading platform, the 750 XTR boasts the same proven benefits.

Open-Source Software and Linux®

We unite what belongs together: High-performance WAGO hardware and the future-ready Linux® operating system. WAGO's controllers offer programming in either IEC 61131 or directly in Linux® to create complex tasks. WAGO's "Embedded Linux" Controllers impress with base images that are expandable via open-source packages. As a "Gold Member" of the Open Source Automation Development Lab (OSADL), WAGO supports both financing and further development of Linux® in the industrial sector. The controller firmware itself is available as a "Board Support Package" (BSP).

If you are interested, simply contact our Technical Support *AUTOMATION*.



Advantages:

- Controllers for eXTReme environmental conditions
 - No air conditioning required
 - Can be used in unshielded areas
 - Install close to vibrating and shock-generating system components
- Programming per IEC 61131-3
- Can be combined with high-level languages
- Linux® real-time operating system
- Robust and maintenance-free
- Integrated IT security standards
- IoT ready

Controllers PFC200 XTR Versions

Telecontrol Technology

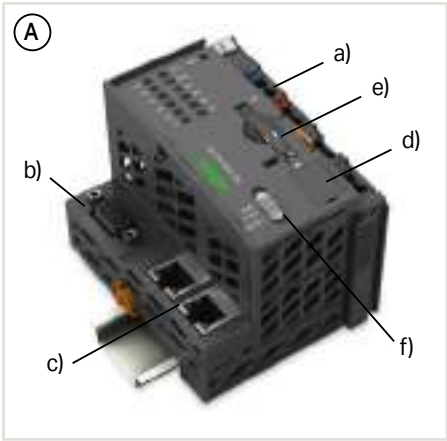
The telecontrol technology versions of the PFC200 are distinguished by their integrated, standardized telecontrol technology:

- IEC 60870-5
- IEC 61850
- IEC 61400-25
- DNP3

The increased requirements for dielectric strength and interference immunity according to EN 60870-2-1 are also completely fulfilled.



Interfaces and Types



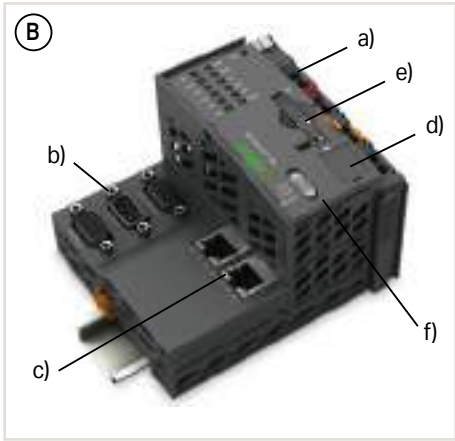
- Including supply module to power downstream I/O modules (a)
- Technical differences on the connection level (b)
- ETHERNET 2 x RJ-45 (c)
- Service interface (d)
- SD card slot for external storage media (e)
- Start/stop switch (f)

Housing design (A)

- W x H x D (mm) 78.6 x 71.9 x 100

Housing design (B)

- W x H x D (mm) 112 x 71.9 x 100



4.2

Item Number Key

Explanation of the components of an item number key

Item No. : 750-82xx/040-000

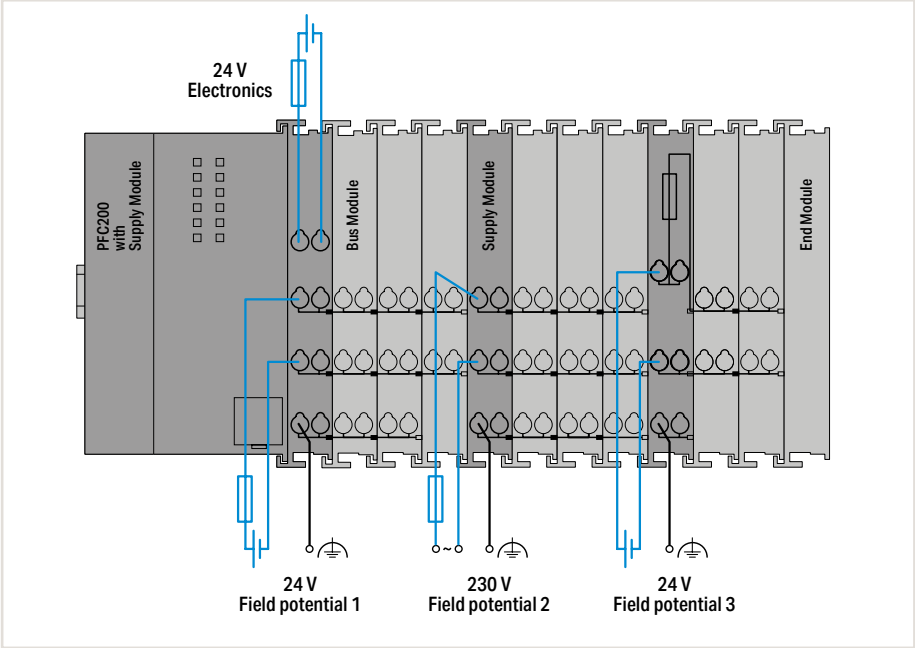
- 02: 2 x ETHERNET, RS-232/-485
06: 2 x ETHERNET, RS-232/-485, CAN, PROFIBUS-DP slave

.../040-000: Standard
.../040-001: Telecontrol technology

Controllers PFC200 XTR
Installation Instructions

Power Supply

The internal electronics are powered by the controller. The power supply to the field-side supply is electrically isolated. The division enables a separate supply for sensors and actuators. Snapping the I/O modules together automatically routes the supply voltages. Supply modules with diagnostics enable additional monitoring of the power supply. This configuration ensures a flexible, user-specific supply design for a station. The current supply to the electronics is limited by a maximum value. If the sum of the internal current demand of all the I/O modules should exceed this value, an additional system supply module is necessary. Even in this case, power supply to the field-side supply of 10 A may not be exceeded. However, different power supply modules allow a new power supply, formation of potential groups and the implementation of emergency stops.



4.2

Notes

Additional steps must be implemented based on where the I/O system is installed:

Specific power and field-side power supply filters (750-624/040-001 or 750-626/040-000) are ready for marine and onshore/off-shore applications, as well as in telecontrol and rail technology.

Please refer to the manual for details about the power supply's design.

Mixed Operation

Mixed operation (standard/XTR modules) within a node is possible when groups of I/O modules are electrically isolated on the field side, i.e., electrically isolated power supply. The combination may be useful, for example, when there are only increased requirements for dielectric strength and immunity to interference, but the surrounding air temperature is not critical.

Standards and Rated Conditions for Rail Applications (EN 50155)

Railway Applications (EN 50155)	Class/Standard Compliance
4.1 Rated operating conditions	
4.1.1 Altitude above sea level	AX (EN 50125-1)
4.1.2 Surrounding air temperature	TX
4.1.3 Shock and vibration	1A and 1B (EN 61373)
4.1.4 Relative humidity	95 % (coated PCBs)
5.1 Power supply	
5.1.1.1 Master voltage fluctuations	
Minimum voltage	0.725 x Un
Maximum voltage	1.3 x Un
5.1.1.2 Power interruptions	S1
5.4 Surge, ESD, burst tests	EN 50121-3-2
5.5 EMC (emission of interference, immunity to interference)	EN 50121-3-2, EN 50121-4, -5
Fire behavior: per EN 45545-2 hazard level HL3	
WAGO is certified in accordance with the IRIS quality standard.	

Controllers PFC200 XTR

Standards and Rated Conditions

General Specifications	
Supply voltage (system)	24 VDC (-25 ... +30 %); via wiring level (CAGE CLAMP® connection); Specified values for surrounding air temperature: +15 ... +35 °C For -40 ... +55 °C: 24 V (-25 ... +20 %); For +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple)
Input current (typ.) at nominal load (24 V)	550 mA
Surrounding air temperature (operation)	-40 ... +70 °C
Surrounding air temperature (storage)	-40 ... +85 °C
Relative humidity	Max. 95 %; Short-term condensation per Class 3K7 / IEC EN 60721-3-3 and E DIN 40046-721-3 (except wind-driven precipitation, water and ice formation)
Operating altitude	Without temperature derating: 0 ... 2000 m; With temperature derating: 2000 ... 5000 m (0.5 K/100 m); max.: 5000 m
Pollution degree	2 per IEC 61131-2
Immunity to impulse voltages	Per EN 60870-2-1 510 VAC/775 VDC Isolation: rated surge voltage 1 kV (Class VW1 per EN 60870-2-1) Surge: 1 kV (L - L) / 2 kV (L - E)
Vibration resistance	Per IEC 60068-2-6 (acceleration: 5g); EN 60870-2-2; IEC 60721-3-1, -3; EN 50155; EN 61373
Shock resistance	Per IEC 60068-2-27 (15g/11 ms/half-sine/1,000 shocks; 25g/6 ms/1,000 shocks); EN 50155; EN 61373
EMC immunity to interference	Per EN 61000-6-1, -2; EN 61131-2; Marine applications; EN 50121-3-2, -4, -5; EN 60255-26; EN 60870-2-1; EN 61850-3; IEC 61000-6-5; IEEE 1613; VDEW: 1994
EMC emission of interference	Per EN 61000-6-3, -4; EN 61131-2; EN 60255-26; Marine applications; EN 60870-2-1; EN 61850-3; EN 50121-3-2; -4, -5
Protection type	IP20
Mounting position	Horizontal (standing/lying) or vertical
Mounting type	DIN-35 rail
Housing material	Polycarbonate; polyamid 6.6
Exposure to pollutants	Per IEC 60068-2-42 and IEC 60068-2-43
Permissible SO ₂ contaminant concentration at a relative humidity < 75 %	25 ppm
Permissible H ₂ S contaminant concentration at a relative humidity < 75 %	10 ppm
Connection technology	CAGE CLAMP®
Conductor cross sections Strip length	0.25 ... 2.5 mm ² /24 ... 14 AWG 8 ... 9 mm / 0.31 ... 0.35 inch
Current carrying capacity (power jumper contacts)	10 A

4.2

Approvals

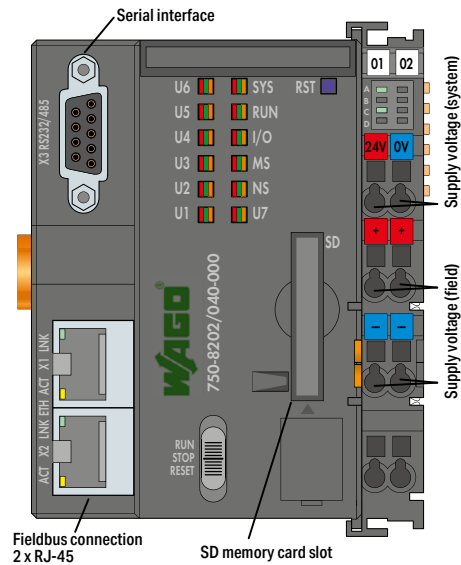
Overview of the approvals in the article comparison in Section 11, Technical Appendix, or online at www.wago.com



Controller PFC200; 2 x ETHERNET, RS-232/-485; Extreme



Figure: 750-8202/040-000



Item description		Controller PFC200; 2 x ETHERNET; RS-232/-485	
Version		Extreme	Telecontrol technology; extreme
Item No.		750-8202/040-000	750-8202/040-001
Order text		PFC200; 2ETH RS; XTR	PFC200; 2ETH RS; Tele; XTR
Technical Data			
Communication		Modbus (TCP, UDP, RTU); EtherNet/IP adapter (slave) ¹⁾ ; MQTT; RS-232/-485 interface	Modbus (TCP, UDP, RTU); MQTT; Telecontrol protocols; RS-232/-485 interface
ETHERNET protocols		DHCP; DNS; NTP; FTP; HTTPS; SNMP; HTTP; HTTPS; SSH	
Telecontrol protocols		IEC 60870-5-101/-103/-104; IEC 61850-7-4; IEC 61400-25; DNP3	
Visualization		Web-Visu	
Programming		WAGO-I/O-PRO V2.3 (based on CODESYS V2.3); e!COCKPIT (based on CODESYS V3)	WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)
CPU		Cortex A8; 600 MHz	
Operating system		Real-time Linux (with RT-Preempt patch)	
Main memory (RAM)/internal memory (flash)/non-volatile memory (hardware)		256 MB / 256 MB / 128 KB	
Program memory/data memory/non-volatile memory (software)		CODESYS V2: 16 MB / 64 MB / 128 KB	
Number of modules per node (max.)		e!RUNTIME: 60 MB* / 60 MB* / 128 KB	64
Input and output process image (internal) max.			1000 words
Input and output process image (MODBUS) max.		CODESYS V2: 32000 words	1000 words
Supply voltage (system)		e!RUNTIME: 24 VDC (-25 ... +30 %); via wiring level (CAGE CLAMP® connection); Specified values for surrounding air temperature: +15 ... +35 °C; For -40 ... +55 °C: 24 V (-25 ... +20 %); For +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple)	
Supply voltage (field)		24 VDC; via power jumper contacts	
Input current (typ.) at nominal load (24 V)		550 mA	
Current consumption – system supply (5 V)		510 mA	
Total current (system supply)		1700 mA	
Surrounding air temperature (operation)		-40 ... +70 °C	
Dimensions W x H x D		78.6 x 71.9 x 100 mm	
Approvals		CE; Marine; OrdLoc/HazLoc; ATEX/IECEx	
Data sheet and further information, see:		wago.com/750-8202/040-000	wago.com/750-8202/040-001
Accessories		Item No.	Page
SD memory card; 2 GB		758-879/000-001	470

¹⁾ Software e!COCKPIT, WAGO-I/O-PRO V2.3, see Section 2, page 26 and 32

²⁾ Approvals and corresponding ratings, see page 516 or www.wago.com

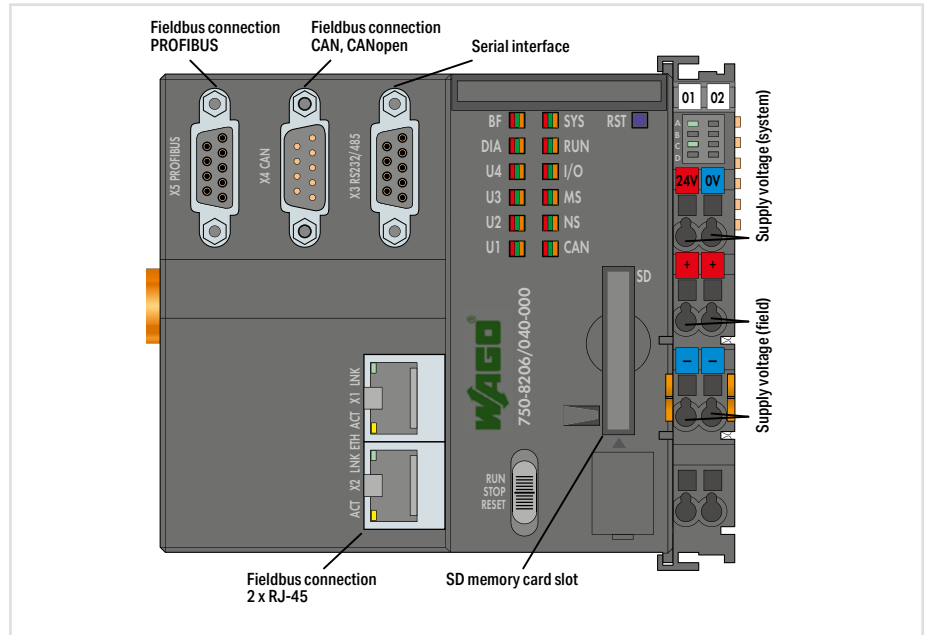
¹⁾ Library for e!RUNTIME

*For memory configuration via e!RUNTIME, the program and data memory together have a maximum size of 60 MB and can be distributed dynamically.

Controller PFC200; 2 x ETHERNET, RS-232/-485, CAN, CANopen, PROFIBUS Slave; Extreme



Figure: 750-8206/040-000



Item description		Controller PFC200; 2 x ETHERNET, RS-232/-485, CAN, CANopen, PROFIBUS Slave	
Version		Extreme	Telecontrol technology; extreme
Item No.		750-8206/040-000	750-8206/040-001
Order text		PFC200; 2ETH RS CAN DPS; XTR	PFC200; 2ETH RS CAN DPS; Tele; XTR
Technical Data			
Communication		Modbus (TCP, UDP, RTU); EtherNet/IP adapter (slave)1); MQTT; PROFIBUS; CANopen; RS-232/-485 interface	Modbus (TCP, UDP, RTU); MQTT; PROFIBUS; CAN; CANopen; Telecontrol protocols; RS-232/-485 interface
ETHERNET protocols		DHCP; DNS; NTP; FTP; HTTPS; SNMP; HTTP; HTTPS; SSH	
Telecontrol protocols		IEC 60870-5-101/-103/-104; IEC 61850-7-4; IEC 61400-25; DNP3	
Visualization		Web-Visu	
Programming		WAGO-I/O-PRO V2.3 (based on CODESYS V2.3); e!COCKPIT (based on CODESYS V3)	WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)
CPU		Cortex A8; 600 MHz	
Operating system		Real-time Linux (with RT-Preempt patch)	
Main memory (RAM)/internal memory (flash)/non-volatile memory (hardware)		256 MB / 256 MB / 128 KB	
Program memory/data memory/non-volatile memory (software)		CODESYS V2: 16 MB / 64 MB / 128 KB	
Number of modules per node (max.)		e!RUNTIME: 60 MB* / 60 MB* / 128 KB	
Input and output process image (internal) max.		64	
Input and output process image (MODBUS)/ (PROFIBUS)/(CAN) max.		1000 words	
Supply voltage (system)		CODESYS V2: 1000 words / 244 bytes / 2000 words	
Supply voltage (field)		e!RUNTIME: 32000 words / 244 bytes / 2000 words	
Input current (typ.) at nominal load (24 V)		24 VDC (-25 ... +30 %); via wiring level (CAGE CLAMP® connection); Specified values for surrounding air temperature: +15 ... +35 °C; For -40 ... +55 °C: 24 V (-25 ... +20 %); For +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple)	
Current consumption – system supply (5 V)		24 VDC; via power jumper contacts	
Total current (system supply)		550 mA	
Surrounding air temperature (operation)		600 mA	
Dimensions W x H x D		1700 mA	
Approvals		-40 ... +70 °C	
Data sheet and further information, see:		112 x 71.9 x 100 mm	
		CE; Marine; OrdLoc/HazLoc; ATEX/IECEx	
		wago.com/750-8206/040-000	wago.com/750-8206/040-001
Accessories		Item No.	Page
SD memory card; 2 GB		758-879/000-001	470

1)Library for e!RUNTIME

*For memory configuration via e!RUNTIME, the program and data memory together have a maximum size of 60 MB and can be distributed dynamically.



Controllers 750

Touch-Panel 600 Standard/Advanced Line; Hardware configuration Control Panel

- Merging of control and visualization
- 10.9 ... 25.7 cm (4.3 ... 10.1")

◀ ◀ ◀ Section 3

Controllers PFC200 XTR

The advantages of the PFC Controller combined with the capabilities for extreme environments:

- High processing speed
- Multiple interfaces
- eXTREMely robust and maintenance-free

◀ Section 4.2

Controllers 750 XTR

For demanding applications in which the following are critical:

- Extreme temperature stability
- Immunity to electromagnetic interference and impulse voltages
- Vibration and shock resistance

Section 4.4 ▶

Controllers PFC100/PFC200

- Maximum performance in a minimum space
- Also programmable in high-level languages based on Linux®
- Security packages with SSH and SSL/TLS
- Runtime system for CODESYS V2 (only PFC200) and V3

◀ ◀ Section 4.1

Controllers 750

- Controllers for all prominent fieldbus systems
- Programmable to IEC 61131-3
- Combinable with the modules of the WAGO-I/O-SYS-TEM 750

Starter Kits

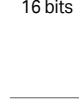
To get you up and running quickly, we offer starter kits to suit the most diverse applications:

- With Controller PFC100
- With Controller PFC200
- With Controller 750 ETHERNET
- With Controller 750 KNX IP or BACnet/IP

Section 4.5 ▶▶

Controllers 750

Contents

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Interfaces and Types													105		
Item Number Key													105		
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Standards and Rated Conditions													107		
Approvals													107		
CPU	ETHERNET				Modbus RTU	Telecontrol Protocols: IEC 60870, IEC 61850/61400, DNP3	BACnet MS/TP	DeviceNet	PROFIBUS	CANopen	Description	Item No.			
	Modbus (TCP, UDP)	EtherNet/IP	BACnet/IP	KNX IP								Default	Ext. Temperature		
	M/S	S									Controller ETHERNET; 3rd generation; SD card slot	750-880	750-880/025-000	108	
	M/S	S				x					Controller ETHERNET; 3rd generation; SD card slot; Telecontrol technology; Ext. temperature		750-880/025-001	108	
	M/S	S				x					Controller ETHERNET; 3rd generation; SD card slot; Telecontrol technology; Ext. temperature; Eco		750-880/025-002	108	
	M/S										Controller Modbus TCP; 4th generation; SD card slot	750-890		109	
	M/S	S									Controller ETHERNET; 3rd generation	750-881		109	
	M/S										Controller Modbus TCP; 4th generation	750-891		109	
	M/S	S									Controller ETHERNET; 3rd generation; SD card slot; Media redundancy	750-885	750-885/025-000	110	
	M/S	S									Controller ETHERNET; 3rd generation; Media redundancy	750-882		110	
		M/S	S									Controller ETHERNET; 3rd generation; Eco	750-852		111
		M/S										Controller Modbus TCP; 4th generation; Eco	750-862		111
	M/S										Controller ETHERNET; 1st generation	750-842		112	
	M/S										Controller ETHERNET; 1st generation; Eco	750-843		112	
	M/S			x							Controller KNX/IP	750-889		113	
	M/S		x								Controller BACnet/IP	750-831		114	
	M/S		x								Controller BACnet/IP; Eco	750-831/000-002		114	
	M/S						x				Controller BACnet MS/TP	750-829		115	
								x			Controller DeviceNet	750-806		116	
					x						Controller MODBUS; RS-485; 115.2 kBd	750-815/300-000	750-815/325-000	117	
					x						Controller MODBUS; RS-232; 115.2 kBd	750-816/300-000		117	
									S		Controller PROFIBUS Slave	750-833	750-833/025-000	118	
										M/S	Controller CANopen; 128/64 KB Program/RAM; MCS	750-837		119	
											Controller CANopen; 640/832 KB Program/RAM; MCS	750-837/021-000		119	
										M/S	Controller CANopen; 128/64 KB Program/RAM; D-Sub	750-838		119	
											Controller CANopen; 640/832 KB Program/RAM; D-Sub	750-838/021-000		119	
M: Master, S: Slave															

M: Master, S: Slave

Controllers 750

General Product Information

Controllers 750:

Open – Flexible – Compact

WAGO's controllers are ideal for a wide variety of applications ranging from industrial, process and building automation to measurement and data collection. Based on the fieldbus couplers for all standard fieldbus systems, they are programmable to IEC 61131-3. Direct connection to a wide range of I/O modules from the WAGO-I/O-SYSTEM 750 optimizes adaptation to the application.

Building Automation

Thanks to specific characteristics, controllers for the BACnet/IP and KNX IP bus systems are optimized for building automation. The diverse product range of stackable I/O modules allows integration of external systems such as lighting control (DALI), sun protection (SMI), wireless switches (EnOcean) and much more.

Marine Systems and Onshore/Offshore Industry

International approvals coupled with industry-specific features permit use in shipbuilding and other harsh sectors. Addressing requirements inherent in specific industries and operating environments has enabled use on marine diesels and in the EMC-sensitive area of a vessel's bridge. Because the requirements are significantly greater for immunity to interference or emission of interference, along with superior mechanical performance in these sensitive areas, the WAGO-I/O-SYSTEM can readily meet the needs of other industries.

Telecontrol Technology

Standardized IEC 60870-5, IEC 61850 or IEC 61400-25 telecontrol protocols allow the 750 Series Controllers to be used in telecontrol applications.

Starter Kits

For a quick start, WAGO offers every customer the unique opportunity to purchase a starter kit that already contains all the components needed to begin programming and getting to know the controllers. For starter kits, see Section 4.5.

Link between Process Data and IT Application

The controllers ideally combine real-time requirements with IT functionality. They support Modbus/TCP and EtherNet/IP for use in industrial environments. HTTP, HTTPS, SNMP, FTP, BootP, DHCP, DNS and other protocols simplify integration into IT environments. Integrated Web pages and Web-based visualization provide IT applications with real-time process data. Furthermore, the 750 Series Controllers incorporate library functions for email, SOAP, ASP, IP configuration, ETHERNET sockets and file system.

Worldwide Approvals

International approvals for building and industrial automation, as well as the process and marine industries, guarantee worldwide use – even under harsh operating conditions. These recognitions include: ATEX, BR-Ex, IECEx, UL508, UL ANSI/ISA, AEx and numerous marine certifications.

Modular and Expandable

With the WAGO-I/O-SYSTEM 750, the 750 Series Controllers can be expanded to almost any input/output interface. A modular, DIN-rail-mount design permits easy installation, expansion and modification of the I/O node without tools.

The straightforward design prevents installation errors. In addition, proven CAGE CLAMP® technology offers fast, vibration-proof and maintenance-free connections that are independent of operator skill. Depending on the I/O module's granularity, field levels can be directly wired using 1-, 2-, 3- or 4-wire technology.

Maximum Reliability and Ruggedness

The WAGO-I/O-SYSTEM is engineered and tested for use in the most demanding environments (e.g., temperature cycling, shock/vibration loading and ESD) according to the highest standards. Spring pressure connection technology guarantees continuous operation. Integrated QA measures in the production process and 100% function testing ensure consistent quality.



Advantages:

- Controllers for all prominent fieldbus systems
- Industry-specific features
- Programmable via CODESYS per IEC 61131-3
- Expandable with the comprehensive WAGO-I/O-SYSTEM 750 product range
- Extensive IT integration possibilities
- Tested and approved worldwide
- Maintenance-free

Controllers 750

Versions

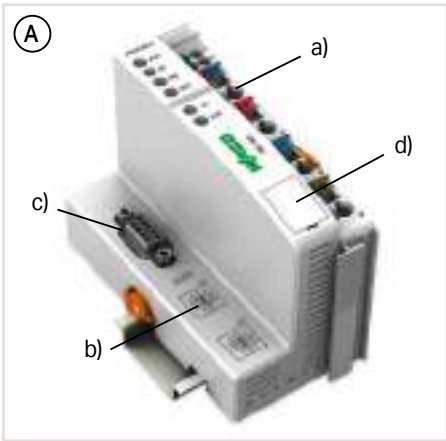
Extended Temperature Range

Industrial automation technology is typically operated in temperatures ranging from 0°C to 55°C. However, there are applications that require an extended temperature range. Select controllers are available in an extended temperature range of -20°C to +60°C.



For extreme applications, where even this extended temperature range is not sufficient, the WAGO I/O-SYSTEM 750 XTR is available.

Interfaces and Types



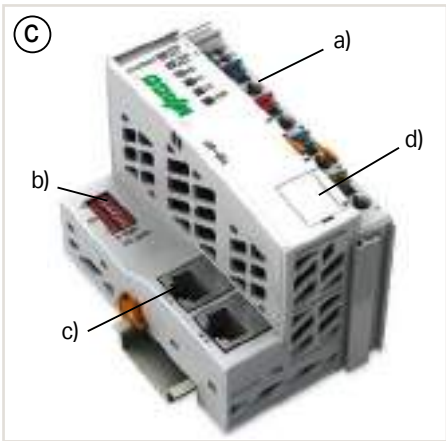
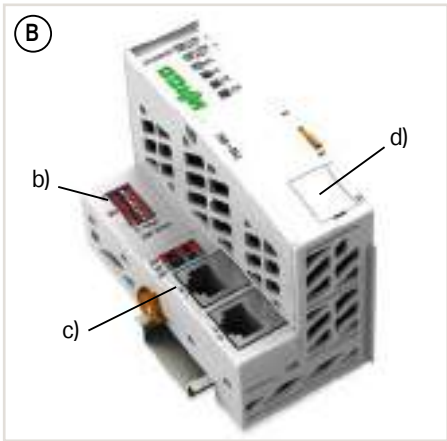
- Technical differences on the connection level; optional addressing switch (b) and fieldbus interface (c)
- Service interface (d)

Housing design (A)

- Including supply module to power downstream I/O modules (a)
- W x H x D (mm) 50.5 x 71.1 x 100

Housing design Eco (B)

- W x H x D (mm) 49.5 x 71.9 x 96.8

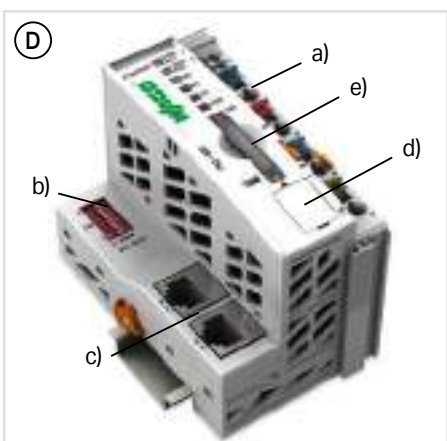


Housing design (C)

- Including supply module to power downstream I/O modules (a)
- W x H x D (mm) 61.5 x 71.9 x 100

Housing design (D)

- Including supply module to power downstream I/O modules (a)
- SD card slot for external storage media (e)
- W x H x D (mm) 61.5 x 71.9 x 100



Item Number Key

Explanation of the components of an item number key

Item No.: 750-8xx

0x, 1x: 16-bit CPU

2x, 3x:

4x:

5x, 6x: 32 bits

7x, 8x: 32-bit multitasking

.../025-000: Extended temperature range of -20 ... +60 °C

INTERBUS, DeviceNet, MODBUS

BACnet, PROFIBUS, CANopen

ETHERNET

ETHERNET Eco

ETHERNET, telecontrol technology, media redundancy,

KNX IP

Controllers 750

Installation Instructions

Power Supply

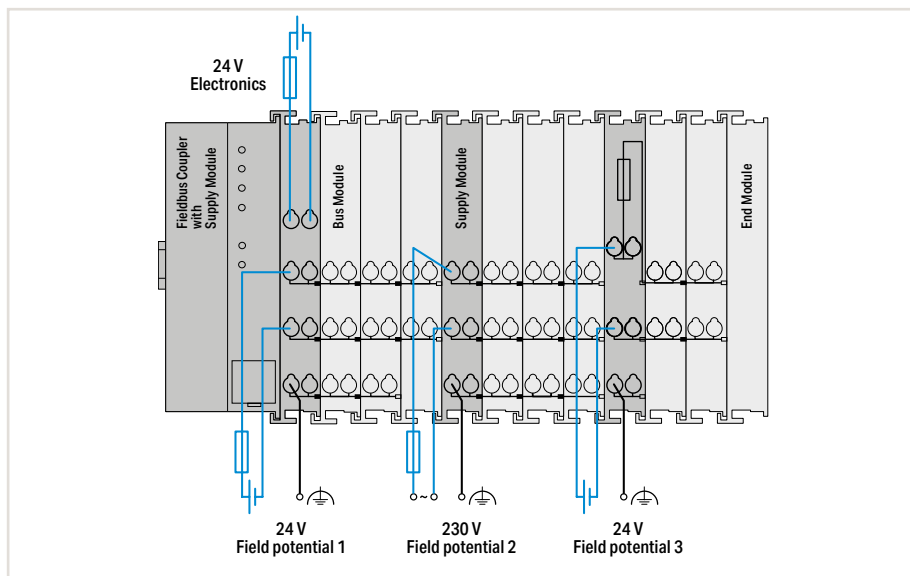
The internal electronics are powered by the controller. The field-side power supply is electrically isolated via the supply module on the controller or a separate power supply module. The division enables a separate supply for sensors and actuators. Snapping the I/O modules together automatically routes the supply voltages (system power supply 5 VDC via the data contacts and field supply via the optional power jumper contacts). Supply modules with diagnostics enable additional monitoring of the power supply. This ensures a flexible, user-specific supply design for a station.

The current supply to the electronics is limited by a maximum value. This value is dependent on the controller used. If the sum of the internal current demand of all the I/O modules should exceed this value, an additional system supply module is necessary. Even in this case, power supply to the field-side supply of 10 A may not be exceeded. However, different power supply modules allow a new power supply, formation of potential groups and the implementation of emergency stops.

Interference-Free in Safety-Related Applications

To easily and safely perform cost-effective, centralized deactivation of complete actuator groups, the actuator's power supply can be switched off using a safety switching device. This can either be performed for each individual actuator or by turning off the power supply to a group of control outputs. In the event of failure, ensure that no interference from other current or power circuits occurs – even when the control voltage is switched off – so the defined safety function properties (logic and time response) remain unchanged.

Some modules are designed to provide interference-free safety functionality. These modules comply with safety requirements up to Category 4 of DIN EN ISO 13849-1:2007. Safety category and performance level depend solely on the safety components and their wiring.



Notice:

WAGO's interference-free I/O modules are not a component of the safety function and do not replace the safety switching device! When using the components in safety functions, the corresponding notes must be observed in the relevant manual.

Notes

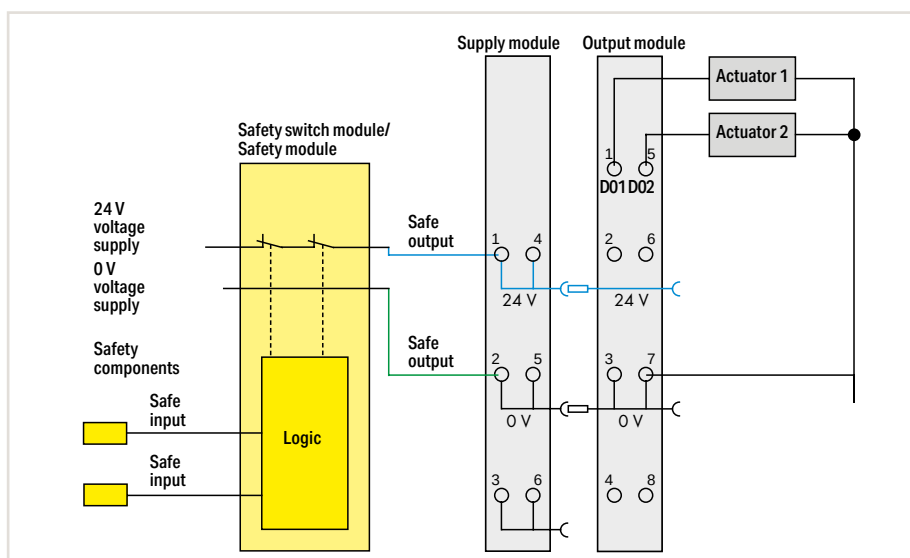
Additional steps must be implemented based on where the I/O system is installed:

- Specific power and field-side power supply filters (750-624 or 750-626) are required for marine and onshore/offshore applications.
- A specific supply module (750-606) is required to operate intrinsically safe Ex i modules.

Additionally, both a supply module and a field-side power supply filter are recommended when operating intrinsically safe Ex i modules for marine and onshore/offshore applications.

As part of operating safety-related I/O modules, PELV/SELV power supply units must be used for 24 VDC supply of electronics and field. In addition, specific power and field-side power supply filters must be provided (750-626).

Please refer to the manual for details about the power supply's design.



Example: 2-channel, double-pole power supply disconnection

Controllers 750

Standards and Rated Conditions

General Specifications	
Supply voltage (system)	24 VDC (-25 ... +30 %)*; *for all marine-certified controllers
Isolation	500 V (system/supply)
Surrounding air temperature (operation)	0 ... +55 °C
Surrounding air temperature (operation) for versions with an extended temperature range	-20 ... +60 °C
Surrounding air temperature (storage)	-40 ... +85 °C
Relative humidity	95 % (non condensing)
Relative humidity for versions with an extended temperature range	Max. 95 %, short-term condensation per Class 3K6 / IEC EN 60721-3-3 and E DIN 40046-721-3, taking a temperature range of -20 to +60 °C into consideration (except wind-driven precipitation, water and ice formation)
Operating altitude	0 ... 2000 m
Pollution degree	2 per IEC 61131-2
Vibration resistance	0.5g (4g for all marine-certified controllers) per IEC 60068-2-6
Shock resistance	15g per IEC 60068-2-27
EMC immunity to interference	Per EN 61000-6-2
EMC emission of interference	Per EN 61000-6-3, EN 61000-6-4
Protection type	IP20
Mounting type	DIN-35 rail mounting
Housing material	Polycarbonate; polyamid 6.6
Exposure to pollutants	Per IEC 60068-2-42 and IEC 60068-2-43
Permissible SO ₂ contaminant concentration at a relative humidity < 75 %	25 ppm
Permissible H ₂ S contaminant concentration at a relative humidity < 75 %	10 ppm
Connection technology	CAGE CLAMP®
Conductor cross sections; strip length for standard controllers: Eco Controllers:	0.08 ... 2.5 mm ² /28 ... 14 AWG; 8 ... 9 mm / 0.31 ... 0.35 inch 0.08 ... 1.5 mm ² /28 ... 16 AWG; 5 ... 6 mm / 0.2 ... 0.24 inch
Current carrying capacity (power jumper contacts)	10 A

4.3

Approvals

Overview of the approvals in the article comparison in Section 11, Technical Appendix, or online at www.wago.com



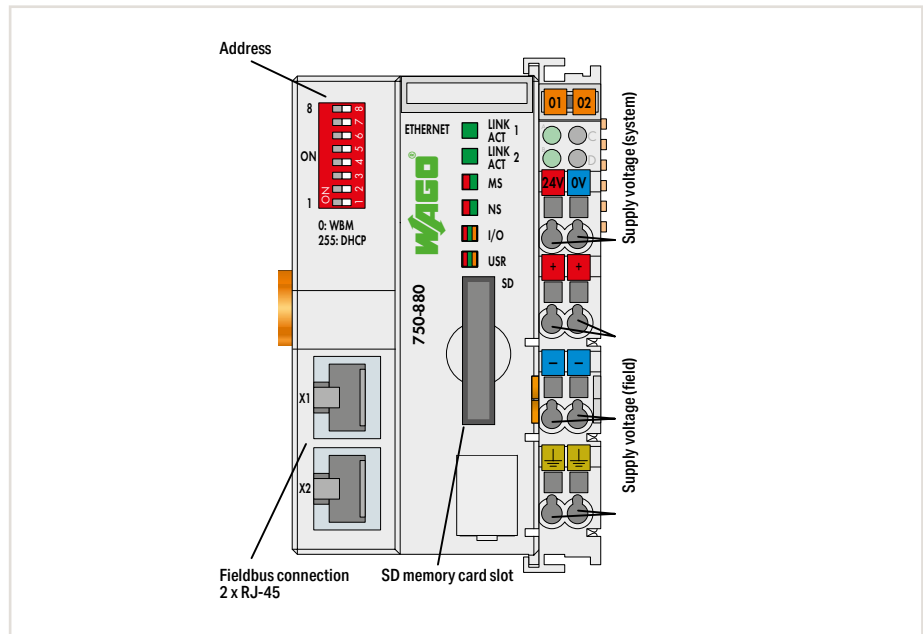
Controller ETHERNET; Modbus TCP



Figure: 750-880



Figure: 750-881



Item description	Controller ETHERNET; 3rd generation; SD card slot			
Version	Default	Ext. temperature	Telecontrol technology; ext. temperature	Telecontrol technology; ext. temperature; Eco
Item No.	750-880	750-880/025-000	750-880/025-001	750-880/025-002
Order text	Controller ETHERNET; G3; SD	Controller ETHERNET; G3; SD; T	Controller ETHERNET; G3; SD; Tele; T	Controller ETHERNET; G3; SD; Tele; T; Eco

For new installations, please consider the 750-890 Controller with extended functionality.

Technical Data

Communication	EtherNet/IP; Modbus (TCP, UDP)		EtherNet/IP; Modbus (TCP, UDP); Telecontrol protocols	
ETHERNET protocols	HTTP; BootP; DHCP; DNS; SNTP; FTP; SNMP			
Telecontrol protocols			IEC 60870-5-101/-103/-104; IEC 61850-7-4; IEC 61400-25; DNP3	
Connection technology: Fieldbus input/output	2 x RJ-45			
Baud rate	10/100 Mbit/s			
Visualization	Web-Visu			
Programming	WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)			
Type of memory card	SD and SDHC to 32 GB*			
Program memory/data memory/non-volatile memory (software)	1024 KB / 1024 KB / 32 KB			
Number of modules per node (max.)	250		4	
Input and output process image (internal) max.	1020 words			
Supply voltage (system)	24 VDC (–25 ... +30 %); via wiring level (CAGE CLAMP® connection)			
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts			
Input current (typ.) at nominal load (24 V)	500 mA			
Current consumption – system supply (5 V)	450 mA			
Total current (system supply)	1700 mA			
Surrounding air temperature (operation)	0 ... +55 °C		–20 ... +60 °C	
Dimensions W x H x D	61.5 x 71.9 x 100 mm			
Approvals	CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx			
Data sheet and further information, see:	wago.com/750-880			

Accessories

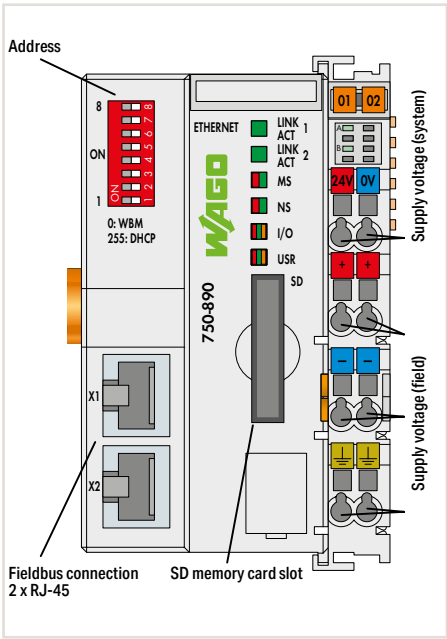
SD memory card; 2 GB

Item No.	Page
758-879/000-001	470

* WAGO-I/O-PRO V2.3 Software, see Section 2, page 32

* Approvals and corresponding ratings, see page 516 or www.wago.com

*All guaranteed specifications are only valid with the WAGO memory card listed as an accessory.

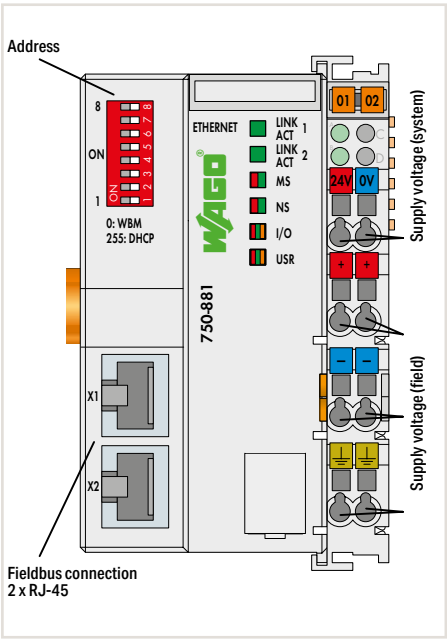


Controller Modbus TCP; 4th generation; SD card slot

Default

750-890

Controller Modbus TCP; G4; SD

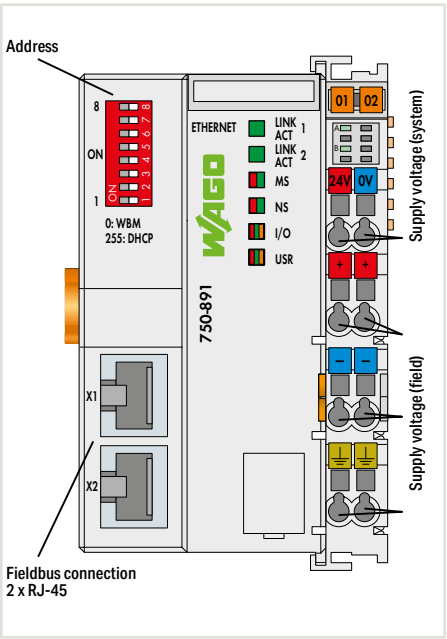


Controller ETHERNET; 3rd generation

Default

750-881

Controller ETHERNET; G3



Controller Modbus TCP; 4th generation

Default

750-891

Controller Modbus TCP; G4

For new installations, please consider the 750-891 Controller with extended functionality.

Modbus (TCP, UDP)
HTTP(S); BootP; DHCP; DNS; SNTP; (S)FTP; SNMP
2 x RJ-45
10/100 Mbit/s
Web-Visu
WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)
SD and SDHC to 32 GB*
8192 KB / 8192 KB / 32 KB
250
1020 words
24 VDC (–25 ... 30 %); via wiring level (CAGE CLAMP® connection)
24 VDC (–25 ... +30 %); via power jumper contacts
500 mA
440 mA
1700 mA
0 ... +55 °C
61.5 x 71.9 x 100 mm
CE; Marine; OrdLoc**/HazLoc; ATEX/IECEX
wago.com/750-890

Item No.	Page
758-879/000-001	470

EtherNet/IP; Modbus (TCP, UDP)
HTTP; BootP; DHCP; DNS; SNTP; FTP; SNMP
2 x RJ-45
10/100 Mbit/s
Web-Visu
WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)
1024 KB / 512 KB / 32 KB
250
1020 words
24 VDC (–25 ... 30 %); via wiring level (CAGE CLAMP® connection)
24 VDC (–25 ... +30 %); via power jumper contacts
500 mA
450 mA
1700 mA
0 ... +55 °C
61.5 x 71.9 x 100 mm
CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
wago.com/750-881

Modbus (TCP, UDP)
HTTP(S); BootP; DHCP; DNS; SNTP; (S)FTP; SNMP
2 x RJ-45
10/100 Mbit/s
Web-Visu
WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)
4096 KB / 4096 KB / 32 KB
250
1020 words
24 VDC (–25 ... 30 %); via wiring level (CAGE CLAMP® connection)
24 VDC (–25 ... +30 %); via power jumper contacts
500 mA
390 mA
1700 mA
0 ... +55 °C
61.5 x 71.9 x 100 mm
CE; Marine; OrdLoc*/HazLoc; ATEX/IECEX
wago.com/750-891

*Pending

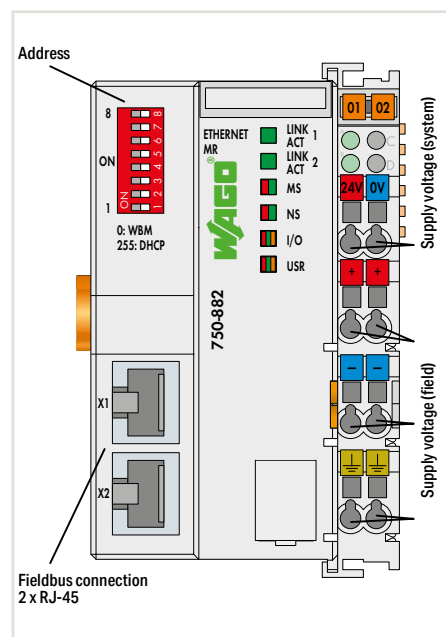
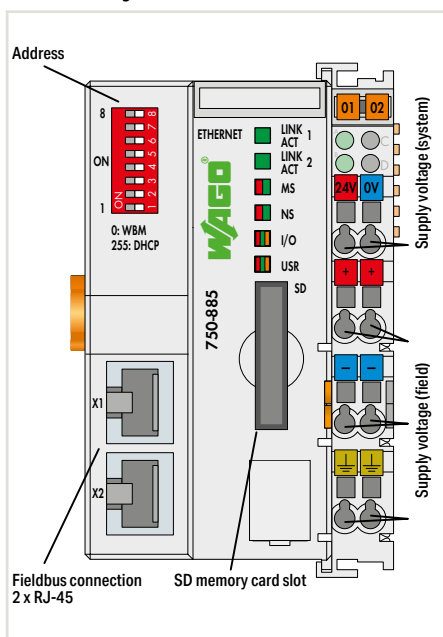
*All guaranteed specifications are only valid with the WAGO memory card listed as an accessory.
**Pending

Controller ETHERNET; Media Redundancy



Figure: 750-885

Figure: 750-882



Item description

Version

Item No.

Order text

Controller ETHERNET; 3rd generation; SD card slot; Media redundancy

Default

Ext. temperature

750-885
Controller ETHERNET;
G3; SD; MR

750-885/025-000
Controller ETHERNET;
G3; SD; MR; T

Controller ETHERNET; 3rd generation; Media redundancy

Default

750-882

Controller ETHERNET; G3; MR

Technical Data

Communication

ETHERNET protocols

Connection technology: Fieldbus input/output

Baud rate

Redundancy function

Visualization

Programming

Type of memory card

Program memory/data memory/non-volatile memory (software)

Number of modules per node (max.)

Input and output process image (internal) max.

Supply voltage (system)

Supply voltage (field)

Input current (typ.) at nominal load (24 V)

Current consumption – system supply (5 V)

Total current (system supply)

Surrounding air temperature (operation)

Dimensions W x H x D

Approvals

Data sheet and further information, see:

Accessories

SD memory card; 2 GB

EtherNet/IP; Modbus (TCP, UDP)

HTTP; BootP; DHCP; DNS; SNTP; FTP; SNMP

2 x RJ-45

10/100 Mbit/s

Application-based communication redundancy

Web-Visu

WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)

SD and SDHC to 32 GB*

1024 KB / 1024 KB / 32 KB

250

1020 words

24 VDC (–25 ... +30 %); via wiring level (CAGE CLAMP® connection)

24 VDC (–25 ... +30 %); via power jumper contacts

500 mA

450 mA

1700 mA

0 ... +55 °C –20 ... +60 °C

61.5 x 71.9 x 100 mm

CE; Marine; OrdLoc/HazLoc;

ATEX/IECEx

wago.com/750-885

Item No.

758-879/000-001

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470

EtherNet/IP; Modbus (TCP, UDP)

HTTP; BootP; DHCP; DNS; SNTP; FTP; SNMP

2 x RJ-45

10/100 Mbit/s

Application-based communication redundancy

Web-Visu

WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)

1024 KB / 512 KB / 32 KB

250

1020 words

24 VDC (–25 ... +30 %); via wiring level (CAGE CLAMP® connection)

24 VDC (–25 ... +30 %); via power jumper contacts

500 mA

450 mA

1700 mA

0 ... +55 °C

61.5 x 71.9 x 100 mm

CE; Marine; OrdLoc/HazLoc;

ATEX/IECEx

wago.com/750-882

*All guaranteed specifications are only valid with the WAGO memory card listed as an accessory.

„ WAGO-I/O-PRO V2.3 Software, see Section 2, page 32

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 516 or www.wago.com

Controller ETHERNET; Modbus TCP; Eco

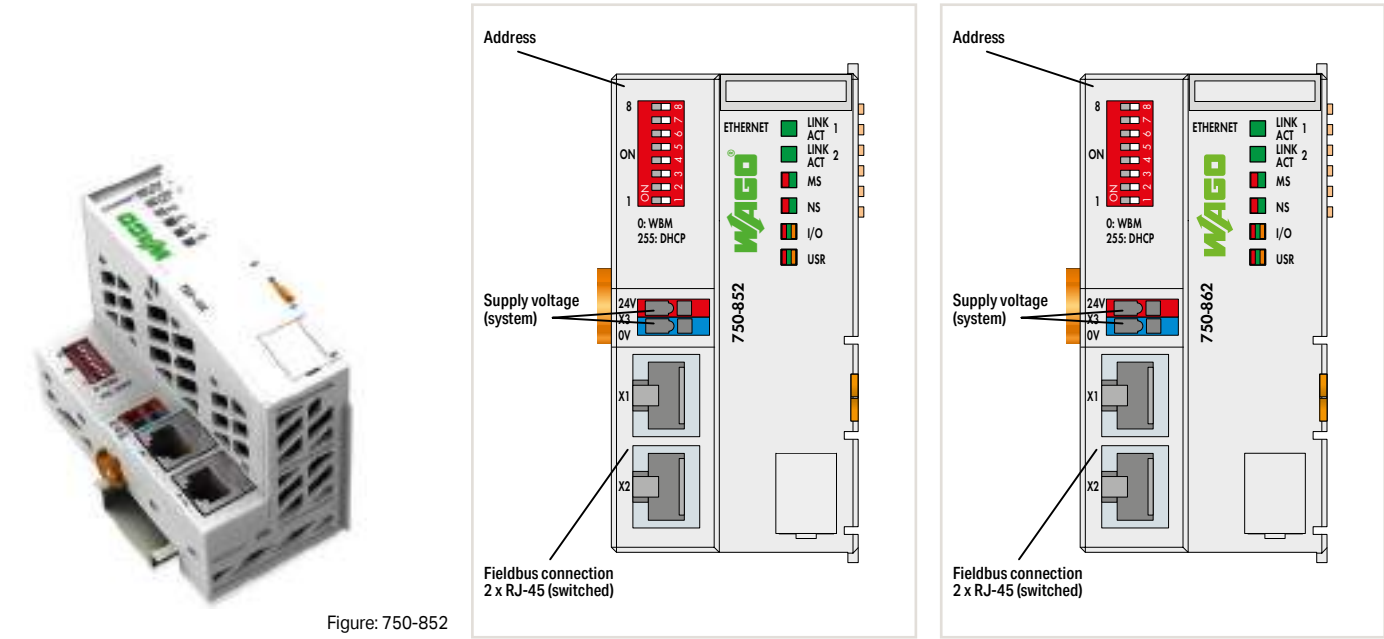


Figure: 750-852

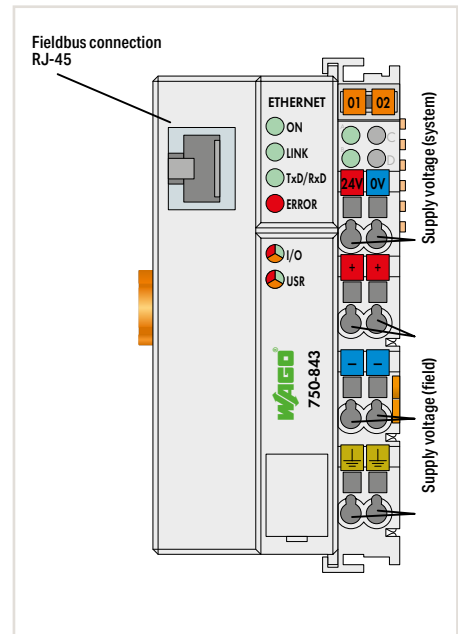
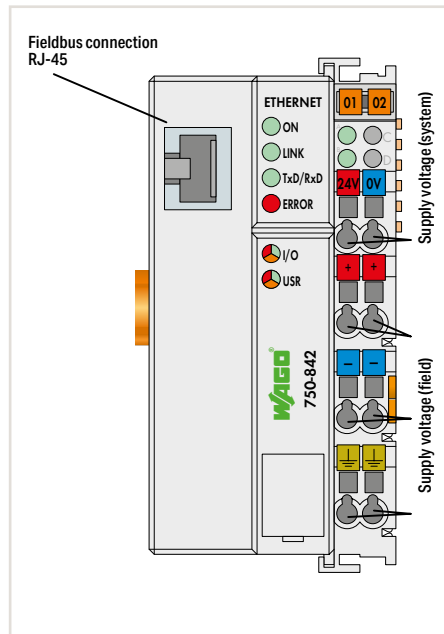
Item description		Controller ETHERNET; 3rd generation; Eco	Controller Modbus TCP; 4th generation; Eco
Item No.		750-852	750-862
Order text		Controller ETHERNET; G3; Eco	Controller Modbus TCP; G4; Eco
Technical Data			
Communication		EtherNet/IP; Modbus (TCP, UDP)	Modbus (TCP, UDP)
ETHERNET protocols		HTTP; BootP; DHCP; DNS; SNTP; FTP	HTTP(S); BootP; DHCP; DNS; SNTP; (S)FTP; SNMP
Connection technology: Fieldbus input/output		2 x RJ-45	2 x RJ-45
Baud rate		10/100 Mbit/s	10/100 Mbit/s
Programming		WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)	WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)
Program memory/data memory/non-volatile memory (software)		512 KB / 256 KB / 8 KB	2048 KB / 2048 KB / 16 KB
Number of modules per node (max.)		250	250
Input and output process image (internal) max.		1020 words	1020 words
Supply voltage (system)		24 VDC (–25 ... +30 %), via wiring level	24 VDC (–25 ... +30 %), via wiring level
Input current (typ.) at nominal load (24 V)		300 mA	300 mA
Current consumption – system supply (5 V)		400 mA	390 mA
Total current (system supply)		700 mA	700 mA
Surrounding air temperature (operation)		0 ... +55 °C	0 ... +55 °C
Dimensions W x H x D		49.5 x 71.9 x 96.8 mm	49.5 x 71.9 x 96.8 mm
Approvals		CE; Marine; OrdLoc/HazLoc; ATEX/IECEX	CE; Marine; OrdLoc*/HazLoc; ATEX/IECEX
Data sheet and further information, see:		wago.com/750-852	wago.com/750-862

*Pending

Controller ETHERNET



Figure: 750-842



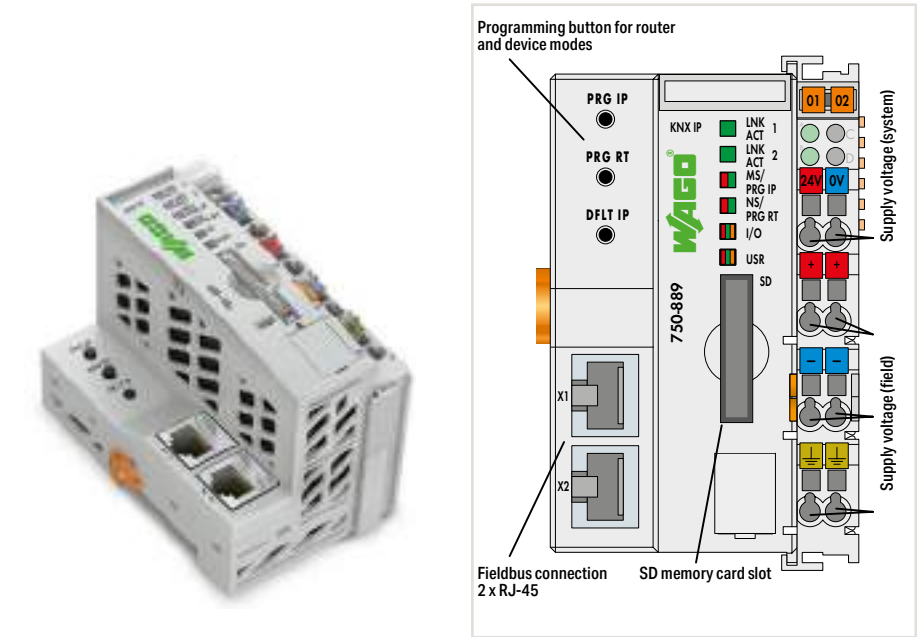
Item description	Controller ETHERNET; 1st generation	Controller ETHERNET; 1st generation; Eco
	750-842	750-843
Order text	Controller ETHERNET; G1	Controller ETHERNET; G1; Eco
Technical Data		
Communication	Modbus (TCP, UDP)	Modbus (TCP, UDP)
ETHERNET protocols	HTTP; BootP	HTTP; BootP
Connection technology: Fieldbus input/output	RJ-45	RJ-45
Baud rate	10 Mbit/s	10 Mbit/s
Visualization	Without	Without
Programming	WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)	WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)
Program memory/data memory/non-volatile memory (software)	128 KB / 64 KB / 8 KB	64 KB / 64 KB / 8 KB
Number of modules per node (max.)	64	64
Input and output process image (internal) max.	512 bytes	512 bytes
Memory for fieldbus input and output variables (max.)	512 bytes	512 bytes
Supply voltage (system)	24 VDC (-25 ... +30 %); via wiring level (CAGE CLAMP® connection)	24 VDC (-25 ... +30 %); via wiring level (CAGE CLAMP® connection)
Supply voltage (field)	24 VDC (-25 ... +30 %); via power jumper contacts	24 VDC (-25 ... +30 %); via power jumper contacts
Input current (typ.) at nominal load (24 V)	500 mA	500 mA
Current consumption – system supply (5 V)	200 mA	200 mA
Total current (system supply)	1800 mA	1800 mA
Surrounding air temperature (operation)	0 ... +55 °C	0 ... +55 °C
Dimensions W x H x D	50.5 x 71.1 x 100 mm	50.5 x 71.1 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-842	wago.com/750-843

„ WAGO-I/O-PRO V2.3 Software, see Section 2, page 32

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 516 or www.wago.com

Controller KNX/IP



Item description
Item No.
Order text
Technical Data
Communication
ETHERNET protocols
Connection technology: Fieldbus input/output
Baud rate
Visualization
Programming
Type of memory card
KNX/TP1 bus specification
Number of group addresses
Number of communication objects
Program memory/data memory/non-volatile memory (software)
Number of modules per node (max.)
Input and output process image (internal) max.
Memory for fieldbus input and output variables (max.)
Supply voltage (system)
Supply voltage (field)
Input current (typ.) at nominal load (24 V)
Current consumption – system supply (5 V)
Total current (system supply)
Surrounding air temperature (operation)
Dimensions W x H x D
Approvals
KNX certified
Data sheet and further information, see:
Accessories
SD memory card; 2 GB
WAGO ETS Plug-In

Controller KNX/IP
750-889
Controller KNX/IP
KNXnet/IP; Modbus (TCP, UDP)
HTTP; BootP; DHCP; DNS; AutoIP; SNTP; FTP; SNMP V3; SMTP
2 x RJ-45
10/100 Mbit/s
Web-Visu
WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)
SD and SDHC to 32 GB*
1.0
254
253
1024 KB / 1024 KB / 32 KB
250
2 KB
512 bytes
24 VDC (–25 ... +30 %); via wiring level (CAGE CLAMP® connection)
24 VDC (–25 ... +30 %); via power jumper contacts
500 mA
450 mA
1700 mA
0 ... +55 °C
61.5 x 71.9 x 100 mm
CE; Marine; OrdLoc/HazLoc
IP Controller: 61/8316/08; IP Router: 61/8317/08
wago.com/750-889
Item No.
758-879/000-001
Page
470
Download
see Section 2

This controller can accommodate two KNX logic devices at the same time:

- Programmable controller
- KNX Router in connection with KNX/EIB/TP1 Module

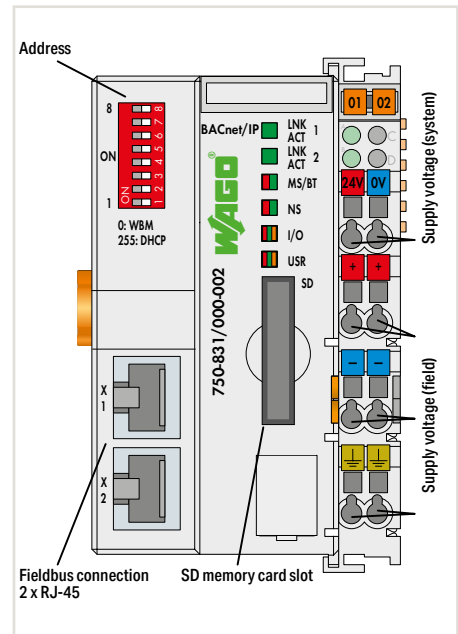
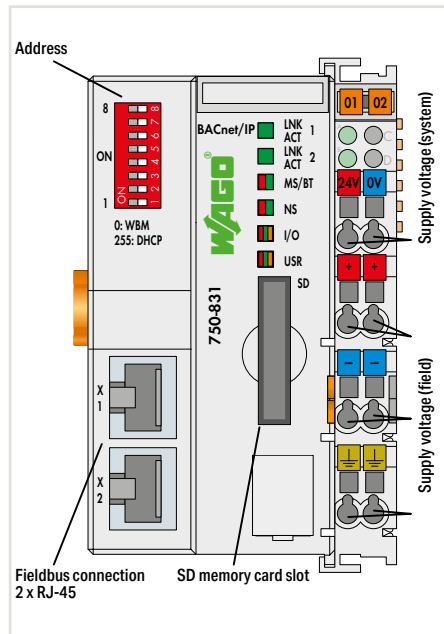
Commissioning (KNX-side):
via ETS plug-in, 2 programming buttons

*All guaranteed specifications are only valid with the WAGO memory card listed as an accessory.

Controller BACnet/IP



Figure: 750-831



Item description	Controller BACnet/IP	Controller BACnet/IP
Version		Eco
Item No.	750-831	750-831/000-002
Order text	Controller BACnet/IP	Controller BACnet/IP; Eco
750-831/000-002 Controllers support a maximum of 256 BACnet objects.		
Technical Data		
Communication	BACnet/IP; Modbus (TCP, UDP)	BACnet/IP; Modbus (TCP, UDP)
ETHERNET protocols	HTTP; BootP; DHCP; DNS; SNTP; FTP; SNMP	HTTP; BootP; DHCP; DNS; SNTP; FTP; SNMP
Connection technology: Fieldbus input/output	2 x RJ-45	2 x RJ-45
Baud rate	10/100 Mbit/s	10/100 Mbit/s
Visualization	Web-Visu	Web-Visu
Programming	WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)	WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)
Type of memory card	SD and SDHC to 32 GB*	SD and SDHC to 32 GB*
BACnet device profile	B-BC (BACnet Building Controller)	B-BC (BACnet Building Controller)
BACnet revision	1.7	1.7
Program memory/data memory/non-volatile memory (software)	1024 KB / 1024 KB / 28 KB	1024 KB / 1024 KB / 28 KB
Number of modules per node (max.)	99	99
Input and output process image (internal) max.	1020 words	1020 words
Supply voltage (system)	24 VDC (-25 ... +30 %); via wiring level (CAGE CLAMP® connection)	24 VDC (-25 ... +30 %); via wiring level (CAGE CLAMP® connection)
Supply voltage (field)	24 VDC (-25 ... +30 %); via power jumper contacts	24 VDC (-25 ... +30 %); via power jumper contacts
Input current (typ.) at nominal load (24 V)	500 mA	500 mA
Current consumption – system supply (5 V)	450 mA	450 mA
Total current (system supply)	1700 mA	1700 mA
Surrounding air temperature (operation)	0 ... +55 °C	0 ... +55 °C
Dimensions W x H x D	61.5 x 71.9 x 100 mm	61.5 x 71.9 x 100 mm
Approvals	CE; Marine; OrdLoc	CE; Marine; OrdLoc
BACnet approvals	WSPCert certification: ISO 16484-5:2012; BTL listing: BTL (BACnet® Testing Labs Product Listing) AMEV certificate: AMEV profile AS-A	
Data sheet and further information, see:	wago.com/750-831	wago.com/750-831/000-002
Accessories		
SD memory card; 2 GB	Item No. 758-879/000-001 Page 470	Item No. 758-879/000-001 Page 470
BACnet Configurator	Download see Section 2	Download see Section 2

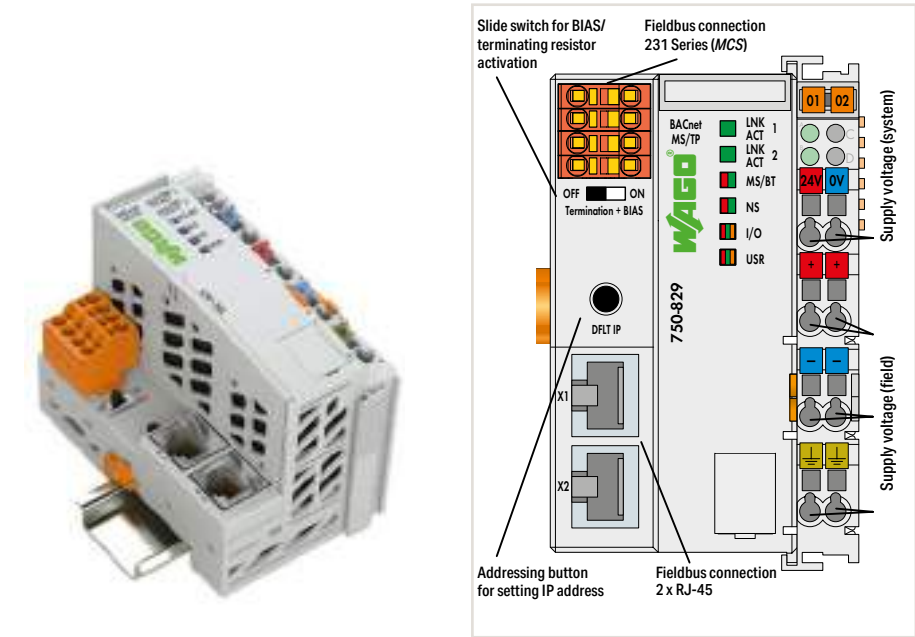
*All guaranteed specifications are only valid with the WAGO memory card listed as an accessory.

*All guaranteed specifications are only valid with the WAGO memory card listed as an accessory.

„ WAGO-I/O-PRO V2.3 Software, see Section 2, page 32

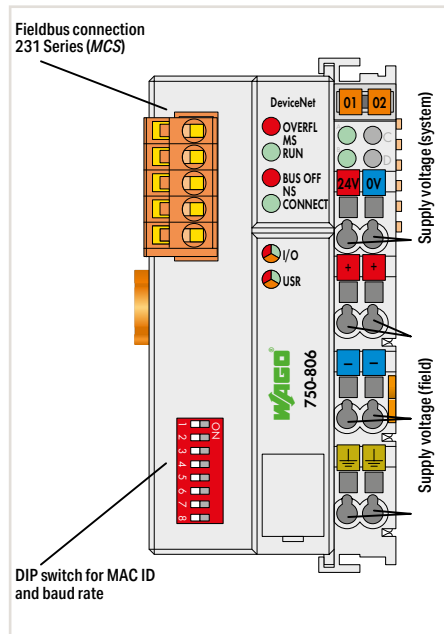
„ Approvals and corresponding ratings, see page 516 or www.wago.com

Controller BACnet MS/TP



Item description	Controller BACnet MS/TP	
Item No.	750-829	
Order text	Controller BACnet MS/TP	
Technical Data		
Communication	BACnet MS/TP; Modbus (TCP, UDP)	
ETHERNET protocols	HTTP; BootP; DHCP; DNS; SNTP; FTP; SNMP; SMTP	
Connection technology: Fieldbus input/output	4-pole male connector	
Baud rate	9600, 19200, 38400*, 57600, 76800, 115200 Bd (per BACnet standard); *Factory setting	
Connection technology: Fieldbus input/output (2)	2 x RJ-45	
Baud rate (2)	10/100 Mbit/s	
Visualization	Web-Visu	
Programming	WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)	
BACnet device profile	B-BC (BACnet Building Controller)	
BACnet revision	1.7	
Program memory/data memory/non-volatile memory (software)	1024 KB / 1024 KB / 32 KB	
Number of modules per node (max.)	99	
Input and output process image (internal) max.	2 KB	
Memory for fieldbus input and output variables (max.)	512 bytes	
Supply voltage (system)	24 VDC (–25 ... +30 %); via wiring level (CAGE CLAMP® connection)	
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts	
Input current (typ.) at nominal load (24 V)	500 mA	
Current consumption – system supply (5 V)	450 mA	
Total current (system supply)	1700 mA	
Surrounding air temperature (operation)	0 ... +55 °C	
Dimensions W x H x D	61.5 x 71.9 x 100 mm	
Approvals	CE; OrdLoc/HazLoc	
BACnet approvals	WSPCert certification: Pending BTL listing: Pending	
Data sheet and further information, see:	wago.com/750-829	
Accessories	Item No.	Page
BACnet Configurator	Download	see Section 2

Controller DeviceNet



Item description

Item No.

Order text

Controller DeviceNet

750-806

Controller DeviceNet

Technical Data

Communication

Connection technology: Fieldbus input/output

Baud rate

Number of fieldbus nodes on master (max.)

Visualization

Programming

Program memory/data memory/non-volatile memory (software)

Number of modules per node (max.)

Input and output process image (internal) max.

Memory for fieldbus input and output variables (max.)

Supply voltage (system)

Supply voltage (field)

Input current (typ.) at nominal load (24 V)

Current consumption – system supply (5 V)

Input current via DeviceNet interface at 11 V

Total current (system supply)

Surrounding air temperature (operation)

Dimensions W x H x D

Approvals

Data sheet and further information, see:

DeviceNet

5-pole male connector

125 kBd; 250 kBd; 500 kBd

64

Without

WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)

128 KB / 64 KB / 8 KB

64

1024 bytes

512 bytes

24 VDC (–25 ... +30 %); via wiring level (CAGE CLAMP® connection)

24 VDC (–25 ... +30 %); via power jumper contacts

500 mA

350 mA

120 mA

1650 mA

0 ... +55 °C

50.5 x 71.1 x 100 mm

CE; Marine; OrdLoc/HazLoc;

ATEX/IECEX

wago.com/750-806

„ WAGO-I/O-PRO V2.3 Software, see Section 2, page 32

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

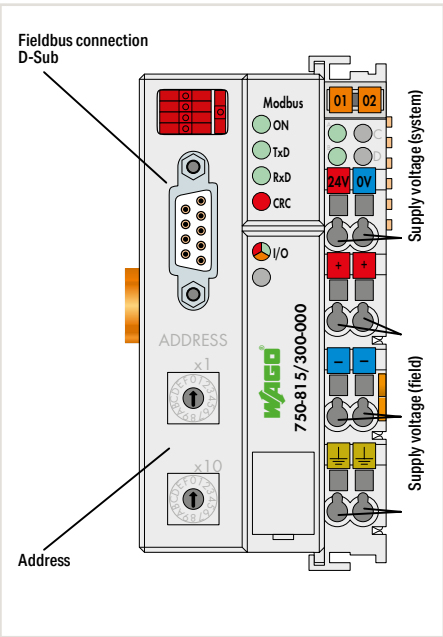
„ Approvals and corresponding ratings, see page 516 or www.wago.com

Controller MODBUS

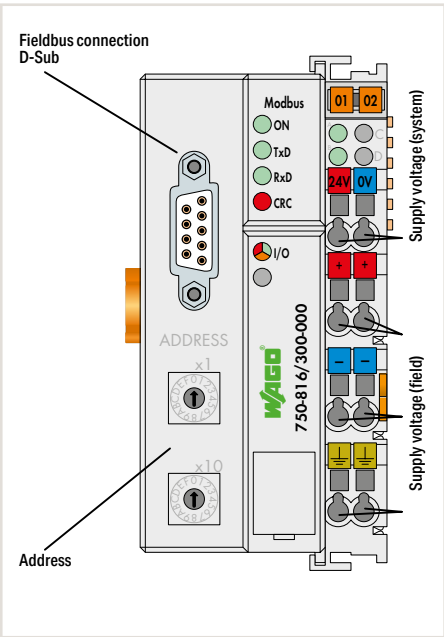


Figure: 750-815/300-000

Item description
Version
Item No.
Order text



Controller MODBUS; RS-485; 115.2 kBd	
Default	Ext. temperature
750-815/300-000	750-815/325-000
Controller MODBUS; RS-485; 115.2 kBd	Controller MODBUS; RS-485; 115.2 kBd; T



Controller MODBUS; RS-232; 115.2 kBd	
Default	
750-816/300-000	
Controller MODBUS; RS-232; 115.2 kBd	

Technical Data	
Communication	MODBUS
Connection technology: Fieldbus input/output	D-sub 9 socket
Baud rate	150 Bd ... 115.2 KBd
Number of fieldbus nodes on master (max.)	247
Visualization	Without
Programming	WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)
Program memory/data memory/non-volatile memory (software)	32 KB / 32 KB / 8 KB
Number of modules per node (max.)	64
Input and output process image (internal) max.	1024 bytes
Memory for fieldbus input and output variables (max.)	512 bytes
Supply voltage (system)	24 VDC (–25 ... +30 %); via wiring level (CAGE CLAMP® connection)
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts
Input current (typ.) at nominal load (24 V)	500 mA
Current consumption – system supply (5 V)	350 mA
Total current (system supply)	1650 mA
Surrounding air temperature (operation)	0 ... +55 °C –20 ... +60 °C
Dimensions W x H x D	50.5 x 71.1 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
Data sheet and further information, see:	wago.com/750-815/300-000

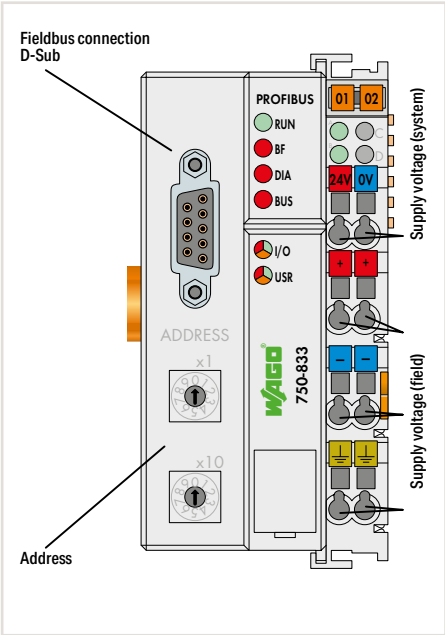
MODBUS	
D-sub 9 socket	
150 Bd ... 115.2 KBd	
247	
Without	
WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)	
32 KB / 32 KB / 8 KB	
64	
1024 bytes	
512 bytes	
24 VDC (–25 ... +30 %); via wiring level (CAGE CLAMP® connection)	
24 VDC (–25 ... +30 %); via power jumper contacts	
500 mA	
350 mA	
1650 mA	
0 ... +55 °C –20 ... +60 °C	
50.5 x 71.1 x 100 mm	
CE; Marine; OrdLoc/HazLoc; ATEX/IECEX	
wago.com/750-815/300-000	

MODBUS	
D-sub 9 socket	
150 Bd ... 115.2 KBd	
247	
Without	
WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)	
32 KB / 32 KB / 8 KB	
64	
1024 bytes	
512 bytes	
24 VDC (–25 ... +30 %); via wiring level (CAGE CLAMP® connection)	
24 VDC (–25 ... +30 %); via power jumper contacts	
500 mA	
350 mA	
1650 mA	
0 ... +55 °C	
50.5 x 71.1 x 100 mm	
CE; Marine; OrdLoc/HazLoc; ATEX/IECEX	
wago.com/750-816/300-000	

Controller PROFIBUS Slave



Figure: 750-833



Item description
Version
Item No.
Order text

Controller PROFIBUS Slave	
	Ext. temperature
750-833	750-833/025-000
Controller PROFIBUS Slave	Controller PROFIBUS Slave; T

Technical Data	
Communication	PROFIBUS
Connection technology: Fieldbus input/output	D-sub 9 socket
Baud rate	9.6 KBd ... 12 MBd
Number of fieldbus nodes on master (max.)	99
Visualization	Without
Programming	WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)
Program memory/data memory/non-volatile memory (software)	128 KB / 64 KB / 8 KB
Number of modules per node (max.)	63
Input and output process image (internal) max.	244 bytes
Memory for fieldbus input and output variables (max.)	244 bytes
Supply voltage (system)	24 VDC (–25 ... +30 %); via wiring level (CAGE CLAMP® connection)
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts
Input current (typ.) at nominal load (24 V)	500 mA
Current consumption – system supply (5 V)	200 mA
Total current (system supply)	1800 mA
Surrounding air temperature (operation)	0 ... +55 °C –20 ... +60 °C
Dimensions W x H x D	50.5 x 71.1 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
Data sheet and further information, see:	wago.com/750-833

PROFIBUS
D-sub 9 socket
9.6 KBd ... 12 MBd
99
Without
WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)
128 KB / 64 KB / 8 KB
63
244 bytes
244 bytes
24 VDC (–25 ... +30 %); via wiring level (CAGE CLAMP® connection)
24 VDC (–25 ... +30 %); via power jumper contacts
500 mA
200 mA
1800 mA
0 ... +55 °C –20 ... +60 °C
50.5 x 71.1 x 100 mm
CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
wago.com/750-833

4.3

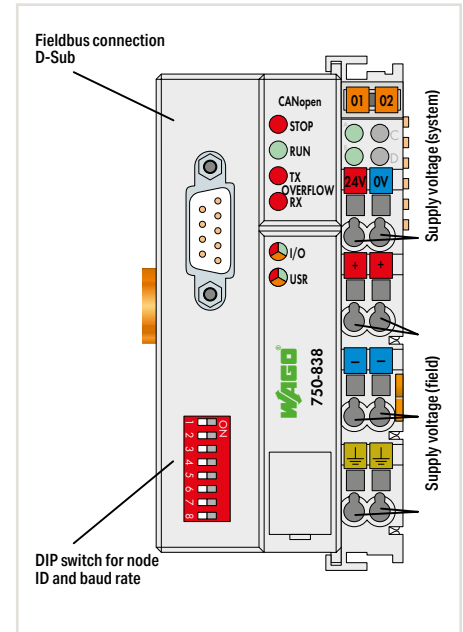
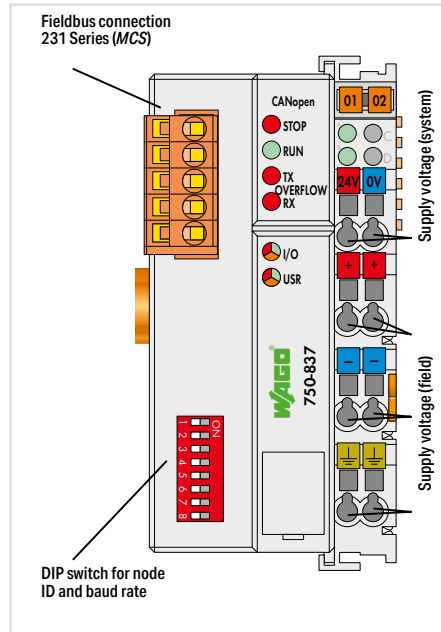
- „ WAGO-I/O-PRO V2.3 Software, see Section 2, page 32
- „ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”
- „ Approvals and corresponding ratings, see page 516 or www.wago.com

Controller CANopen



Figure: 750-837

Figure: 750-838



Item description		Controller CANopen; 128/64 KB Program/RAM; MCS		Controller CANopen; 128/64 KB Program/RAM; D-Sub	
Version		Default	640/832 KB Program/RAM	Default	640/832 KB Program/RAM
Item No.		750-837	750-837/021-000	750-838	750-838/021-000
Order text		Controller CANopen; M1; MCS	Controller CANopen; M3; MCS	Controller CANopen; M1; D-Sub	Controller CANopen; M3; D-Sub
Technical Data					
Communication		CANopen		CANopen	
Connection technology: Fieldbus input/output		5-pole male connector		D-Sub 9 connector	
Baud rate		10 Kbd ... 1 MBd		10 Kbd ... 1 MBd	
Number of fieldbus nodes on master (max.)		110		110	
Visualization		Without		Without	
Programming		WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)		WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)	
Program memory		128 KB	640 KB	128 KB	640 KB
Data memory		64 KB	832 KB	64 KB	832 KB
Non-volatile memory (software)		8 KB		8 KB	
Number of modules per node (max.)		64		64	
Input and output process image (internal) max.		512 bytes		512 bytes	
Memory for fieldbus input and output variables (max.)		512 bytes		512 bytes	
Communication profile		DS-301 V4.01		DS-301 V4.01	
Device profile		DS-401 V2.0		DS-401 V2.0	
Number of PDOs		32 Tx / 32 Rx		32 Tx / 32 Rx	
Number of SDOs		2 servers SDO / 16 clients SDO		2 servers SDO / 16 clients SDO	
Supply voltage (system)		24 VDC (-25 ... +30 %); via wiring level (CAGE CLAMP® connection)		24 VDC (-25 ... +30 %); via wiring level (CAGE CLAMP® connection)	
Supply voltage (field)		24 VDC (-25 ... +30 %); via power jumper contacts		24 VDC (-25 ... +30 %); via power jumper contacts	
Input current (typ.) at nominal load (24 V)		500 mA		500 mA	
Current consumption – system supply (5 V)		500 mA		500 mA	
Total current (system supply)		1650 mA		1650 mA	
Surrounding air temperature (operation)		0 ... +55 °C		0 ... +55 °C	
Dimensions W x H x D		50.5 x 71.1 x 100 mm		50.5 x 71.1 x 100 mm	
Approvals		CE; Marine; OrdLoc/HazLoc; ATEX/IECEX		CE; Marine; OrdLoc/HazLoc; ATEX/IECEX	
Data sheet and further information, see:		wago.com/750-837		wago.com/750-838	



Controllers 750 XTR

Touch-Panel 600 Standard/Advanced Line; Hardware configuration Control Panel

- Merging of control and visualization
- 10.9 ... 25.7 cm (4.3 ... 10.1")

◀◀◀ Section 3

Controllers PFC100/PFC200

- Maximum performance in a minimum space
- Also programmable in high-level languages based on Linux®
- Security packages with SSH and SSL/TLS
- Runtime system for CODESYS V2 (only PFC200) and V3

◀◀◀ Section 4.1

Controllers PFC200 XTR

The advantages of the PFC Controller combined with the capabilities for extreme environments:

- High processing speed
- Multiple interfaces
- eXTRemely robust and maintenance-free

◀◀ Section 4.2

Controllers 750

- Controllers for all prominent fieldbus systems
- Programmable to IEC 61131-3
- Combinable with the modules of the WAGO-I/O-SYS-TEM 750

◀ Section 4.3

Controllers 750 XTR

For demanding applications in which the following are critical:

- Extreme temperature stability
- Immunity to electromagnetic interference and impulse voltages
- Vibration and shock resistance

Starter Kits

To get you up and running quickly, we offer starter kits to suit the most diverse applications:

- With Controller PFC100
- With Controller PFC200
- With Controller 750 ETHERNET
- With Controller 750 KNX IP or BACnet/IP

Section 4.5 ▶

Controllers 750 XTR

Contents

	Page
General Product Information	122
Interfaces and Types	123
Item Number Key	123
Standards and Rated Conditions for Rail Applications (EN 50155)	123
Installation Instructions	124
Standards and Rated Conditions	125
Approvals	125

	ETHERNET				Description	Item No.	
	Modbus (TCP, UDP)	EtherNet/IP	CANopen	Telecontrol Protocols: IEC 60870, IEC 61850/61400, DNP3			
CPU							
32 bits	M/S	S			Controller ETHERNET; 3rd generation; SD card slot; extreme	750-880/040-000	126
32 bits	M/S	S		x	Controller ETHERNET; 3rd generation; SD card slot; Telecontrol technology; extreme	750-880/040-001	126
32 bits			M/S		Controller CANopen; 640/832 KB Pro- gram/RAM; D-Sub; extreme	750-838/040-000	127

M: Master, S: Slave



Controllers 750 XTR

General Product Information

Controllers 750 XTR: From Standard to eXTReMe — Standard for 750 XTR

The Controllers 750 XTR are easily recognized by their dark gray housings. Take advantage of the WAGO-I/O-SYSTEM 750 XTR's unique features, which make it ideal for extreme environments or applications.

Extremely temperature-resistant, immune to interference, as well as unfazed by vibrations and impulse voltages – these are impressive features of the WAGO-I/O-SYSTEM 750 XTR. WAGO's 750 XTR is the first choice for demanding applications including:

- Marine systems and onshore/offshore installations
- Renewable energy systems (wind turbines, solar systems and biogas plants)
- Transformer stations and power distribution systems
- Petrochemical processing
- Water and wastewater treatment systems
- Custom machines
- Railway applications

Marine Systems and Onshore/Offshore Industry

International approvals coupled with industry-specific features permit use in shipbuilding and other harsh sectors. Addressing requirements inherent in specific industries and operating environments has enabled use on marine diesels and in the EMC-sensitive area of a vessel's bridge. Because the requirements are significantly greater for immunity to interference or emission of interference, along with superior mechanical performance in these sensitive areas, the WAGO-I/O-SYSTEM can readily meet the needs of other industries.

Telecontrol Technology

Standardized Telecontrol protocols according to IEC 60870-5, IEC 61850 or IEC 61400-25 and DNP3 ensure use of the Controllers 750 XTR in telecontrol technology. They also meet increased impulse-voltage withstand requirements per EN 60870-2-1.

The result is a tailor-made solution for demanding telecontrol applications that readily meets all requirements.

Link between Process Data and IT Application — Even under eXTReMe Conditions

The controllers ideally combine real-time requirements with IT functionality. They support Modbus/TCP and EtherNet/IP for use in industrial environments. HTTP, SNMP, FTP, BootP, DHCP, DNS and other protocols simplify integration into IT environments. Integrated Web pages and Web-based visualization provide IT applications with real-time process data. Furthermore, the 750 Series Controllers incorporate library functions for email, SOAP, ASP, IP configuration, ETHERNET sockets and file system.

Modular and Expandable

With the WAGO-I/O-SYSTEM 750 XTR, the controllers can be expanded to almost any input/output interface. Using an industry-leading platform, the 750 XTR boasts the same proven benefits.

Worldwide Approvals

International approvals for industrial automation, building technology, shipbuilding and onshore/offshore applications guarantee worldwide use – even under harsh operating conditions, e.g., Germanischer Lloyd, Det Norske Veritas, American Bureau of Shipping, Korean Register of Shipping, Nippon Kaiji Kyokai, Registro Italiano Navale and Polski Rejestr Stratkow.



Superior Reliability in Extreme Climates

Engineered for freezing cold, extreme heat and high humidity, the WAGO-I/O-SYSTEM 750 XTR provides absolute dependability in virtually any weather. The XTR version of the 750 Series Controllers is unfazed by both freezing cold down to -40°C and scorching heat up to +70°C. And this applies equally for both start-up and ongoing operation. The maximum approved operating altitude of 5,000 m is another highlight. Even in the thin air of a mountain-top station, the system impressively demonstrates its high performance and availability.

Additional Protection Against Interference Pulses

The WAGO-I/O-SYSTEM 750 XTR provides greater isolation up to 5 kV of impulse voltage, lower EMC emission of interference and higher insensitivity to EMC interference. These strengths add up to trouble-free operation.

High Mechanical Performance

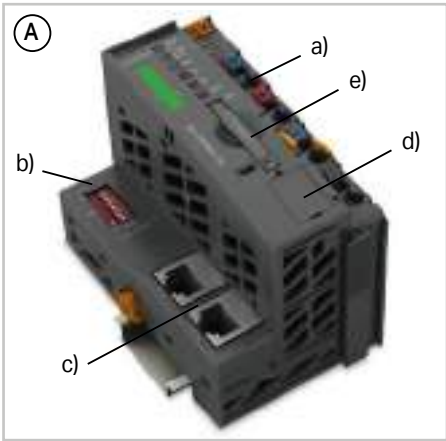
Automation systems must be incredibly vibration-resistant, especially when installed close to vibration-prone and shock-generating system components. Powerful motors and power circuit breakers are just two examples from a wide range of applications that can stress automation systems. The WAGO-I/O-SYSTEM 750 XTR continues to set new standards here. Count on long-lasting, trouble-free operation and industry-topping levels of safety – even in the most severe applications, such as tunnel boring machines.

Advantages:

- Controllers for eXTReMe environmental conditions
 - No air conditioning required
 - Can be used in unshielded areas
 - Install close to vibrating and shock-generating system components
- Extensive IT integration possibilities
- Expandable with the WAGO-I/O-SYSTEM 750 XTR's comprehensive product range
- Maintenance-free
- Vibration-proof, fast and maintenance-free CAGE CLAMP® spring connections

Controllers 750 XTR

Interfaces and Types



- Including supply module to power downstream I/O modules (a)
- Technical differences on the connection level; addressing switch (b) and fieldbus interface (c)
- Service interface (d)

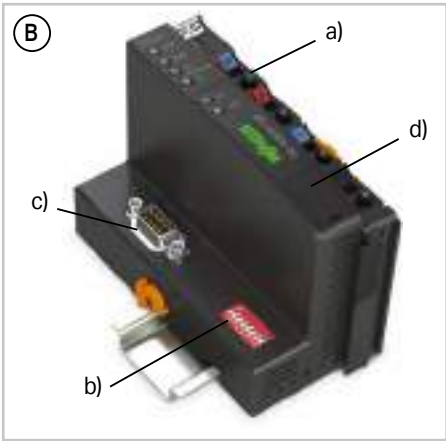
Housing design (A)

- SD card slot for external storage media (e)
- W x H x D (mm) 61.5 x 71.9 x 100

Housing design Eco (B)

- W x H x D (mm) 50.5 x 71.1 x 100

*Height from upper edge of DIN-rail



Item Number Key

Explanation of the components of an item number key

Item No.: 750-8xx/040-00y		
3x: 16-bit	CANopen	
8x: 32-bit multitasking 001:	ETHERNET Telecontrol Technology	

Standards and Rated Conditions for Rail Applications (EN 50155)

Railway Applications (EN 50155)	Class/Standard Compliance
4.1 Rated operating conditions	
4.1.1 Altitude above sea level	AX (EN 50125-1)
4.1.2 Surrounding air temperature	TX
4.1.3 Shock and vibration	1A and 1B (EN 61373)
4.1.4 Relative humidity	95 % (coated PCBs)
5.1 Power supply	
5.1.1.1 Master voltage fluctuations	
Minimum voltage	0.725 x Un
Maximum voltage	1.3 x Un
5.1.1.2 Power interruptions	S1
5.4 Surge, ESD, burst tests	EN 50121-3-2
5.5 EMC (emission of interference, immunity to interference)	EN 50121-3-2, EN 50121-4, -5
Fire behavior: per EN 45545-2 hazard level HL3	
WAGO is certified in accordance with the IRIS quality standard.	

Controllers 750 XTR

Installation Instructions

Power Supply

The internal electronics are powered by the controller. The power supply to the field-side supply is electrically isolated. The division enables a separate supply for sensors and actuators. Snapping the I/O modules together automatically routes the supply voltages. Supply modules with diagnostics enable additional monitoring of the power supply. This ensures a flexible, user-specific supply design for a station.

The current supply to the electronics is limited by a maximum value. This value is dependent on the controller used. If the sum of the internal current demand of all the I/O modules should exceed this value, an additional system supply module is necessary. Even in this case, power supply to the field-side supply of 10 A may not be exceeded. However, different power supply modules allow a new power supply, formation of potential groups and the implementation of emergency stops.

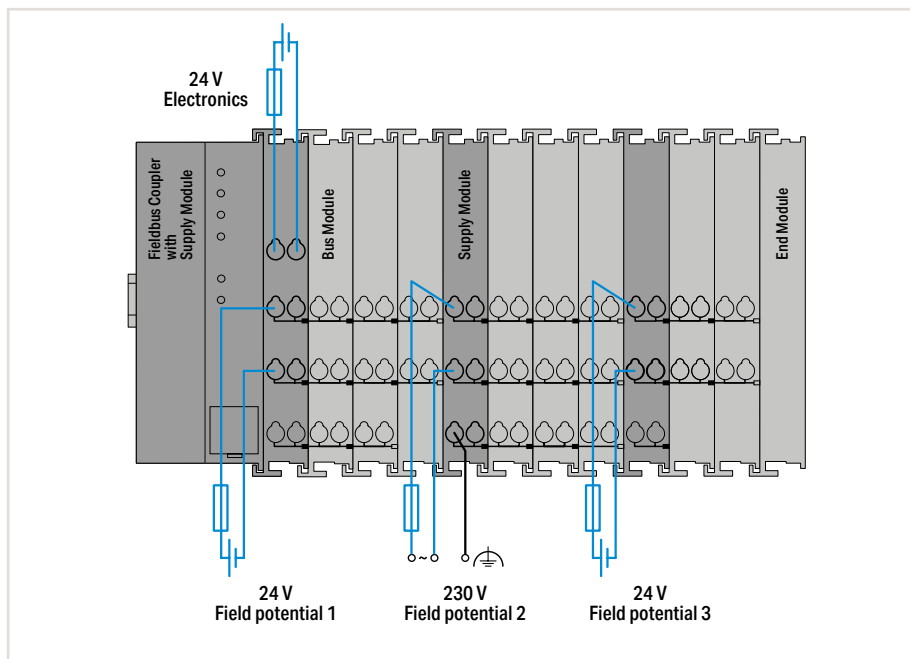
Interference-Free in Safety-Related Applications

To easily and safely perform cost-effective, centralized deactivation of complete actuator groups, the actuator's power supply can be switched off using a safety switching device. This can either be performed for each individual actuator or by turning off the power supply to a group of control outputs. In the event of failure, ensure that no interference from other current or power circuits occurs – even when the control voltage is switched off – so the defined safety function properties (logic and time response) remain unchanged.

All 750 XTR Series Digital Output Modules provide interference-free safety functionality. The modules can be used in safety applications up to category 4 per DIN EN ISO 13849-1:2007. Safety category and performance level depend solely on the safety components and their wiring.

Notice:

WAGO's interference-free I/O modules have no active influence on the safety function, they are not an active part of the safety application and are not a substitute for the safety switching device! When using the components in safety functions, the corresponding notes must be observed in the relevant manual.



Notes

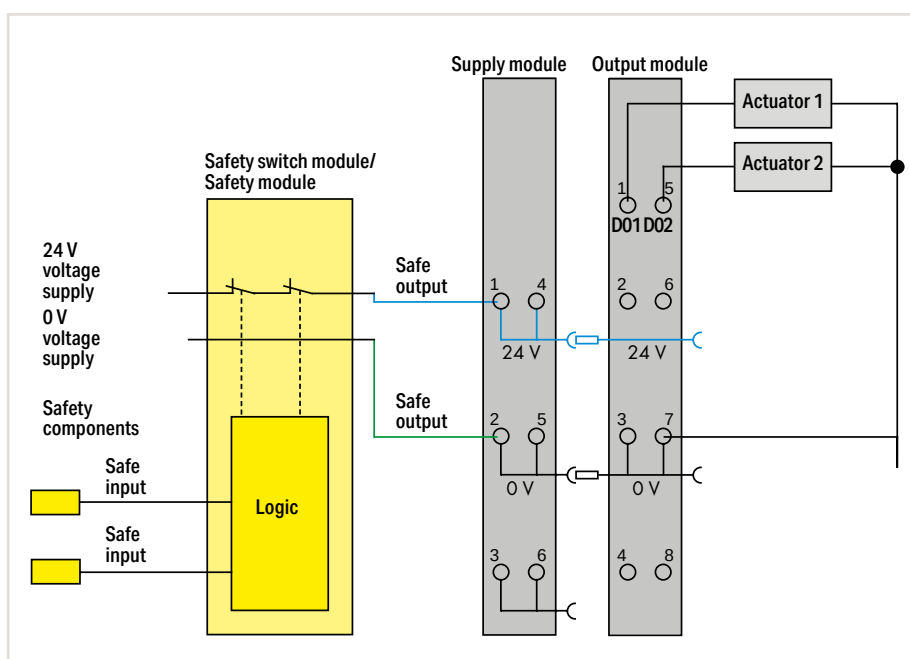
Additional steps must be implemented based on where the I/O system is installed:

Specific power and field-side power supply filters (750-624/040-001 or 750-626/040-000) are required for marine and onshore/offshore applications, as well as in telecontrol and rail technology.

Please refer to the manual for details about the power supply's design.

Mixed Operation

Mixed operation (standard/XTR modules) within a node is possible when groups of I/O modules are electrically isolated on the field side, i.e., electrically isolated power supply. The combination may be useful, for example, when there are only increased requirements for dielectric strength and immunity to interference, but the surrounding air temperature is not critical.



Controllers 750 XTR

Standards and Rated Conditions

General Specifications	
Supply voltage (system)	24 VDC (-25 ... +30 %); via wiring level (CAGE CLAMP® connection); Specified values for surrounding air temperature: +15 ... +35 °C For -40 ... +55 °C: 24 V (-25 ... +20 %); For +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple)
Surrounding air temperature (operation)	-40 ... +70 °C
Surrounding air temperature (storage)	-40 ... +85 °C
Relative humidity	Max. 95 %; Short-term condensation per Class 3K7 / IEC EN 60721-3-3 and E DIN 40046-721-3 (except wind-driven precipitation, water and ice formation)
Operating altitude	Without temperature derating: 0 ... 2000 m; With temperature derating: 2000 ... 5000 m (0.5 K/100 m); max.: 5000 m
Pollution degree	2 per IEC 61131-2
Immunity to impulse voltages	Per EN 60870-2-1 510 VAC/775 VDC Isolation: rated surge voltage (EN 60079-11) 1 kV (Class VW1 per EN 60870-2-1) Surge: 1 kV (L - L) / 2 kV (L - E)
Vibration resistance	Per IEC 60068-2-6 (acceleration: 5g); EN 60870-2-2; IEC 60721-3-1, -3; EN 50155; EN 61373
Shock resistance	Per IEC 60068-2-27 (15g/11 ms/half-sine/1,000 shocks; 25g/6 ms/1,000 shocks); EN 50155; EN 61373
EMC immunity to interference	Per EN 61000-6-1, -2; EN 61131-2; Marine applications; EN 50121-3-2; EN 50121-4, -5; EN 60255-26; EN 60870-2-1; EN 61850-3; IEC 61000-6-5; IEEE 1613; VDEW: 1994
EMC emission of interference	Per EN 61000-6-3, -4; EN 61131-2; EN 60255-26; Marine applications; EN 60870-2-1 (industrial and residential areas); EN 61850-3 (industrial and residential areas); EN 50121-3-2; EN 50121-4, -5
Protection type	IP20
Mounting position	Horizontal (standing/lying) or vertical
Mounting type	DIN-35 rail mounting
Housing material	Polycarbonate; polyamid 6.6
Exposure to pollutants	Per IEC 60068-2-42 and IEC 60068-2-43
Permissible SO ₂ contaminant concentration at a relative humidity < 75 %	25 ppm
Permissible H ₂ S contaminant concentration at a relative humidity < 75 %	10 ppm
Connection technology	CAGE CLAMP®
Conductor cross sections; Strip length	0.25 ... 2.5 mm ² /AWG 24 ... 14; 8 ... 9 mm / 0.31 ... 0.35 inch
Current carrying capacity (power jumper contacts)	10 A

4.4

Approvals

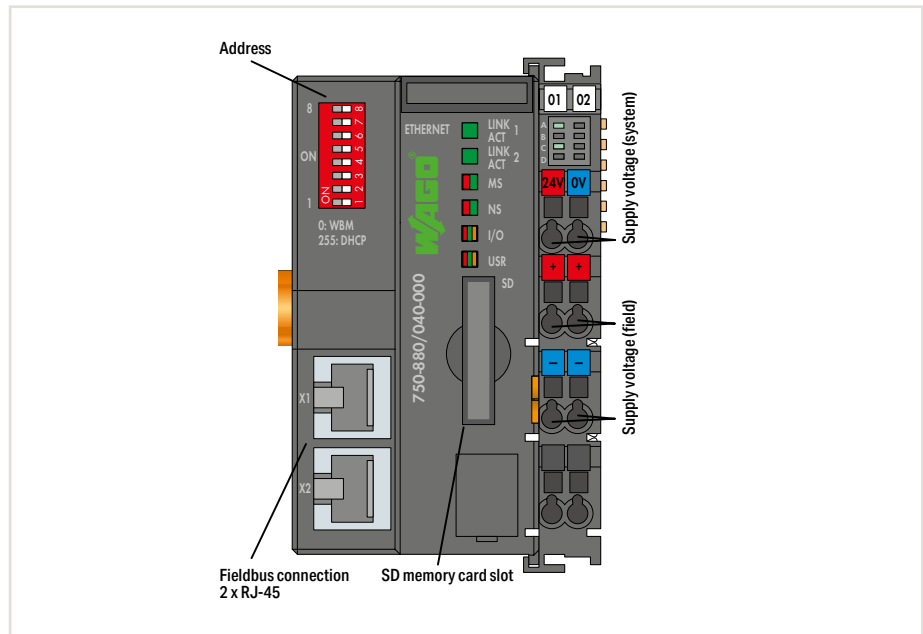
Overview of the approvals in the article comparison in Section 11, Technical Appendix, or online at www.wago.com



Controller ETHERNET



Figure: 750-880/040-000



Item description		Controller ETHERNET; 3rd generation; SD card slot	
Version		Extreme	Telecontrol technology; extreme
Item No.		750-880/040-000	750-880/040-001
Order text		Controller ETHERNET; G3; SD; XTR	Controller ETHERNET; G3; SD; Tele; XTR
Technical Data			
Communication		EtherNet/IP; Modbus (TCP, UDP)	EtherNet/IP; Modbus (TCP, UDP); Telecontrol protocols
ETHERNET protocols		HTTP; BootP; DHCP; DNS; SNTP; FTP; SNMP	
Telecontrol protocols		IEC 60870-5-101/-103/-104; IEC 61850-7; IEC 61400-25; DNP3	
Connection technology: Fieldbus input/output		2 x RJ-45	
Baud rate		10/100 Mbit/s	
Visualization		Web-Visu	
Programming		WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)	
Type of memory card		SD and SDHC to 32 GB*	
Program memory/data memory/non-volatile memory (software)		1024 KB / 1024 KB / 32 KB	
Number of modules per node (max.)		64	
Input and output process image (internal) max.		1020 words	
Supply voltage (system)		24 VDC (–25 ... +30 %); via wiring level (CAGE CLAMP® connection); Specified values for surrounding air temperature: +15 ... +35 °C; For –40 ... +55 °C: 24 V (–25 ... +20 %); For +55 ... +70 °C: 24 V (–25 ... +10 %); Lower limit in all temperature ranges: –27.5 % (including 15 % residual ripple)	
Supply voltage (field)		24 VDC; via power jumper contacts	
Input current (typ.) at nominal load (24 V)		500 mA	
Current consumption – system supply (5 V)		450 mA	
Total current (system supply)		1700 mA (surrounding air (operating) temperature < 60 °C), 1500 mA (surrounding air (operating) temperature: 60 ... 70 °C)	
Surrounding air temperature (operation)		–40 ... +70 °C	
Dimensions W x H x D		61.5 x 71.9 x 100 mm	
Approvals		CE; Marine; OrdLoc/HazLoc; ATEX/IECEX	
Data sheet and further information, see:		wago.com/750-880/040-000	wago.com/750-880/040-001
Accessories		Item No.	Page
SD memory card; 2 GB		758-879/000-001	470

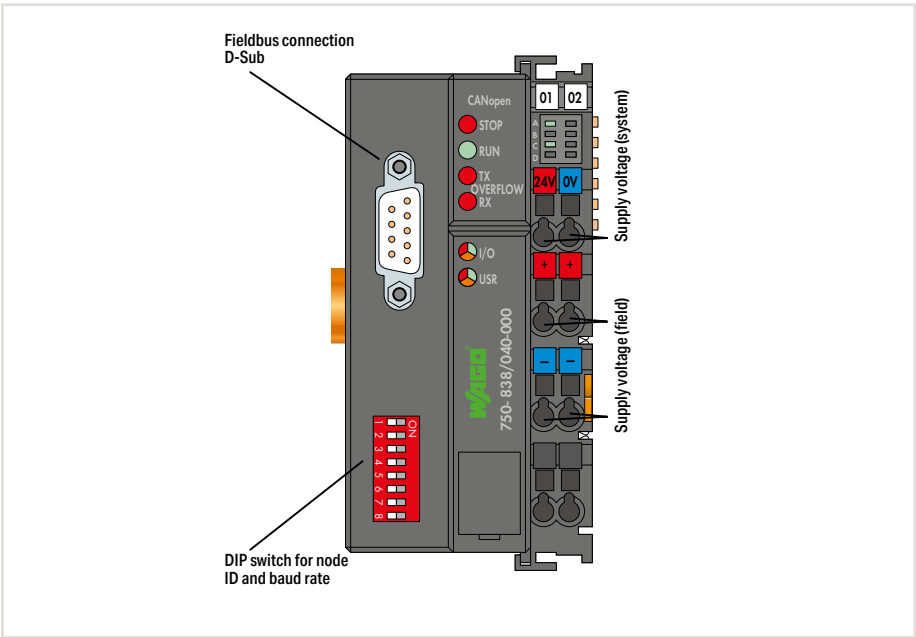
*All guaranteed specifications are only valid with the WAGO memory card listed as an accessory.

„ WAGO-I/O-PRO V2.3 Software,
see Section 2, page 32

„ Mini-WSB marker card and mounting accessories,
see Section “Accessories and Tools”

„ Approvals and corresponding ratings,
see page 516 or www.wago.com

Controller CANopen



Item description	Controller CANopen; 640/832 KB Program/RAM; D-Sub
Version	Extreme
Item No.	750-838/040-000
Order text	Controller CANopen; M3; DSub; XTR
Technical Data	
Communication	CANopen
Connection technology: Fieldbus input/output	D-Sub 9 connector
Bus segment length (max.)	1000 m
Baud rate	10 Kbd ... 1 MBd
Number of fieldbus nodes on master (max.)	110
Visualization	Without
Programming	WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)
Program memory/data memory/non-volatile memory (software)	640 KB / 832 KB / 8 KB
Number of modules per node (max.)	64
Input and output process image (internal) max.	512 bytes
Memory for fieldbus input and output variables (max.)	512 bytes
Communication profile	DS-301 V4.01
Device profile	DS-401 V2.0
Number of PDOs	32 Tx / 32 Rx
Number of SDOs	2 servers SDO / 16 clients SDO
Supply voltage (system)	24 VDC (–25 ... +30 %); via wiring level (CAGE CLAMP® connection); Specified values for surrounding air temperature: +15 ... +35 °C; For –40 ... +55 °C: 24 V (–25 ... +20 %); For +55 ... +70 °C: 24 V (–25 ... +10 %); Lower limit in all temperature ranges: –27.5 % (including 15 % residual ripple)
Supply voltage (field)	24 VDC; via power jumper contacts
Input current (typ.) at nominal load (24 V)	500 mA
Current consumption – system supply (5 V)	350 mA
Total current (system supply)	1650 mA (surrounding air (operating) temperature < 60 °C), 1250 mA (surrounding air (operating) temperature: 60 ... 70 °C)
Surrounding air temperature (operation)	–40 ... +70 °C
Dimensions W x H x D	50.5 x 71.1 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
Data sheet and further information, see:	wago.com/750-838/040-000



Starter Kits

Controllers PFC100/PFC200

- Maximum performance in a minimum space
- Also programmable in high-level languages based on Linux®
- Security packages with SSH and SSL/TLS
- Runtime system for CODESYS V2 (only PFC200) and V3

◀ ◀ ◀ Section 4.1

Controllers 750

- Controllers for all prominent fieldbus systems
- Programmable to IEC 61131-3
- Combinable with the modules of the WAGO-I/O-SYSTEM 750

◀ ◀ Section 4.3

I/O System – 750 and 753 Series

- Highly versatile
- More than 500 modules available
- Functional safety
- Ex i

Section 5 ▶

Starter Kits

To get you up and running quickly, we offer starter kits to suit the most diverse applications:

- With Controller PFC100
- With Controller PFC200
- With Controller 750 ETHERNET
- With Controller 750 KNX IP or BACnet/IP

WAGO Starter Kits

Contents

					Page	
	Modbus (TCP, UDP)	EtherNet/IP	BACnet/IP	KNX IP	Description	Item No.
	M/S	S			Starter Kit; e!COCKPIT with Controller PFC100; 2 x ETHERNET; Eco	8003-099/750-8100
	M/S	S			Starter Kit; Linux® with Controller PFC200; 2nd generation; 2 x ETHERNET, RS-232/-485	807-099/750-8212
	M/S	S			Starter Kit; ETHERNET 880 with Controller ETHERNET; 3rd generation; SD card slot	8003-001/K999-9999/000-1700
					Starter Kit; ETHERNET 881 with Controller ETHERNET; 3rd generation	8003-001/K999-9999/000-1600
	M/S		x		Starter Kit; BACnet/IP with Controller BACnet/IP; Eco	8003-099/750-831
	M/S			x	Starter Kit; KNX IP with Controller KNX IP	8003-001/K999-9999/000-901

M: Master, S: Slave

Starter Kit; e!COCKPIT
with Controller PFC100; 2 x ETHERNET; Eco



The PFC100 Controller can be seamlessly integrated into WAGO's e!COCKPIT Engineering Software, which can be used for hardware configuration, programming, simulation and visualization of complex control tasks.

Tightly integrated automation software and controller hardware provide the ideal platform for advanced and intuitive CODESYS V3-based engineering.

4.5

Item Description	Item No.
Starter Kit; e!COCKPIT	8003-099/750-8100
The e!COCKPIT Starter Kit includes:	
Controller PFC100; 2 x ETHERNET; Eco	750-8100
Supply Module; 24 VDC	750-602
2-Channel Digital Input; 24 VDC; 3 ms	750-400
2-Channel Digital Output; 24 VDC; 0.5 A	750-501
End Module	750-600
Power Supply "Classic"; 24 VDC output voltage; 1 A	787-1602
Switching Module; 2-way DI simulator	288-863
Development Environment e!COCKPIT; Licence for 1 PC	2759-0101/1111-5000
USB Communication Cable; 2.5 m	750-923
microSD Memory Card; 2 Gbytes	758-879/000-3102
Operating Tool; Type 1; (3.5 x 0.5) mm blade	210-720
Operating Tool; Type 1; (2.5 x 0.4) mm blade	210-719
Patch Cable; 1.0 m	

Starter Kit; Linux® with Controller PFC200



With the PFC200 Controller as its central component, the Linux® Starter Kit provides an entry to the world of open programming. In addition to its scalability through the open-source community, the primary advantage of having a controller with an open-source operating system is that it is continually being developed further and maintained.

Besides the PFC200, other components of the starter kit include input and output modules, a power supply, a switching module and the accessories needed to start programming immediately with Linux®.

Additional information on Linux® is available at:
wago.com/linux

4.5

Item Description	Item No.
Starter Kit; Linux®	807-099/750-8212
The Linux® advanced Starter Kit includes:	
Controller PFC200; 2nd generation; 2 x ETHERNET, RS-232/-485	750-8212
2-Channel Digital Input; 24 VDC; 3 ms	750-400
2-Channel Digital Output; 24 VDC; 0.5 A	750-501
End Module	750-600
Power Supply "Classic"; 24 VDC output voltage; 1 A	787-1602
Switching Module; 2-way DI simulator	288-863
Operating Tool; Type 1; (3.5 x 0.5) mm blade	210-720
Operating Tool; Type 1; (2.5 x 0.4) mm blade	210-719
Patch Cable; 1.0 m	

Starter Kit; ETHERNET 880
with Controller ETHERNET; 3rd Generation; SD card slot

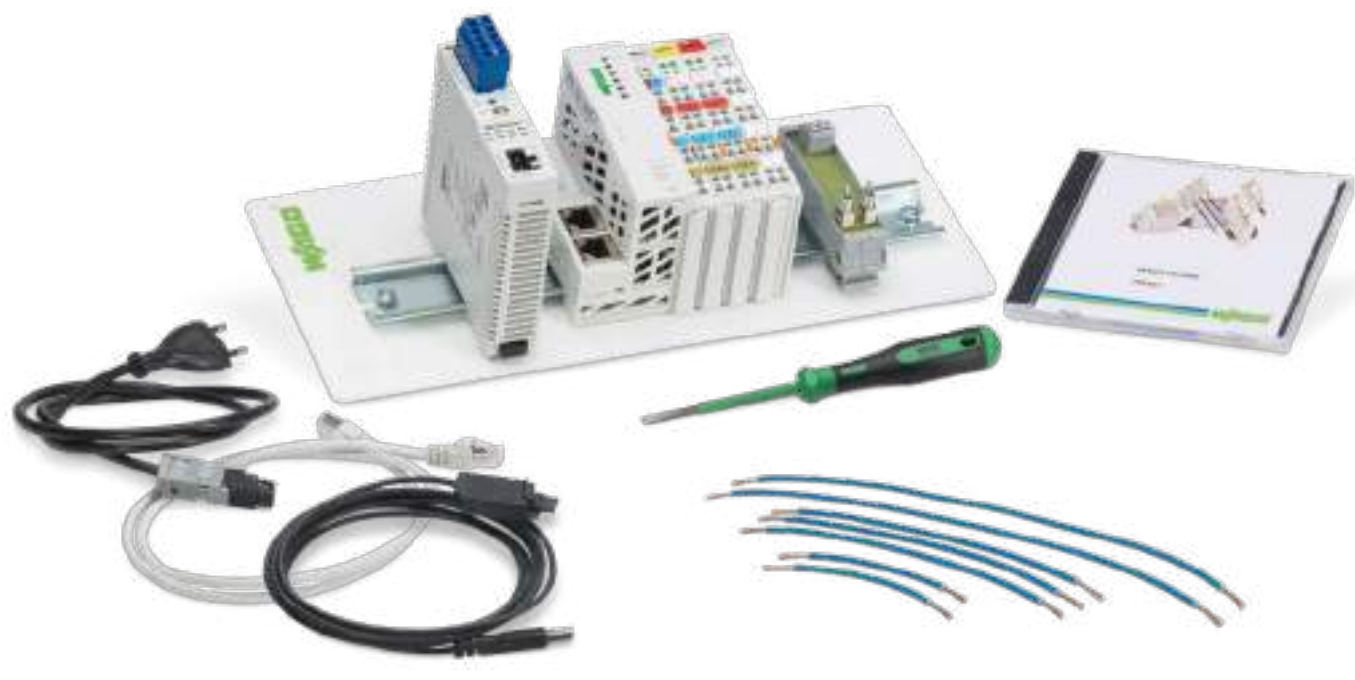


This ETHERNET Starter Kit includes: 750-880 Controller, 2-channel input module and 2-channel output module. A power supply and the required programming software are also included in the scope of delivery. An application program designed for the starter kit and written in IEC 61131 demonstrates both hardware and software possibilities.

4.5

Item Description	Item No.
Starter Kit; ETHERNET 880	8003-001/K999-9999/000-1700
The ETHERNET Starter Kit includes:	
Controller ETHERNET; 3rd generation; SD card slot	750-880
2-Channel Digital Input; 24 VDC; 3 ms	750-400
2-Channel Digital Output; 24 VDC; 0.5 A	750-501
End Module	750-600
Power Supply "Classic"; 24 VDC output voltage; 1 A	787-1602
Switching Module; 2-way DI simulator	288-863
Development Environment, incl. USB Communication Cable; WAGO-I/O-PRO; USB Kit	759-333/000-923
SD Memory Card; 1 GB	758-879/000-001
Patch Cable; 1 m	110-8006
Operating Tool; Type 1; (3.5 x 0.5) mm blade	210-720

Starter Kit; ETHERNET 881
with Controller ETHERNET; 3rd Generation



This ETHERNET Starter Kit includes: 750-881 Controller, 2-channel input module and 2-channel output module. A power supply and the required programming software are also included in the scope of delivery. An application program designed for the starter kit and written in IEC 61131 demonstrates both hardware and software possibilities.

Item Description	Item No.
Starter Kit; ETHERNET 881	8003-001/K999-9999/000-1600
The ETHERNET Starter Kit includes:	
Controller ETHERNET; 3rd generation	750-881
2-Channel Digital Input; 24 VDC; 3 ms	750-400
2-Channel Digital Output; 24 VDC; 0.5 A	750-501
End Module	750-600
Power Supply "Classic"; 24 VDC output voltage; 1 A	787-1602
Switching Module; 2-way DI simulator	288-863
Development Environment, incl. USB Communication Cable; WAGO-I/O-PRO; USB Kit	759-333/000-923
SD Memory Card; 1 GB	758-879/000-001
Patch Cable; 1 m	110-8006
Operating Tool; Type 1; (3.5 x 0.5) mm blade	210-720

Starter Kit; BACnet/IP
with Controller BACnet/IP; Eco



The BACnet/IP Starter Kit is perfect for anyone seeking flexibility. Whether for rooms, lighting control systems or HVAC systems, the high-performance BACnet/IP Eco Controller is always the right choice for building automation applications.

Advantages of the BACnet/IP Eco Controller:

- This controller supports the device profile of a BACnet Building Controller (B-BC) with all major BACnet objects and interoperability building blocks (BIBBs).
- With 256 BACnet objects, the BACnet/IP Eco Controller is an economical alternative for building automation applications requiring a small number of BACnet objects.
- This permits smaller building automation control tasks to be implemented much more cost-effectively.

4.5

Item Description	Item No.
Starter Kit; BACnet/IP	8003-099/750-831
The BACnet/IP Starter Kit includes:	
Controller BACnet/IP; Eco	750-831/000-002
2-Channel Digital Input; 24 VDC; 3 ms	750-400
2-Channel Digital Output; 24 VDC; 0.5 A	750-501
End Module	750-600
Power Supply "Classic"; 24 VDC output voltage; 1 A	787-1602
Switching Module; 2-way DI simulator	288-863
Development Environment, incl. USB Communication Cable; WAGO-I/O-PRO; USB Kit	759-333/000-923
Operating Tool; Type 1; (3.5 x 0.5) mm blade	210-720
Patch Cable; 1.0 m	

Starter Kit; KNX IP
with Controller KNX IP



The WAGO Starter Kit KNX IP is available for those new to KNX IP. This starter kit is particularly well-suited to users seeking to:

- Expand existing KNX/EIB networks with the KNX/EIB/TP1 interface to include the functionality of the modular WAGO-I/O-SYSTEM and program applications themselves (IEC 61131-3)
- Have remote access to their KNX/EIB/TP1 network with the router
- Exploit the advantages of an ETHERNET network with KNX/EIB projects via the IP controller

Item Description	Item No.
Starter Kit; KNX IP	8003-001/K999-9999/000-901
The KNX IP Starter Kit includes:	
Controller KNX IP	750-889
4-Channel Digital Input; 24 VDC; 3 ms	750-402
4-Channel Digital Output; 24 VDC; 0.5 A	750-504
End Module	750-600
KNX/EIB/TP1 Interface	753-646
Switched-Mode Power Supply; 24 VDC output voltage; 1.3 A	787-602
Development Environment, incl. USB Communication Cable; WAGO-I/O-PRO; USB Kit	759-333/000-923
Patch Cable; Cross-Over	



I/O System – 750 and 753 Series

I/O System – 750 and 753 Series

- Highly versatile
- More than 500 modules available
- Functional Safety
- Ex i

I/O System – 750 XTR Series

- For demanding applications in which the following are critical:
- Extreme temperature stability
 - Immunity to electromagnetic interference and impulse voltages
 - Vibration and shock resistance

I/O System – 750 and 753 Series

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I/O System – 750 and 753 Series – One System for Every Application

General Product Information

One System for Every Application

The WAGO-I/O-SYSTEM 750/753 is characterized by its universal application scope and extensive product portfolio. With more than 500 different modules, the versatility and flexibility is so great that virtually every requirement in a wide range of industries is covered.

Industrial Automation

The comprehensive selection of I/O modules for different potentials and signal types saves time and money because the sensors/actuators can be wired directly – even in safety-related applications.

Building Automation

The broad portfolio enables flexible, cellar-to-ceiling solutions with conventional I/O modules, standardized industry-specific fieldbus protocols and subsystems for typical applications in lighting, shading, heating, HVAC and much more.

Marine and Onshore/Offshore Automation

International approvals coupled with industry-specific features permit use in shipbuilding and other harsh sectors. Addressing requirements inherent in specific industries and operating environments has enabled use on marine diesels and in the EMC-sensitive area of a vessel's bridge. Because the requirements are significantly greater for immunity to interference or emission of interference, along with superior mechanical performance in these sensitive areas, the WAGO-I/O-SYSTEM can readily meet the needs of other industries.

Process Automation

Even under the harshest environmental conditions, use is possible with special approvals. Potential hazardous area applications include oil and gas production, the chemical industry and power generation. The WAGO-I/O-SYSTEM can be installed in Zone 2/22 with its intrinsically safe I/O modules, making it possible to connect sensors/actuators in Zones 1/21 and 0/20.

Maximum Fieldbus Independence

The system's modularity is also reflected in its support for numerous fieldbus systems and ETHERNET standards. Depending on the application, it is possible to choose between fieldbus couplers and communication modules for different protocols.

Easy to Use

A modular, DIN-rail-mount design permits easy installation, expansion and modification of the I/O node without tools. The streamlined design prevents installation errors. In addition, proven CAGE CLAMP® technology offers fast, vibration-proof and maintenance-free connections that are independent of operator skill. Depending on the I/O module's granularity, field peripherals can be directly wired using 1-, 2-, 3- or 4-wire technology.

Worldwide Approvals

International approvals for building and industrial automation, as well as the process and marine industries, guarantee worldwide use – even under more rigorous operating conditions including ATEX, BR-Ex, IECEx, UL508, UL ANSI/ISA, AEx and numerous marine certifications.



Extremely Compact

WAGO's patented mechanical design leads to extremely compact I/O nodes. In fact, it can accommodate up to 16 channels in a module width of 12 mm (1/2").

- Finely granular I/O modules provide node customization.
- Space-saving design permits high integration density and direct connection.

Maximum Reliability and Ruggedness

The WAGO-I/O-SYSTEM is engineered and tested for use in the most demanding environments in accordance with the highest standards, e.g., those required in marine applications. The system is distinguished from other products that are solely intended for industrial use because of:

- Greatly increased vibration rating
- Significantly greater immunity to interference (ESD)
- Lower emission of interference
- Larger voltage fluctuation range
- Greater durability for continuous operation in upper temperature ranges

In addition, CAGE CLAMP® spring pressure connections ensure superior reliability. Integrated QA measures in the production process and 100% function testing ensure consistent quality.

Clear Identification

Module functionality is identified via integrated or pluggable marker carriers. Terminal assignment and technical data are printed onto the side of the I/O module. WAGO's WSB Marking System also allows for module- and channel-related identification.

Advantages:

- Fieldbus-independent – support all standard fieldbus protocols and ETHERNET standards
- Flexible platform adapts to diverse applications and environments
- Tested and approved worldwide
- Extensive range of accessories for marking systems and connection technologies
- Vibration-proof, fast and maintenance-free CAGE CLAMP® connections

I/O System – 750 and 753 Series

Variants

Pluggable Connector



The pluggable connections of the WAGO-I/O-SYSTEM 753 allow quick and safe replacement. Optional coding pins prevent inserting the pluggable connector in the wrong I/O module. Replacing and connecting the I/O module requires no further action and eliminates possible errors – essentially serving as permanent wiring. Alternatively, field wiring is possible via interface modules that can be connected to the I/O system using a ribbon cable (see “Types”).

Functional Safety



In the European Union, the machinery directive defines the requirements for machine and system safety. This ensures a uniform standard for the protection of “life and limb” for people within a machine’s operating area.

The required risk assessment is based on harmonized standards (e.g., EN 13849) that identify existing risks and required risk reduction (SIL or PL quality). Based on the risk assessment, safety functionality can be implemented, e.g., by presence detection or protection zone violations using secure switches or light arrays to immediately shut down the “risk.” For this purpose, the safety signals are detected by the “yellow” safety modules and transmitted via “PROFIsafe” to the fail-safe PLC for further processing. The result is then executed via safe actuator (e.g., output module or controller).

The uniquely characteristic safety values of the WAGO modules facilitate calculation of the final safety function up to Cat. 4/PLe according to EN 13849, or SIL3 according to EN 62061 or IEC 61511.

The mixed operation of safe and conventional I/O modules streamlines system configuration. For increased electromagnetic immunity (EMC standard), WAGO offers compact power supply filter modules. Specific power supply features must be considered, which are described in detail in the corresponding manuals.

Use in Hazardous Areas



In many plants across the chemical and petrochemical industries, as well as in the production and process automation sectors, installations are operated that process explosive gas- or dust-air mixtures. This is why electrical equipment must be explosion-proof in order to avoid injuries to personnel and damage to facilities.

The modules within the WAGO-I/O-SYSTEM 750 are designed for use in both non-hazardous and hazardous areas.

The direct application of fieldbus technology in hazardous areas is typically resource-intensive. When used in hazardous areas of Zone 2/22, the WAGO-I/O-SYSTEM 750 offers a safe, easy and economical connection to the sensors and actuators of Zones 0/20 and 1/21. The “blue” Ex i I/O modules were specially developed for this purpose. They form an intrinsically safe section that can be integrated into a standard fieldbus node, offering all the advantages of state-of-the-art fieldbus technology. The WAGO-I/O-SYSTEM 750 is also approved for mining applications.

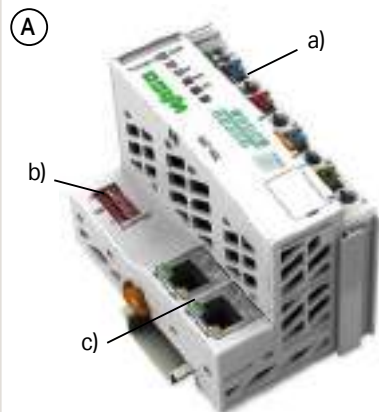
Extended Temperature Range



Industrial automation technology is typically operated in temperatures ranging from 0 °C to 55 °C. However, there are applications that require an extended temperature range. For these applications, WAGO offers a line of WAGO-I/O-SYSTEM 750 products for temperatures ranging from –20°C to +60°C. For extreme applications, where even this extended temperature range is not sufficient, the WAGO-I/O-SYSTEM 750 XTR is available.

I/O System – 750 and 753 Series

Interfaces and Types

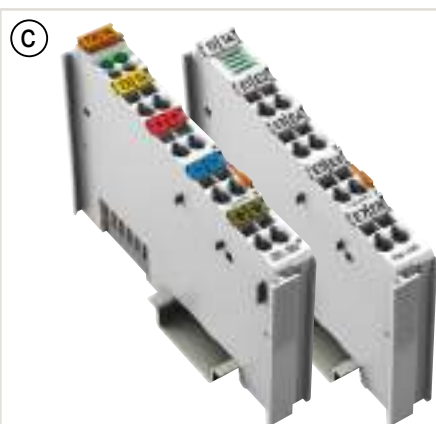
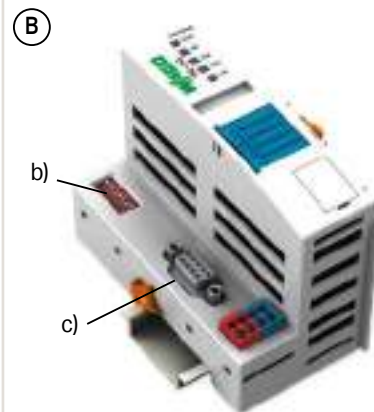


Housing design: fieldbus coupler (A)

- Including supply module (a) to power downstream I/O modules
- Technical differences on the connection level; optional addressing switch (b) and fieldbus interface (c)
- W x H x D (mm) 50.5 x 71.1 x 100 or
- W x H x D (mm) 61.5 x 71.9 x 100

Housing design: fieldbus coupler ECO (B)

- Restriction on power supply and data width
- W x H x D (mm) 49.5 x 71.9 x 96.8

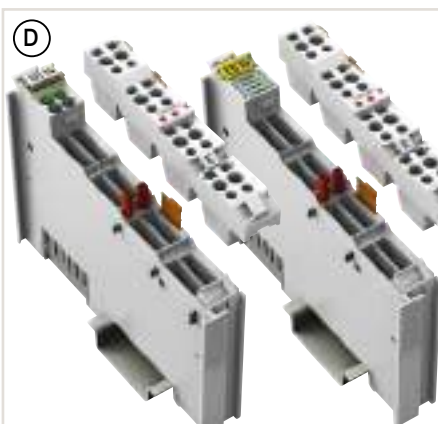


Housing design: 750 (C)

- 8 connection points (CAGE CLAMP®)
- W x H x D (mm) 12 x 69.8 x 100 (4 LEDs)
- W x H x D (mm) 12 x 67.8 x 100 (8 LEDs)

Housing design: 753 (D)

- Pluggable Connector
- 8 connection points (CAGE CLAMP®)
- W x H x D (mm) 12 x 69.8 x 100 (4 LEDs)
- W x H x D (mm) 12 x 69 x 100 (8 LEDs)
- Pluggable connectors and coding fingers are not included.



Housing design: 750 (E)

- 16 connection points (Push-in CAGE CLAMP®)
- W x H x D (mm) 12 x 69 x 100

Housing design (F)

- For time-saving wiring between I/O system and interface modules
- Ribbon cable connection to interface modules (289 and 704 Series) and interface adapter
- W x H x D (mm) 12 x 74.1 x 100

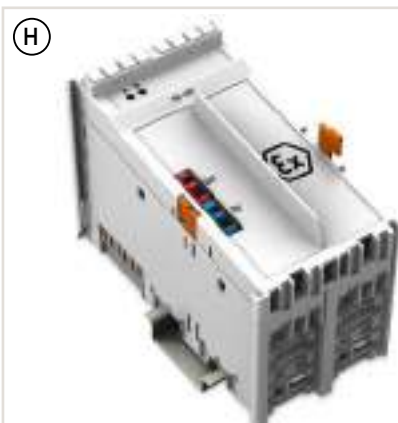


Housing design: double width (G)

- Some modules are integrated into a double housing to address specific technological needs. Despite utilizing the same standardized housing, these modules are twice as wide.
- W x H x D (mm) 24 x 69.8 x 100

Special housing design (H)

- Some modules are integrated into a specialized housing with a specific width and pluggable connectors. The dimensions are specified on the respective catalog page.



I/O System – 750 and 753 Series

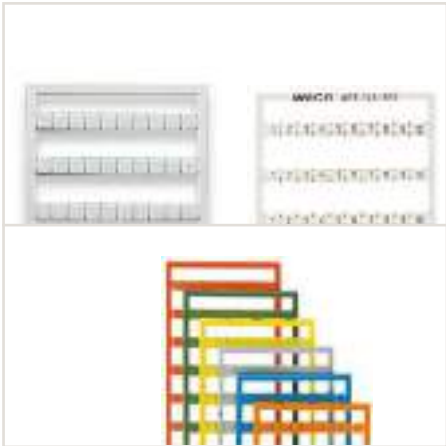
Marking and Mounting Accessories



Transparent group marker carriers indicate module type by color.



Removable group marker carriers are available for all 750 and 753 Series I/O Modules with a maximum of four LEDs, as well as all fieldbus couplers with a supply module.



Mini-WSB Quick Marking System, blank, pre-marked and colored; suitable for all 750 and 753 Series I/O Modules.



Marker carrier for one single I/O module (suitable for all 750 and 753 Series I/O Modules); the marker carrier can be accommodated in the upper Mini-WSB marker slot.



Marker carrier for one I/O node; both carrier models (750-106 and 750-107) permit continuous marking regardless of the I/O module housing used.



Interface modules for system wiring



Interface cables

I/O System – 750 and 753 Series

Application and Installation Instructions

Power Supply

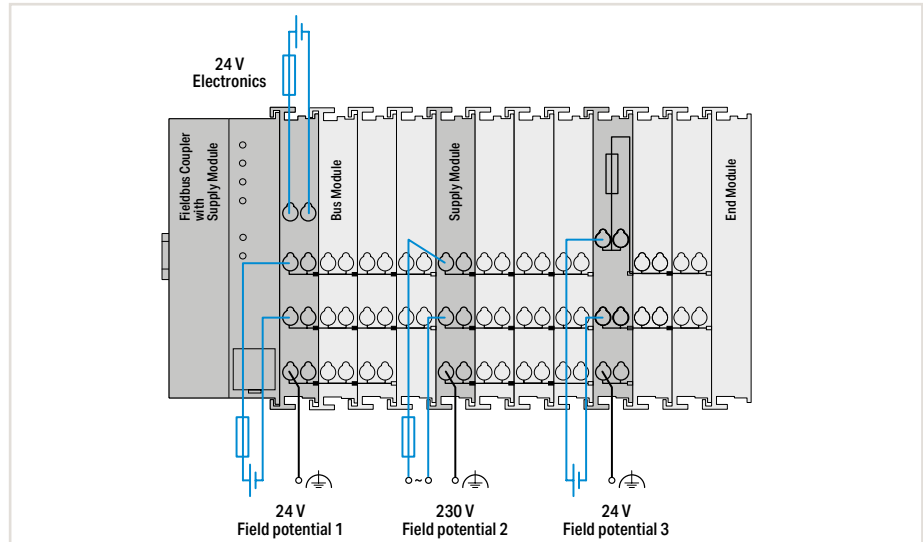
The internal electronics are powered by the fieldbus coupler. The field-side power supply is electrically isolated via the supply module on the coupler or a separate power supply module. This division enables a separate supply for sensors and actuators. Snapping the I/O modules together automatically routes the supply voltages (system power supply 5 VDC via the data contacts and field supply via the optional power jumper contacts). Supply modules with diagnostics also enable power supply monitoring. This ensures a flexible, user-specific supply design for a station.

Power supply to the electronics is limited by a maximum value. This value depends on the fieldbus coupler used. If the sum of the internal current demand of all the I/O modules should exceed this value, an additional system supply module is necessary. Even in this case, power supply to the field-side supply of 10 A may not be exceeded. However, different power supply modules allow a new power supply, formation of potential groups and the implementation of emergency stop concepts.

Interference-Free in Safety-Related Applications

To easily and safely perform cost-effective, centralized deactivation of complete actuator groups, the actuator's power supply can be switched off using a safety switching device. This can either be performed for each individual actuator or by turning off the power supply to a group of control outputs. In the event of failure, ensure that no interference from other current or power circuits occurs – even when the control voltage is switched off – so the defined safety function properties (logic and time response) remain unchanged.

Some modules are designed to provide interference-free safety functionality. These modules comply with safety requirements up to Category 4 of DIN EN ISO 13849-1:2007. Safety category and performance level depend solely on the safety components and their wiring.



Notice:

WAGO's interference-free I/O modules are not a component of the safety function and do not replace the safety switching device! When using the components in safety functions, the corresponding notes must be observed in the relevant manual.

Notes:

Additional steps must be implemented based on where the I/O system is installed:

Specific field-side power supply filters (750-624) or power supply filters (750-626) are required for marine and onshore/offshore applications.

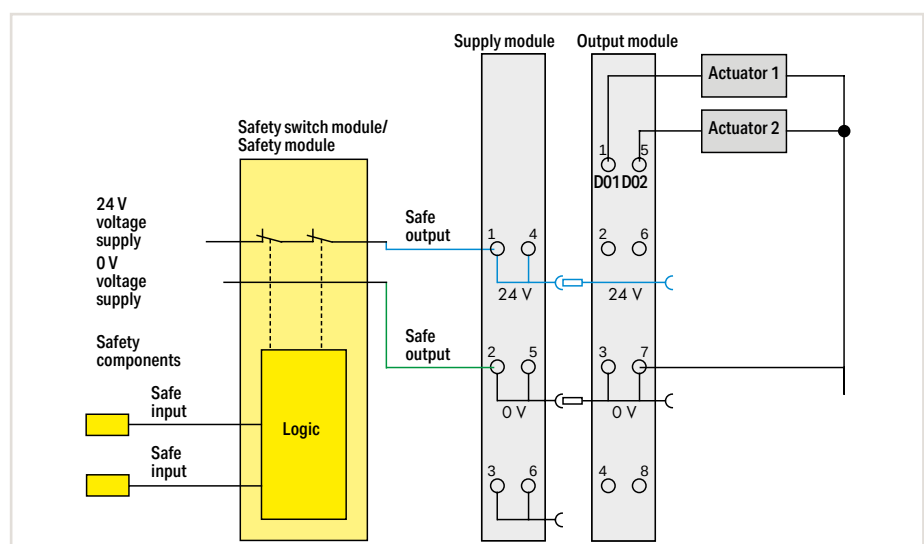
A specific supply module (750-606) is required to operate intrinsically safe Ex i modules.

Additionally, both supply modules and field-side power supply filters are recommended

when operating intrinsically safe Ex i modules for marine and onshore/offshore applications.

For the 24 VDC power supply of electronics and field, PELV/SELV power supply units are recommended. As part of safety-related applications, they are mandatory. The mixed operation of safe and conventional I/O modules streamlines system configuration. For increased electromagnetic immunity (EMC standard), WAGO offers compact power supply filter modules.

Please refer to the manual for details about the power supply's design.



Example: 2-channel, double-pole power supply disconnection

I/O System – 750 and 753 Series

Application and Installation Instructions



Securing/removing a module from the mounting rail.



Releasing a pluggable connector.



Optional protection against mismatching of pluggable connectors via coding elements



Service interface for configuring the fieldbus coupler; connectivity via configuration cable or radio adapter

Notice:

For some I/O modules, not all power jumper contacts are made! A module with three power jumper contacts (e.g., 2-channel digital input) cannot be snapped into place behind a module in which not every contact is made.

To increase electromagnetic compatibility (EMC), some components are connected to the DIN-rail by a discharge contact. The DIN-rail must always have a low-resistance connection to the ground potential.



Wide range of accessories available for EMC-compliant installation, including shield connection



Secure, automatic power supply connection via self-cleaning blade contacts



Secure, automatic data and electronics power supply connection via gold-plated pressure contacts

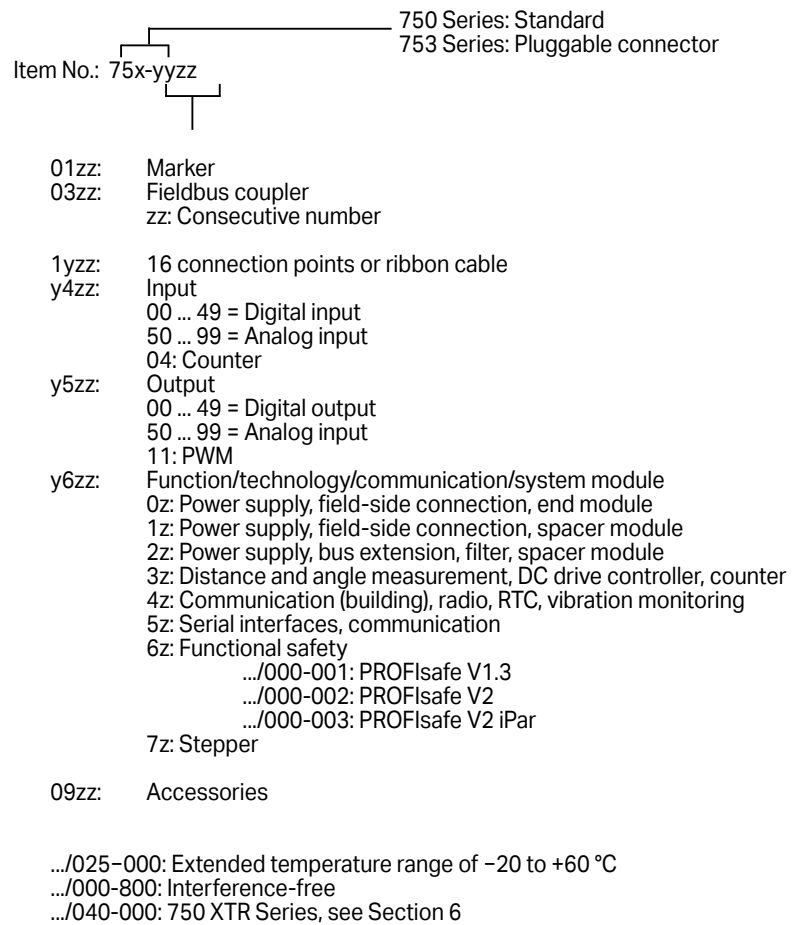


Securing a cable to the connector.

I/O System – 750 and 753 Series

Item Number Key

Explanation of item number key's components



I/O System – 750 and 753 Series

Standards and Rated Conditions

General Specifications	
Supply voltage (system)	24 VDC (–25 % ... +30 %)*; *for all marine-certified fieldbus couplers and I/O modules
Isolation	500 V (system/supply)
Surrounding air temperature (operation)	0 ... +55 °C
Surrounding air temperature (operation) for versions with an extended temperature range	–20 ... +60 °C
Surrounding air temperature (storage)	–40 ... +85 °C
Relative humidity	95 % (non-condensing)
Relative humidity for versions with an extended temperature range	Max. 95 %; short-term condensation per Class 3K6 / IEC EN 60721-3-3 and E DIN 40046-721-3, taking a temperature range of –20 to +60 °C into consideration (except wind-driven precipitation, water and ice formation)
Operating altitude	0 ... 2000 m
Pollution degree	2 per IEC 61131-2
Vibration resistance	0.5g (4g for all marine-certified fieldbus couplers and I/O modules) per IEC 60068-2-6
Shock resistance	15g per IEC 60068-2-27
EMC immunity to interference	Per EN 61000-6-2
EMC emission of interference	Per EN 61000-6-3; EN 61000-6-4
Protection type	IP20
Mounting type	DIN-35 rail mounting
Housing material	Polycarbonate; polyamid 6.6
Exposure to pollutants	Per IEC 60068-2-42 and IEC 60068-2-43
Permissible SO ₂ contaminant concentration at a relative humidity < 75 %	25 ppm
Permissible H ₂ S contaminant concentration at a relative humidity < 75 %	10 ppm
Connection technology	CAGE CLAMP®
Conductor cross section; strip length for Standard modules and couplers: I/O modules, 753 Series: ECO fieldbus couplers:	0.08 ... 2.5 mm ² /28 ... 14 AWG; 8 ... 9 mm/0.31 ... 0.35 inch 0.08 ... 2.5 mm ² /28 ... 14 AWG; 9 ... 10 mm/0.35 ... 0.39 inch 0.08 ... 1.5 mm ² /28 ... 16 AWG; 5 ... 6 mm/0.2 ... 0.24 inch
Connection technology	Push-in CAGE CLAMP®
Conductor cross section; strip length for I/O modules with 16 connection points:	Solid: 0.08 ... 1.5 mm ² /28 ... 16 AWG, Fine-stranded: 0.25 ... 1.5 mm ² /22 ... 16 AWG; 8 ... 9 mm/0.31 ... 0.35 inch
Current carrying capacity (power jumper contacts)	10 A

Approvals

Overview of the approvals in the item comparison in Section 11, Technical Section, or online under www.wago.com



Fieldbus Couplers

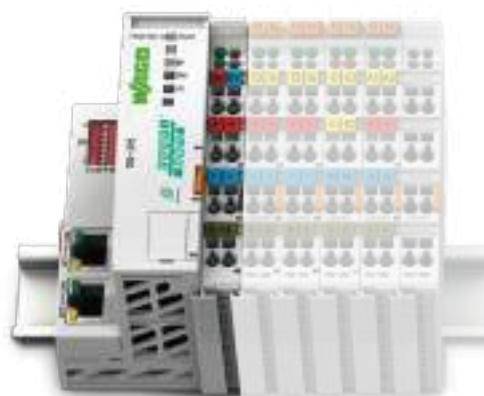
Housing design I with field supply

Dimensions W x H x D	50.5 x 71.1 x 100 mm
Height from upper-edge of DIN-rail	63.9 mm
Connection technology: System supply and field supply	CAGE CLAMP®
Conductor cross section	0.08 ... 2.5 mm ² / 28 ... 14 AWG
Strip length	8 ... 9 mm / 0.33 inch



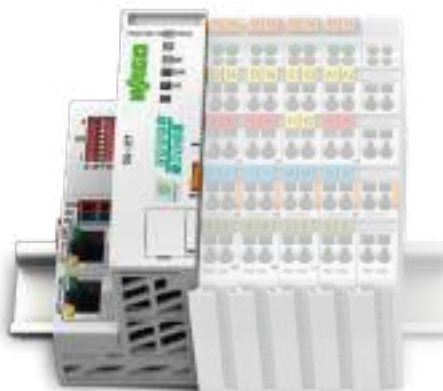
Housing design II with field supply

Dimensions W x H x D	61.5 x 71.9 x 100 mm
Height from upper-edge of DIN-rail	64.7 mm
Connection technology: System supply and field supply	CAGE CLAMP®
Conductor cross section	0.08 ... 2.5 mm ² / 28 ... 14 AWG
Strip length	8 ... 9 mm / 0.33 inch



Housing design without field supply

Dimensions W x H x D	49.5 x 71.9 x 96.8 mm
Height from upper-edge of DIN-rail	64.7 mm
Connection technology: System supply	CAGE CLAMP®
Conductor cross section	0.08 ... 1.5 mm ² / 28 ... 16 AWG
Strip length	5 ... 6 mm / 0.22 inch



Housing design "Eco" (without field supply)

Dimensions W x H x D	49.5 x 71.9 x 96.8 mm
Height from upper-edge of DIN-rail	64.7 mm
Connection technology: System supply	CAGE CLAMP®
Conductor cross section	0.08 ... 1.5 mm ² / 28 ... 16 AWG
Strip length	5 ... 6 mm / 0.22 inch



I/O System – 750 and 753 Series, Fieldbus Couplers

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*This coupler is also available as a 750 XTR Series variant.						See Section 6	

Fieldbus Coupler PROFINET IO



Figure: 750-375

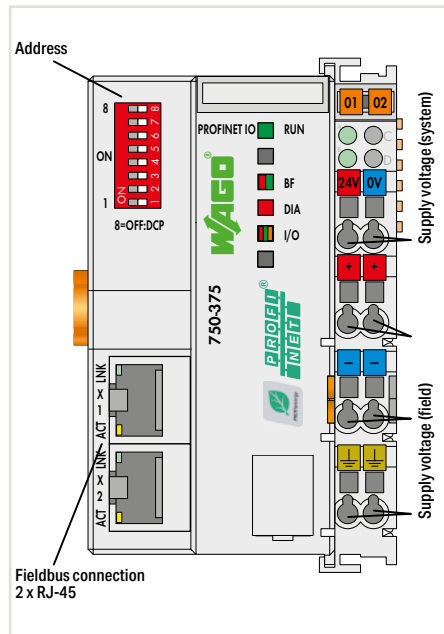
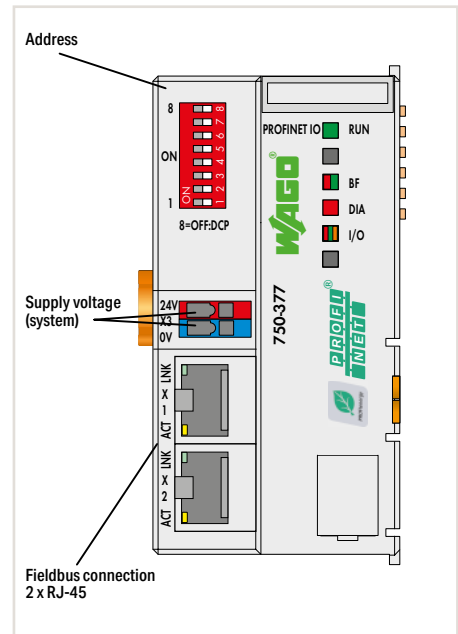


Figure: 750-377



Item Description	Fieldbus Coupler PROFINET IO; 3rd generation; Advanced		Fieldbus Coupler PROFINET IO; 3rd generation; Eco Advanced	
Version	Standard	Extended Temperature	Standard	Extended Temperature
Item No.	750-375	750-375/025-000	750-377	750-377/025-000
Order Text	FC PROFINET; G3; Adv	FC PROFINET; G3; T; Adv	FC PROFINET; G3; Eco Adv	FC PROFINET; G3; T; Eco Adv
Technical Data				
Fieldbus	PROFINET IO		PROFINET IO	
Protocols	PROFINET IO V2.3 (conformity class C); Topology detection / LLDP; Network diagnostics / SNMP / MIB-2; Media redundancy / MRP; Webserver / HTTP; Shared device		PROFINET IO V2.3 (conformity class C); Topology detection / LLDP; Network diagnostics / SNMP / MIB-2; Media redundancy / MRP; Webserver / HTTP	
Supported profiles	PROFIsafe V2; PROFINergy V1.0		PROFIsafe V2; PROFINergy V1.0	
PROFINET IO features	Integrated 2-port switch; Auto-negotiation; Auto-MDIX; Isochronous real-time communication; Transmission clock: 1 ms (RT); 1, 2, 4 ms (IRT); Device replacement without programming tool		Integrated 2-port switch; Auto-negotiation; Auto-MDIX; Isochronous real-time communication; Transmission clock: 1 ms (RT); 1, 2, 4 ms (IRT); Device replacement without programming tool	
Connection technology: Fieldbus input/output	2 x RJ-45		2 x RJ-45	
Baud rate	10 Mbit/s (ETHERNET protocols); 100 Mbit/s full duplex (PROFINET IO)		10 Mbit/s (ETHERNET protocols); 100 Mbit/s full duplex (PROFINET IO)	
Transmission medium	Twisted Pair S-UTP; 100 Ω; Cat. 5		Twisted Pair S-UTP; 100 Ω; Cat. 5	
Number of modules per node (max.)	250		64	
Input and output (internal) process image (max.)	512 bytes		256 bytes	
Supply voltage (system)	24 VDC (–25 ... +30 %); via wiring interface (CAGE CLAMP® connection)		24 VDC (–25 ... +30 %); via wiring interface	
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts			
Input current (typ.) at nominal load (24 V)	500 mA		280 mA	
Current consumption – system supply (5 V)	450 mA		450 mA	
Total current (system supply)	1700 mA		700 mA	
Surrounding air temperature (operation)	0 ... +55 °C	–20 ... +60 °C	0 ... +55 °C	–20 ... +60 °C
Dimensions W x H x D	61.5 x 71.9 x 100 mm		49.5 x 71.9 x 96.8 mm	
Approvals	CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX		CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX	
Data sheet and further information, see:	wago.com/750-375		wago.com/750-377	

• Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

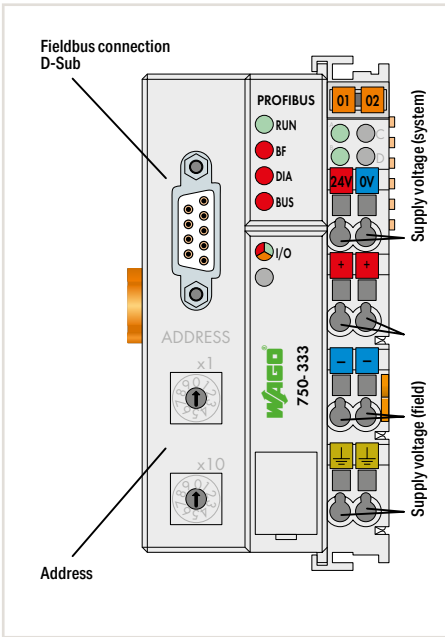
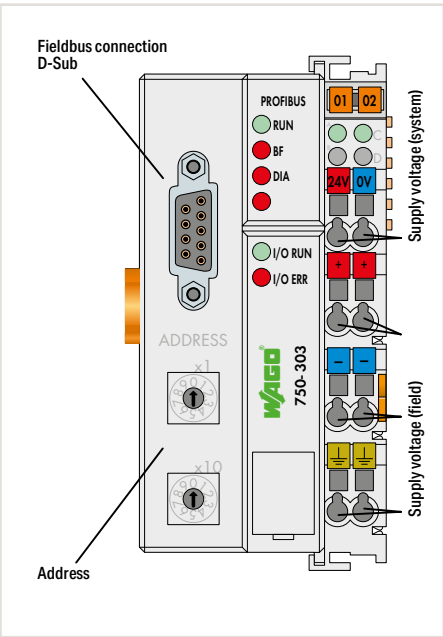
„ Approvals and corresponding ratings, see page 517 or www.wago.com

Fieldbus Coupler PROFIBUS DP



Figure: 750-303

Figure: 750-333



Item Description	Fieldbus Coupler PROFIBUS DP; 1st generation; 12 MBd	Fieldbus Coupler PROFIBUS DP; 2nd generation; 12 MBd	
Version	Standard	Standard	Extended Temperature
Item No.	750-303	750-333	750-333/025-000
Order Text	FC PROFIBUS; G1; 12MBd	FC PROFIBUS; G2; 12MBd	FC PROFIBUS; G2; 12MBd; T
Technical Data			
Fieldbus	PROFIBUS		PROFIBUS
Protocols	PROFIBUS DP/FMS		PROFIBUS DP/V1
Connection technology: Fieldbus input/output	Socket D-Sub 9		Socket D-Sub 9
Number of fieldbus nodes on master (max.)	96 with repeater		96 with repeater
Baud rate	9.6 kBd ... 12 MBd		9.6 kBd ... 12 MBd
Transmission medium	Copper cable per EN 50170		Copper cable per EN 50170
Number of modules per node (max.)	64		63
Input and output (internal) process image (max.)	128 bytes		244 bytes
Supply voltage (system)	24 VDC (–25 ... +30 %); via wiring interface (CAGE CLAMP® connection)		24 VDC (–25 ... +30 %); via wiring interface (CAGE CLAMP® connection)
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts		24 VDC (–25 ... +30 %); via power jumper contacts
Input current (typ.) at nominal load (24 V)	500 mA		500 mA
Current consumption – system supply (5 V)	350 mA		200 mA
Total current (system supply)	1650 mA		1800 mA
Surrounding air temperature (operation)	0 ... +55 °C		0 ... +55 °C
Dimensions W x H x D	50.5 x 71.1 x 100 mm		50.5 x 71.1 x 100 mm
Approvals	CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX		CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX
Data sheet and further information, see:	wago.com/750-303		wago.com/750-333
Accessories	Item No.	Item No.	
GSD files	Download: www.wago.com	Download: www.wago.com	

Fieldbus Coupler PROFIBUS DP



Figure: 750-343

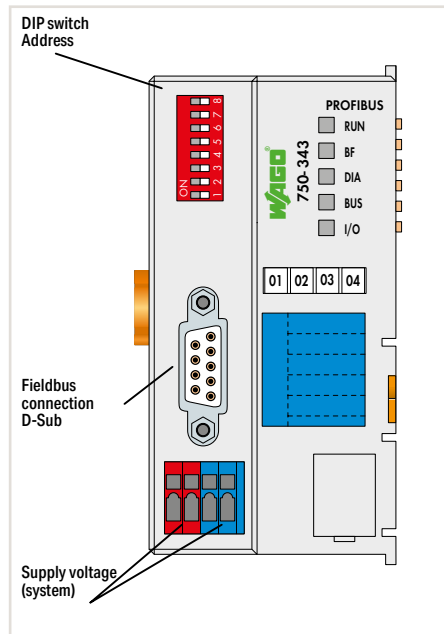
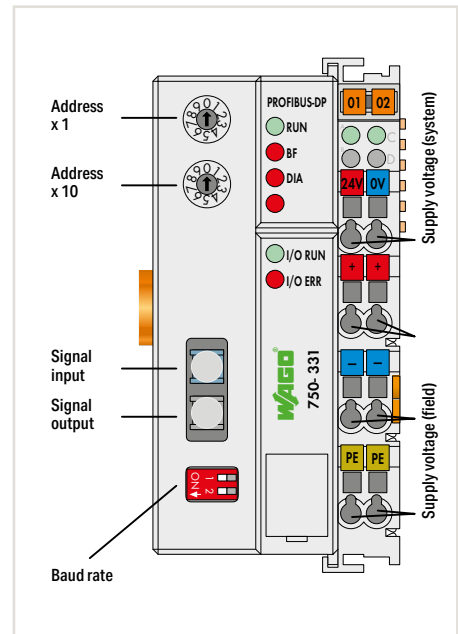


Figure: 750-331



Item Description	Fieldbus Coupler PROFIBUS DP; 12 MBd; Eco	Fieldbus Coupler PROFIBUS DP; Fiber-optic connection; 1.5 MBd
Item No.	750-343	750-331
Order Text	FC PROFIBUS; 12MBd; Eco	FC PROFIBUS; FOC; 1.5MBd
Technical Data		
Fieldbus	PROFIBUS	PROFIBUS
Protocols	PROFIBUS DP	PROFIBUS DP
Connection technology: Fieldbus input/output	Socket D-Sub 9	HP Simplex; Fiber optic plug (included)
Number of fieldbus nodes on master (max.)	125 with repeater	10 in subring
Transmission medium	Copper cable per EN 50170	Fiber optic cable (All Plastic Fiber)
Baud rate	9.6 kBd ... 12 MBd	93.75 kBd ... 1500 kBd
Number of modules per node (max.)	63	64
Input and output (internal) process image (max.)	32 bytes	128 bytes
Supply voltage (system)	24 VDC (–25 ... +30 %); via wiring interface	24 VDC (–15 ... +20 %); via wiring interface (CAGE CLAMP® connection)
Supply voltage (field)		24 VDC (–15 ... +20 %); via power jumper contacts
Input current (typ.) at nominal load (24 V)	260 mA	500 mA
Current consumption – system supply (5 V)	350 mA	350 mA
Total current (system supply)	650 mA	1650 mA
Surrounding air temperature (operation)	0 ... +55 °C	0 ... +55 °C
Dimensions W x H x D	49.5 x 71.9 x 96.8 mm	50.5 x 71.1 x 100 mm
Approvals	CE, Marine; OrdLoc/HazLoc; ATEX/IECEX	CE, OrdLoc
Data sheet and further information, see:	wago.com/750-343	wago.com/750-331
Accessories	Item No.	Item No.
GSD files	Download: www.wago.com	Download: www.wago.com

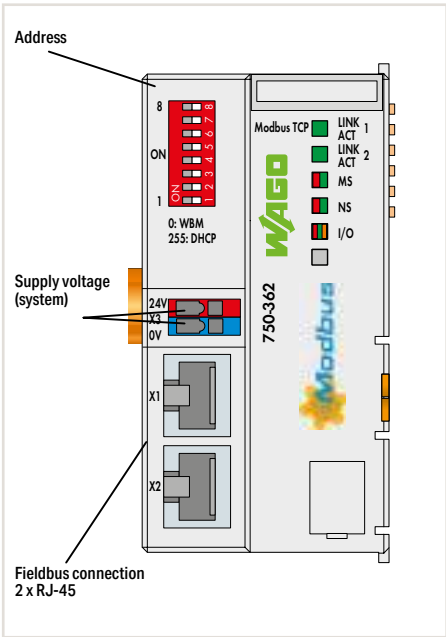
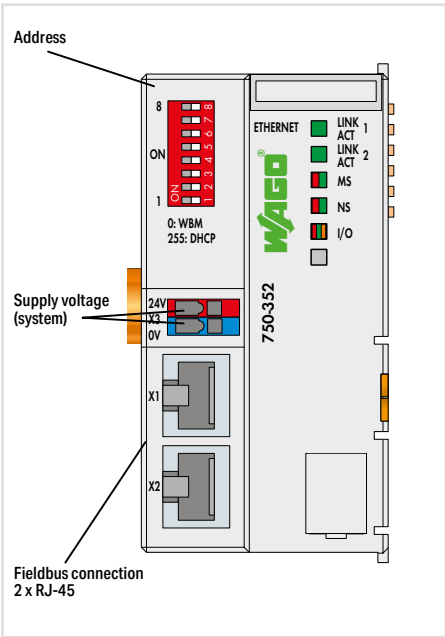
„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 517 or www.wago.com

Fieldbus Coupler ETHERNET; Modbus TCP



Figure: 750-352



Item Description
Version
Item No.
Order Text

Fieldbus Coupler ETHERNET; 3rd generation	
Standard	Eco
750-352	750-352/000-001
FC ETHERNET; G3	FC ETHERNET; G3; Eco
For new installations, please consider the 750-362 Fieldbus Coupler with extended functionality.	

Fieldbus Coupler Modbus TCP; 4th generation
Standard
750-362
FC Modbus TCP; G4

Technical Data	
Fieldbus	
Protocols	
Connection technology: Fieldbus input/output	
Bus segment length (max.)	
Baud rate	
Transmission medium	
Number of modules per node (max.)	
Input and output (internal) process image (max.)	
Supply voltage (system)	
Input current (typ.) at nominal load (24 V)	
Current consumption – system supply (5 V)	
Total current (system supply)	
Surrounding air temperature (operation)	
Dimensions W x H x D	
Approvals	
Data sheet and further information, see:	

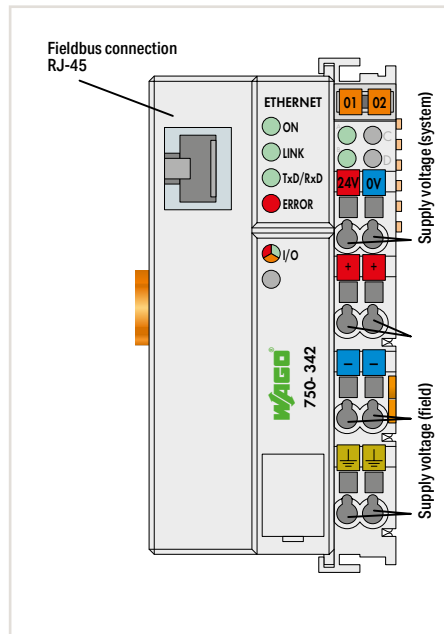
EtherNet/IP*; Modbus (TCP, UDP)	
HTTP; BootP; DHCP; DNS; FTP; SNMP	
2 x RJ-45	
100 m	
10/100 Mbit/s	
Twisted Pair S-UTP; 100 Ω; Cat. 5	
250	
1020 words	
24 VDC (–25 ... +30 %); via wiring interface	
280 mA	
450 mA	
700 mA	
0 ... +55 °C	
49.5 x 71.9 x 96.8 mm	
CE; Marine; OrdLoc/HazLoc; ATEX/IECEX	
wago.com/750-352	

*For variant 750-352/000-001, EtherNet/IP is activated as a standard protocol.

Modbus (TCP, UDP)	
HTTP(S), BootP, DHCP, DNS, (S)FTP, SNMP	
RJ-45	
100 m	
10/100 Mbit/s	
Twisted Pair S-UTP; 100 Ω; Cat. 5	
250	
1020 words	
24 VDC (–25 ... +30 %); via wiring interface	
280 mA	
350 mA	
700 mA	
0 ... +55 °C	
49.5 x 71.9 x 96.8 mm	
CE; Marine; OrdLoc*/HazLoc; ATEX/IECEX	
wago.com/750-362	

*Pending

Fieldbus Coupler ETHERNET

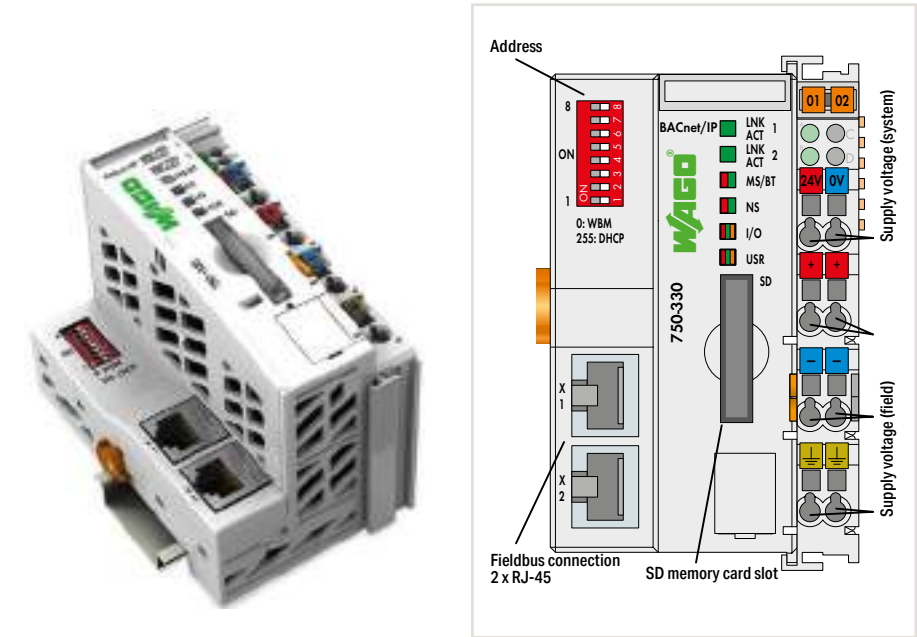


Item Description	Fieldbus Coupler ETHERNET; 1st generation
Item No.	750-342
Order Text	FC ETHERNET; G1
Technical Data	
Fieldbus	Modbus (TCP, UDP)
Protocols	HTTP; BootP
Connection technology: Fieldbus input/output	RJ-45
Bus segment length (max.)	100 m
Baud rate	10 Mbit/s
Transmission medium	Twisted Pair S-UTP; 100 Ω; Cat. 5
Number of modules per node (max.)	64
Input and output (internal) process image (max.)	512 bytes
Supply voltage (system)	24 VDC (–25 ... +30 %); via wiring interface (CAGE CLAMP® connection)
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts
Input current (typ.) at nominal load (24 V)	500 mA
Current consumption – system supply (5 V)	200 mA
Total current (system supply)	1800 mA
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	50.5 x 71.1 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-342

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 517 or www.wago.com

Fieldbus Coupler BACnet/IP



Item Description	Fieldbus Coupler BACnet/IP
Item No.	750-330
Order Text	FC BACnet/IP

Technical Data	
Fieldbus	BACnet/IP; Modbus (TCP, UDP)
Protocols	HTTPS; BootP; DHCP; DNS; FTP; SNMP
Connection technology: Fieldbus input/output	2 x RJ-45
Transmission medium	Twisted Pair S-UTP; 100 Ω; Cat. 5; Line length (max.): 100 m
Baud rate	10/100 Mbit/s
Transmission performance	Class D per EN 50173
Type of memory card	SD and SDHC to 32 GB*
BACnet device profile	B-BC (BACnet Building Controller)
BACnet revision	1.12
Number of modules per node (max.)	99
Supply voltage (system)	24 VDC (–25 ... +30 %); via wiring interface (CAGE CLAMP® connection)
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts
Input current (typ.) at nominal load (24 V)	500 mA
Current consumption – system supply (5 V)	450 mA
Total current (system supply)	1700 mA
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	61.5 x 71.9 x 100 mm
Approvals	CE; 
Data sheet and further information, see:	wago.com/750-330

Accessories	Item No.	Page
SD memory card, 2 GB	758-879/000-001	470
BACnet Configurator	Download	See Section 2

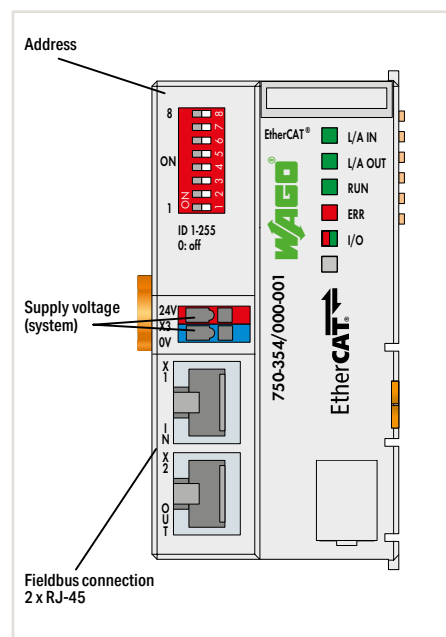
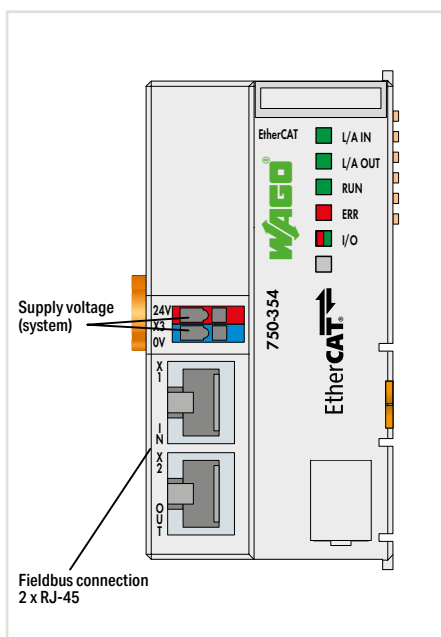
*All guaranteed specifications are only valid with the WAGO Memory Card listed as an accessory.

Fieldbus Coupler EtherCAT®



Figure: 750-354

Figure: 750-354/000-001



Item Description	Fieldbus Coupler EtherCAT	
Version	Standard	
Item No.	750-354	
Order Text	FC EtherCAT	
Technical Data		
Fieldbus	EtherCAT	
Protocols	EtherCAT (direct mode)	
Connection technology: Fieldbus input/output	2 x RJ-45	
Baud rate	100 Mbit/s	
Transmission medium	Shielded Twisted Pair S/FTP, F/FTP or SF/FTP; 100 Ω; Cat. 6	
Number of modules per node (max.)	64	
Input and output (internal) process image (max.)	1024 bytes	
Supply voltage (system)	24 VDC (–25 ... +30 %); via wiring interface	
Input current (typ.) at nominal load (24 V)	250 mA	
Current consumption – system supply (5 V)	300 mA	
Total current (system supply)	700 mA	
Surrounding air temperature (operation)	0 ... +55 °C	
Dimensions W x H x D	49.5 x 71.9 x 96.8 mm	
Approvals	CE;  OrdLoc/HazLoc;  ATEX/IECEx	
Data sheet and further information, see:	wago.com/750-354	

Fieldbus Coupler EtherCAT	
ID Switch	ID Switch; Diagnostics
750-354/000-001	750-354/000-002
FC EtherCAT; ID Switch	FC EtherCAT; ID Switch; Diagn
Technical Data	
EtherCAT	
EtherCAT (direct mode)	
2 x RJ-45	
100 Mbit/s	
Shielded Twisted Pair S/FTP, F/FTP or SF/FTP; 100 Ω; Cat. 6	
64	
1024 bytes	
24 VDC (–25 ... +30 %); via wiring interface	
250 mA	
300 mA	
700 mA	
0 ... +55 °C	
49.5 x 71.9 x 96.8 mm	
CE;  OrdLoc/HazLoc;  ATEX/IECEx	
 Marine	
wago.com/750-354/000-001	

EtherCAT® is a registered trademark and patented technology of Beckhoff Automation GmbH.

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 517 or www.wago.com

Fieldbus Coupler DeviceNet®



Figure: 750-306

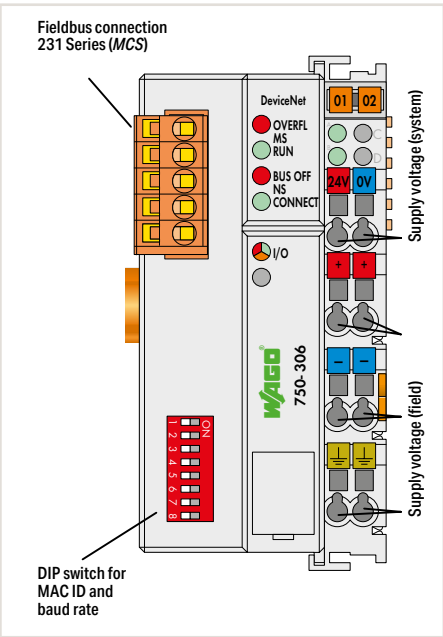
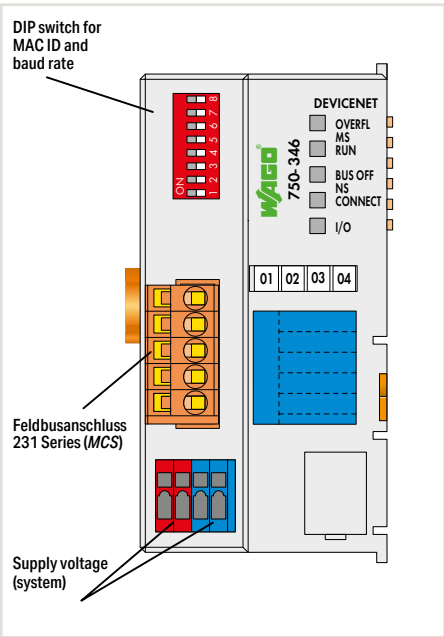


Figure: 750-346



Item Description	
Version	
Item No.	
Order Text	
Technical Data	
Fieldbus	
Connection technology: Fieldbus input/output	
Number of fieldbus nodes on master (max.)	
Number of I/O points	
Baud rate	
Transmission medium	
Number of modules per node (max.)	
Input and output (internal) process image (max.)	
Supply voltage (system)	
Supply voltage (field)	
Input current (typ.) at nominal load (24 V)	
Input current via DeviceNet interface at 11 V	
Current consumption – system supply (5 V)	
Total current (system supply)	
Surrounding air temperature (operation)	
Dimensions W x H x D	
Approvals	
Certification	
Data sheet and further information, see:	
Accessories	
EDS files	

Fieldbus Coupler DeviceNet®	
Standard	
750-306	
FC DeviceNet®	
DeviceNet®	
5-pole male connector	
64 with scanner	
Approx. 6000 (dependent on master)	
125 kBd; 250 kBd; 500 kBd	
Shielded Cu cable; Remote bus cable: 2 x 0.82 mm² + 2 x 1.7 mm²; Drop cable: 2 x 0.2 mm² + 2 x 0.32 mm²	
64	
512 bytes	
24 VDC (–25 ... +30 %); via wiring interface (CAGE CLAMP® connection)	
24 VDC (–25 ... +30 %); via power jumper contacts	
500 mA	
120 mA	
350 mA	
1650 mA	
0 ... +55 °C	
50.5 x 71.1 x 100 mm	
CE; Marine; OrdLoc/HazLoc; ATEX/IECEX	
ODVA	
wago.com/750-306	
Item No.	
Download: www.wago.com	

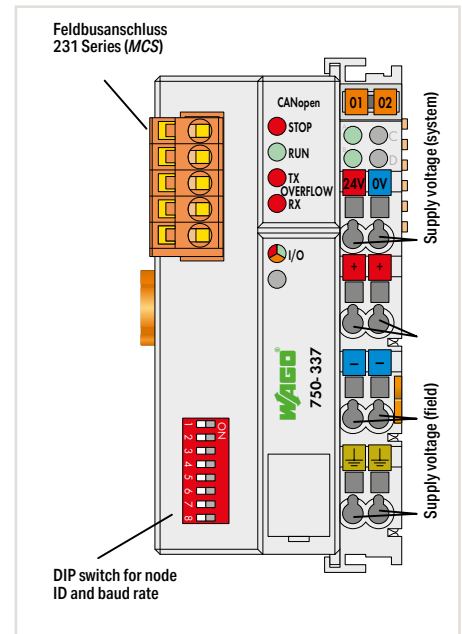
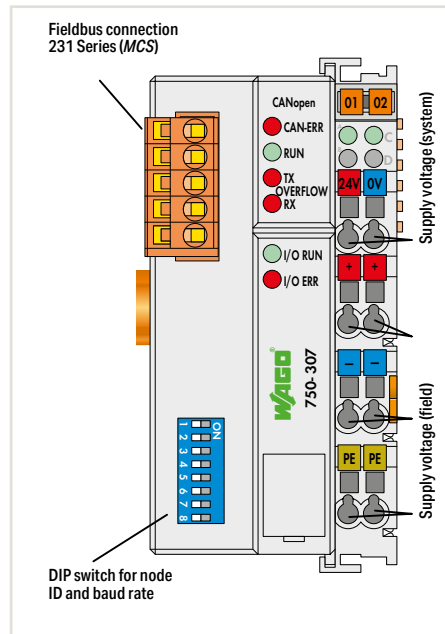
Fieldbus Coupler DeviceNet®	
Eco	
750-346	
FC DeviceNet®, Eco	
DeviceNet®	
5-pole male connector	
64 with scanner	
Approx. 6000 (dependent on master)	
125 kBd; 250 kBd; 500 kBd	
Shielded Cu cable; Remote bus cable: 2 x 0.82 mm² + 2 x 1.7 mm²; Drop cable: 2 x 0.2 mm² + 2 x 0.32 mm²	
64	
32 bytes	
24 VDC (–15 ... +20 %); via wiring interface	
260 mA	
120 mA	
350 mA	
650 mA	
0 ... +55 °C	
49.5 x 71.9 x 96.8 mm	
CE; OrdLoc/HazLoc; ATEX/IECEX	
wago.com/750-346	
Item No.	
Download: www.wago.com	

Fieldbus Coupler CANopen



Figure: 750-337

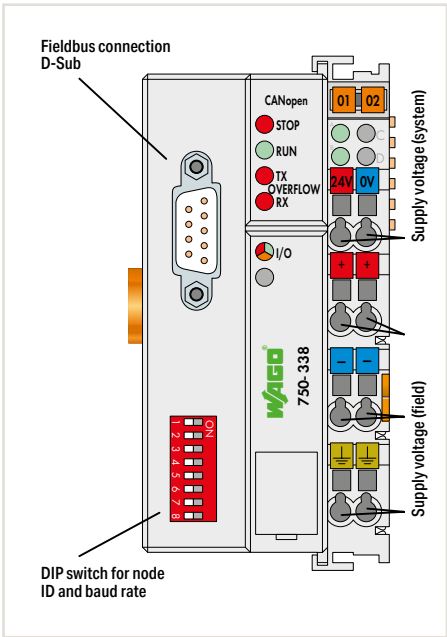
Figure: 750-347



Item Description		Fieldbus Coupler CANopen		Fieldbus Coupler CANopen MCS	
Version		Standard		Standard	Extended Temperature
Item No.		750-307		750-337	750-337/025-000
Order Text		FC CANopen		FC CANopen; MCS	FC CANopen; MCS; T
Technical Data					
Fieldbus		CANopen		CANopen	
Connection technology: Fieldbus input/output		5-pole male connector		5-pole male connector	
Number of fieldbus nodes on master (max.)		110		110	
Bus segment length (max.)		30 ... 1000 m (depends on baud rate/cable)		30 ... 1000 m (depends on baud rate/cable)	
Transmission medium		Shielded Cu cable 3 x 0.25 mm²		Shielded Cu cable 3 x 0.25 mm²	
Baud rate		10 kBd ... 1 MBd		10 kBd ... 1 MBd	
Number of modules per node (max.)		64		64	
Input and output (internal) process image (max.)		512 bytes		512 bytes	
Number of PDOs		5 Tx / 5 Rx		32 Tx / 32 Rx	
Number of SDOs		2 SDO servers		2 SDO servers	
Communication profile		DS-301 V3.0		DS-301 V4.01	
Device profile		DS-401 V1.4		DS-401 V2.0; Additional functions: limit monitoring; flank-triggered PDOs; configurable response in the event of an error	
Supply voltage (system)		24 VDC (–15 ... +20 %); via wiring interface (CAGE CLAMP® connection)		24 VDC (–25 ... +30 %); via wiring interface (CAGE CLAMP® connection)	
Supply voltage (field)		24 VDC (–15 ... +20 %); via power jumper contacts		24 VDC (–25 ... +30 %); via power jumper contacts	
Input current (typ.) at nominal load (24 V)		500 mA		500 mA	
Current consumption – system supply (5 V)		350 mA		350 mA	
Total current (system supply)		1650 mA		1650 mA	
Surrounding air temperature (operation)		0 ... +55 °C		0 ... +55 °C	–20 ... +60 °C
Dimensions W x H x D		50.5 x 71.1 x 100 mm		50.5 x 71.1 x 100 mm	
Approvals		CE,   OrdLoc/HazLoc;  ATEX/IECEX		CE,   Marine;  OrdLoc/HazLoc;  ATEX/IECEX	
Data sheet and further information, see:		wago.com/750-307		wago.com/750-337	
Accessories		Item No.		Item No.	
EDS files		Download: www.wago.com		Download: www.wago.com	

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

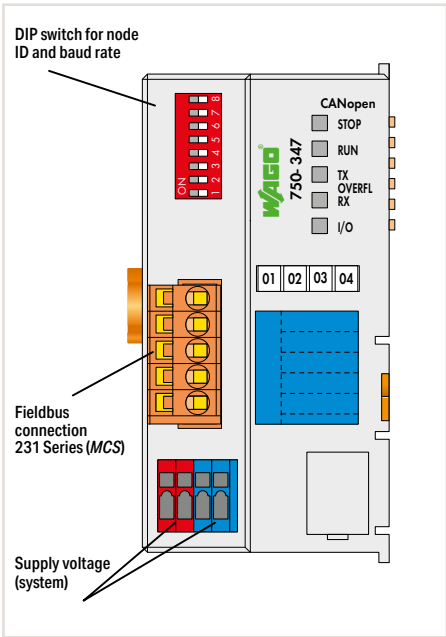
„ Approvals and corresponding ratings, see page 517 or www.wago.com



Fieldbus Coupler CANopen D-Sub
Standard
750-338
FC CANopen; DSub

CANopen
Plug D-Sub 9
110
30 ... 1000 m (depends on baud rate/cable)
Shielded Cu cable 3 x 0.25 mm²
10 kBd ... 1 MBd
64
512 bytes
32 Tx / 32 Rx
2 SDO servers
DS-301 V4.01
DS-401 V2.0;
Additional functions: limit monitoring; flank-triggered PDOs; configurable response in the event of an error
24 VDC (–25 ... +30 %); via wiring interface (CAGE CLAMP® connection)
24 VDC (–25 ... +30 %); via power jumper contacts
500 mA
350 mA
1650 mA
0 ... +55 °C
50.5 x 71.1 x 100 mm
CE; Marine; OrdLoc/HazLoc;
ATEX/IECEX
wago.com/750-338

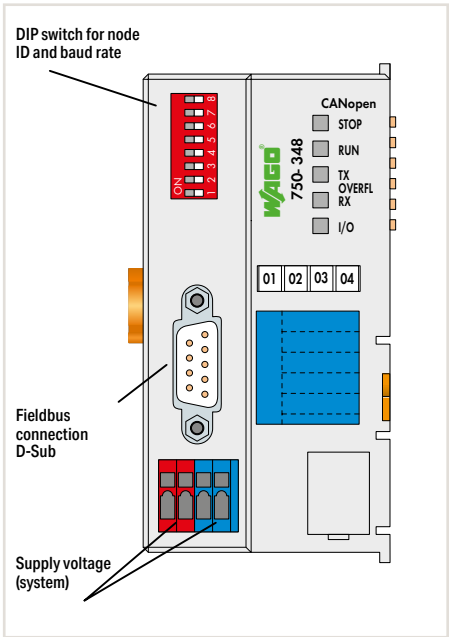
Item No.
Download: www.wago.com



Fieldbus Coupler CANopen MCS
Eco
750-347
FC CANopen; MCS; Eco

CANopen
5-pole male connector
110
30 ... 1000 m (depends on baud rate/cable)
Shielded Cu cable 3 x 0.25 mm²
10 kBd ... 1 MBd
64
32 bytes
5 Tx / 5 Rx
1 SDO server
DS-301 V4.01
DS-401 V2.0;
Additional functions: configurable response in the event of an error
24 VDC (–25 ... +30 %); via wiring interface
260 mA
350 mA
650 mA
0 ... +55 °C
49.5 x 71.9 x 96.8 mm
CE; Marine; OrdLoc/HazLoc;
ATEX/IECEX
wago.com/750-347

Item No.
Download: www.wago.com

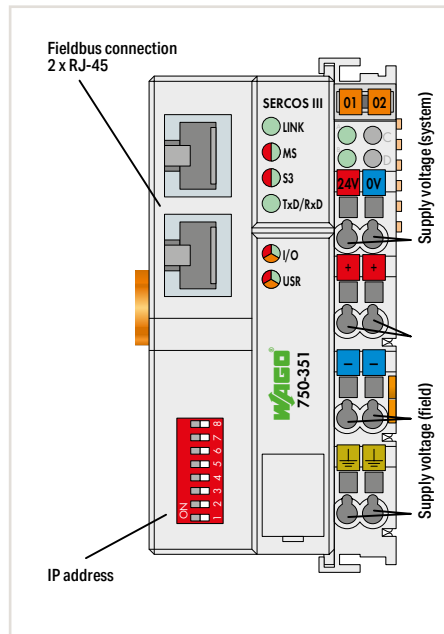


Fieldbus Coupler CANopen D-Sub
Eco
750-348
FC CANopen; DSub; Eco

CANopen
Plug D-Sub 9
110
30 ... 1000 m (depends on baud rate/cable)
Shielded Cu cable 3 x 0.25 mm²
10 kBd ... 1 MBd
64
32 bytes
5 Tx / 5 Rx
1 SDO server
DS-301 V4.01
DS-401 V2.0;
Additional functions: configurable response in the event of an error
24 VDC (–25 ... +30 %); via wiring interface
260 mA
350 mA
650 mA
0 ... +55 °C
49.5 x 71.9 x 96.8 mm
CE; Marine; OrdLoc/HazLoc;
ATEX/IECEX
wago.com/750-348

Item No.
Download: www.wago.com

Fieldbus Coupler Sercos®



Item Description	Fieldbus Coupler Sercos®
Item No.	750-351
Order Text	FC Sercos®
Technical Data	
Fieldbus	Sercos®
Protocols	Sercos; FSP-IO; TCP/IP; FTP; HTTP; BootP; DHCP; SNTP
Supported services	SVC; RTC; CC; IP; Ring break (GDP_Basic; SCP_VarCFG; SCP_Sync)
Connection technology: Fieldbus input/output	2 x RJ-45
Sercos® version	V1.1.1
IO profile	V1.1.1
Number of couplers (slaves) in Sercos® ring	512
Baud rate	100 Mbit/s; Full duplex
Transmission medium	Twisted Pair S-UTP; 100 Ω; Cat. 5
Number of modules per node (max.)	250
Input and output (internal) process image (max.)	2 KB (RTC and SVC)
Supply voltage (system)	24 VDC (–25 ... +30 %); via wiring interface (CAGE CLAMP® connection)
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts
Input current (typ.) at nominal load (24 V)	500 mA
Current consumption – system supply (5 V)	300 mA
Total current (system supply)	1700 mA
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	50.5 x 71.1 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-351

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

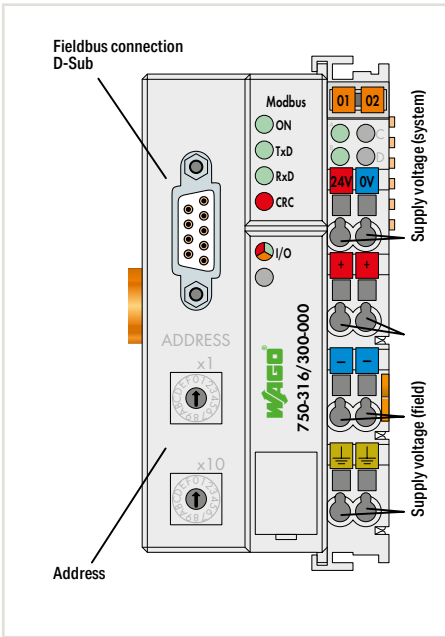
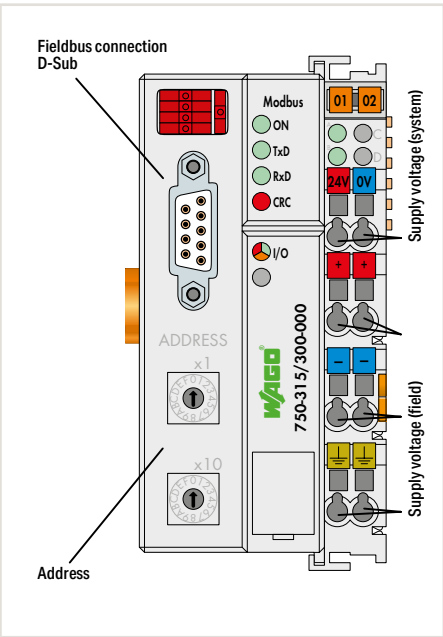
„ Approvals and corresponding ratings, see page 517 or www.wago.com

Fieldbus Coupler Modbus®



Figure: 750-315/300-000

Figure: 750-316/300-000



Item Description	Fieldbus Coupler Modbus®	Fieldbus Coupler Modbus®
Version	RS-485; 115.2 kBd	RS-232; 115.2 kBd
Item No.	750-315/300-000	750-316/300-000
Order Text	FC Modbus; RS485; 115.2kBd	FC Modbus; RS232; 115.2kBd
Technical Data		
Fieldbus	Modbus®	Modbus®
Connection technology: Fieldbus input/output	Socket D-Sub 9	Socket D-Sub 9
Number of fieldbus nodes on master (max.)	247 with repeater	247 with repeater
Interface standard	RS-485	RS-232
Baud rate	150 Bd ... 115.2 KBd	150 Bd ... 115.2 KBd
Transmission medium	Shielded Cu cable 2 (4) x 0.25 mm²	Shielded Cu cable 2 (4) x 0.25 mm²
Number of modules per node (max.)	64	64
Input and output (internal) process image (max.)	512 bytes	512 bytes
Supply voltage (system)	24 VDC (–25 ... +30 %); via wiring interface (CAGE CLAMP® connection)	24 VDC (–25 ... +30 %); via wiring interface (CAGE CLAMP® connection)
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts	24 VDC (–25 ... +30 %); via power jumper contacts
Input current (typ.) at nominal load (24 V)	500 mA	500 mA
Current consumption – system supply (5 V)	350 mA	350 mA
Total current (system supply)	1650 mA	1650 mA
Surrounding air temperature (operation)	0 ... +55 °C	0 ... +55 °C
Dimensions W x H x D	50.5 x 71.1 x 100 mm	50.5 x 71.1 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
Data sheet and further information, see:	wago.com/750-315/300-000	wago.com/750-316/300-000

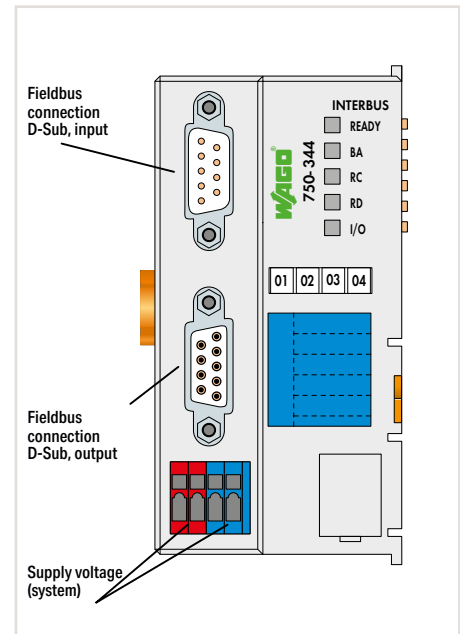
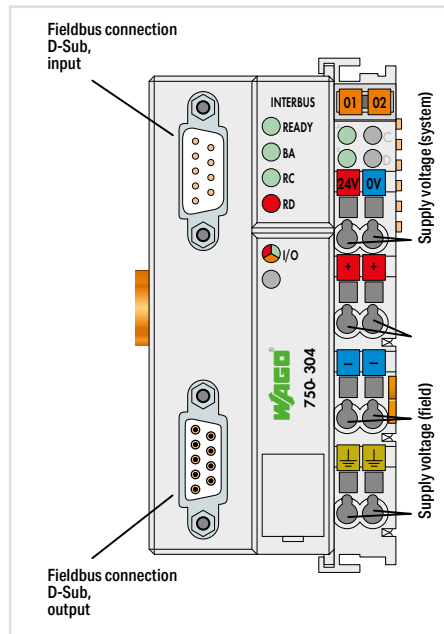
Fieldbus Coupler INTERBUS



Figure: 750-304



Figure: 750-344



Item Description	Fieldbus Coupler INTERBUS	Fieldbus Coupler INTERBUS; 500 kBit/s; Eco
Item No.	750-304	750-344
Order Text	FC INTERBUS	FC INTERBUS; 500kbit/s; Eco
Technical Data		
Fieldbus	INTERBUS	INTERBUS
Connection technology: Fieldbus input/output	D-Sub 9 plug / D-Sub 9 socket	D-Sub 9 plug / D-Sub 9 socket
Number of fieldbus nodes on master (max.)	256	256
Bus segment length (max.)	400 m	400 m
Transmission medium	Copper cable	Copper cable
Baud rate	500 kBd	500 kBd
Number of modules per node (max.)	64	64
Input and output (internal) process image (max.)	64 bytes	20 bytes
Supply voltage (system)	24 VDC (–15 ... +20 %); via wiring interface (CAGE CLAMP® connection)	24 VDC (–15 ... +20 %); via wiring interface
Supply voltage (field)	24 VDC (–15 ... +20 %); via power jumper contacts	
Input current (typ.) at nominal load (24 V)	500 mA	260 mA
Current consumption – system supply (5 V)	300 mA	350 mA
Total current (system supply)	1700 mA	650 mA
Surrounding air temperature (operation)	0 ... +55 °C	0 ... +55 °C
Dimensions W x H x D	50.5 x 71.1 x 100 mm	49.5 x 71.9 x 96.8 mm
Approvals	CE, UL, OrdLoc/HazLoc; ATEX/IECEX	CE, UL, OrdLoc/HazLoc; ATEX/IECEX
Standard	EN 50254	EN 50254
Certification	INTERBUS CLUB	
Data sheet and further information, see:	wago.com/750-304	wago.com/750-344
Accessories		
INTERBUS files	Item No. Download: www.wago.com	Item No. Download: www.wago.com

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 517 or www.wago.com

Fieldbus Coupler CC-Link



Figure: 750-310

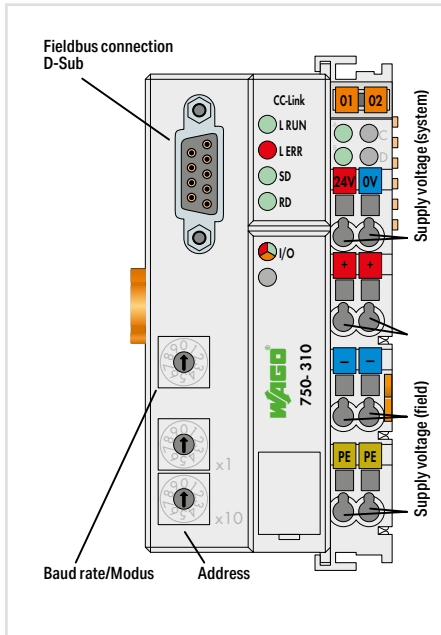
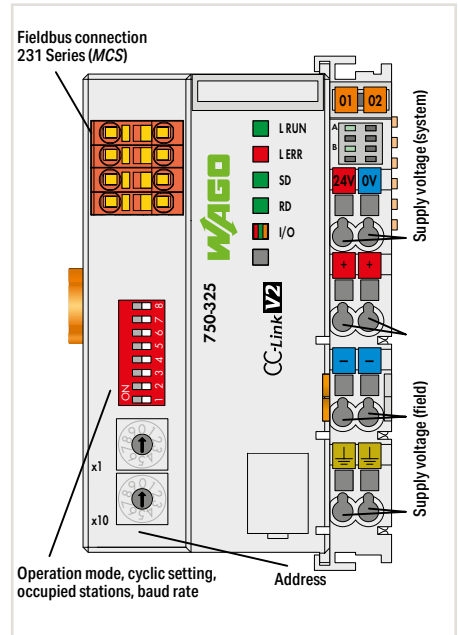


Figure: 750-325



Item Description	Fieldbus Coupler CC-Link	Fieldbus Coupler CC-Link
Item No.	750-310	750-325
Order Text	FC CC-Link	FC CC-Link
Technical Data		
Fieldbus	CC-Link	CC-Link
Connection technology: Fieldbus input/output	Socket D-Sub 9	MCS pluggable connectors (included)
Number of fieldbus nodes on master (max.)	64	64
Baud rate	156 kBd ... 10 MBd	156 kBd ... 10 MBd
Transmission medium	Shielded Cu cable 2/3 x 0.5 mm²	Shielded Cu cable 2/3 x 0.5 mm²
Number of modules per node (max.)	64	64
Operating mode		CC-Link V2.0 (default setting)/V1.1
Assigned station addresses	4/1 ... 4	1 ... 4 / 4 (default setting)
Advanced cycle setting		1, 2, 4 (default setting); 8 cycles
Input (internal) process image (max.)	14-byte digital; 2-byte system; 32-byte analog	RX (digital inputs): V1.1: 16, 48, 80, 112 bits; V2.0: 16, 48, 80, 112 bits (1 cycle); V2.0: 16, 80, 144, 208 bits (2 cycles); V2.0: 48, 176, 304, 432 bits (4 cycles); V2.0: 112, 368, 624, 880 bits (8 cycles) and for each 16-bit system area; RWr (analog inputs): V1.1: 4, 8, 12, 16 words (16 bits); V2.0: 4, 8, 12, 16 words (1 cycle); V2.0: 8, 16, 24, 32 words (2 cycles); V2.0: 16, 32, 48, 64 words (4 cycles); V2.0: 32, 64, 96, 128 words (8 cycles)
Output (internal) process image (max.)	14-byte digital; 2-byte system; 32-byte analog	RY (digital outputs): V1.1: 16, 48, 80, 112 bits; V2.0: 16, 48, 80, 112 bits (1 cycle); V2.0: 16, 80, 144, 208 bits (2 cycles); V2.0: 48, 176, 304, 432 bits (4 cycles); V2.0: 112, 368, 624, 880 bits (8 cycles) and for each 16-bit system area RWW (analog outputs): V1.1: 4, 8, 12, 16 words (16 bits); V2.0: 4, 8, 12, 16 words (1 cycle); V2.0: 8, 16, 24, 32 words (2 cycles); V2.0: 16, 32, 48, 64 words (4 cycles); V2.0: 32, 64, 96, 128 words (8 cycles)
Supply voltage (system)	24 VDC (–25 ... +30 %); via wiring interface (CAGE CLAMP® connection)	24 VDC (–25 ... +30 %); via wiring interface (CAGE CLAMP® connection)
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts	24 VDC (–25 ... +30 %); via power jumper contacts
Input current (typ.) at nominal load (24 V)	500 mA	500 mA
Current consumption – system supply (5 V)	300 mA	200 mA
Total current (system supply)	1700 mA	1800 mA
Surrounding air temperature (operation)	0 ... +55 °C	0 ... +55 °C
Dimensions W x H x D	50.5 x 71.1 x 100 mm	61.5 x 71.9 x 100 mm
Approvals	CE;  OrdLoc/HazLoc;  ATEX/IECEX	CE; 
Data sheet and further information, see:	wago.com/750-310	wago.com/750-325

Digital Input Modules

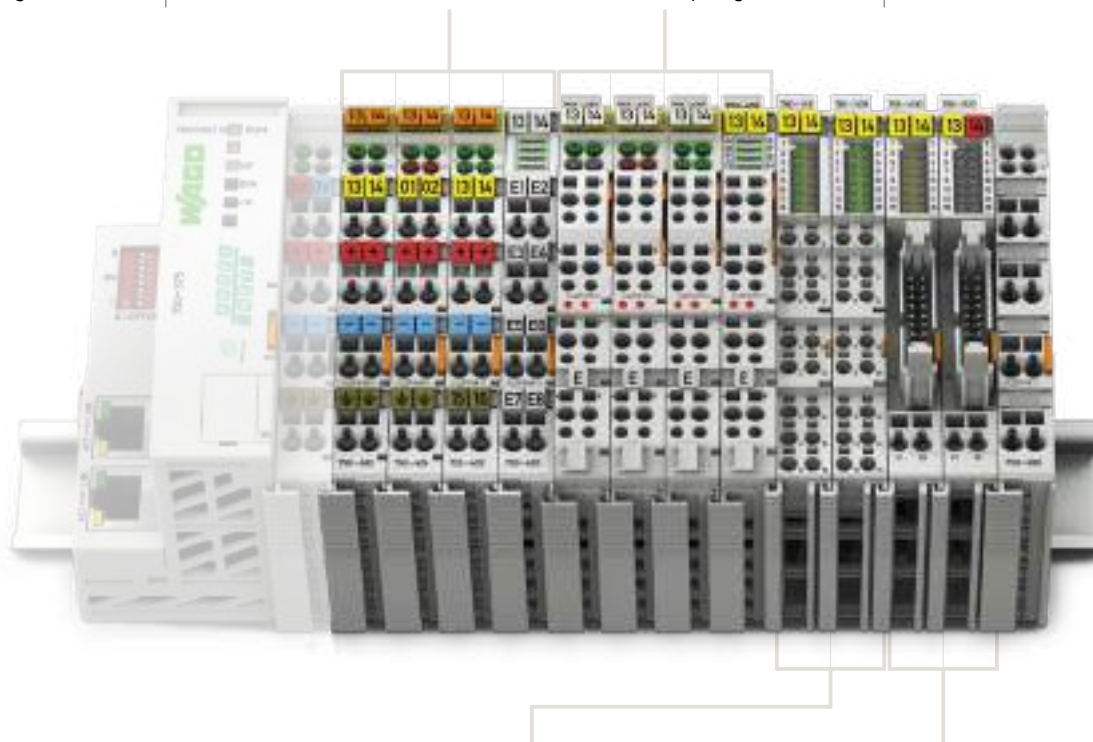


Housing design (750 Series)

Dimensions W x H x D	Housing with 4 LEDs: 12 x 69.8 x 100 mm Housing with 8 LEDs: 12 x 67.8 x 100 mm
Height from upper-edge of DIN-rail	Housing with 4 LEDs: 62.6 mm Housing with 8 LEDs: 60.6 mm
Connection technology	CAGE CLAMP®
Conductor cross section	0.08 ... 2.5 mm² / 28 ... 14 AWG
Strip length	8 ... 9 mm / 0.33 inch

Housing design (753 Series)

Dimensions W x H x D	Housing with 4 LEDs: 12 x 69.8 x 100 mm Housing with 8 LEDs: 12 x 69 x 100 mm
Height from upper-edge of DIN-rail	Housing with 4 LEDs: 62.6 mm Housing with 8 LEDs: 61.8 mm
Connection technology	CAGE CLAMP®
Conductor cross section	0.08 ... 2.5 mm² / 28 ... 14 AWG
Strip length	9 ... 10 mm / 0.37 inch



Housing design (750 Series), with Push-in CAGE CLAMP® connections (up to 16 connection points)

Dimensions W x H x D	12 x 69 x 100 mm
Height from upper-edge of DIN-rail	61.8 mm
Connection technology	Push-in CAGE CLAMP®
Conductor cross section	Solid: 0.08 ... 1.5 mm² / 28 ... 16 AWG Fine-stranded: 0.25 ... 1.5 mm² / 22 ... 16 AWG
Strip length	8 ... 9 mm / 0.33 inch

Housing design (750 Series), with ribbon cable connection

Dimensions W x H x D	12 x 74.1 x 100 mm
Height from upper-edge of DIN-rail	66.9 mm
Connection technology	20-pole male connector + 2 x CAGE CLAMP®
Conductor cross section	0.08 ... 2.5 mm² / 28 ... 14 AWG
Strip length	8 ... 9 mm / 0.33 inch



I/O System –
750 XTR Series

I/O System – 750 and 753 Series, Digital Input Modules

Contents

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5/12 VDC			■			8-Channel Digital Input; 5/12 VDC; 0.2 ms			753-434	164
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	■					2-Channel Digital Input; 24 VDC; 3 ms; Acknowledgement; Diagnostics	750-418		753-418	165
	■					2-Channel Digital Input; 24 VDC; 3 ms; Diagnostics	750-421		753-421	166
		■				4-Channel Digital Input; 24 VDC; 3 ms	750-402	750-402/025-000	753-402	166
		■				4-Channel Digital Input; 24 VDC; 3 ms; 2-wire connection	750-432		753-432	167
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			■			8-Channel Digital Input; 24 VDC; 3 ms	750-430*	750-430/025-000	753-430	168
			■			8-Channel Digital Input; 24 VDC; 3 ms; 2-wire connection	750-1415*			168
				■		16-Channel Digital Input; 24 VDC; 3 ms; Ribbon cable	750-1400			169
				■		16-Channel Digital Input; 24 VDC; 3 ms	750-1405*			169
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			■			8-Channel Digital Input; 24 VDC; 0.2 ms	750-431*		753-431	173
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				■		16-Channel Digital Input; 24 VDC; 3 ms; Low-side switching; Ribbon cable	750-1402			176
				■		16-Channel Digital Input; 24 VDC; 3 ms; Low-side switching	750-1407			176
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	■					2-Channel Digital Input; 24 VDC; 0.2 ms; Proximity sensor	750-411		753-411	179
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	■					2-Channel Digital Input; Intruder detection	750-424		753-424	181
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42 VAC/VDC	■					4-Channel Digital Input; 24 VAC/DC; 20 ms	750-415		753-415	183
	■					4-Channel Digital Input; 24 VAC/DC; 50 ms	750-423		753-423	183
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60 VDC	■					2-Channel Digital Input; 60 VDC; 3 ms	*		753-429	186
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Functional Safety							See Section 5.8			
Ex i							See Section 5.9			
*This module is also available as a 750 XTR Series variant.							See Section 6			

Digital Input; 5 (12) VDC; 0.2 ms



Figure: 750-414

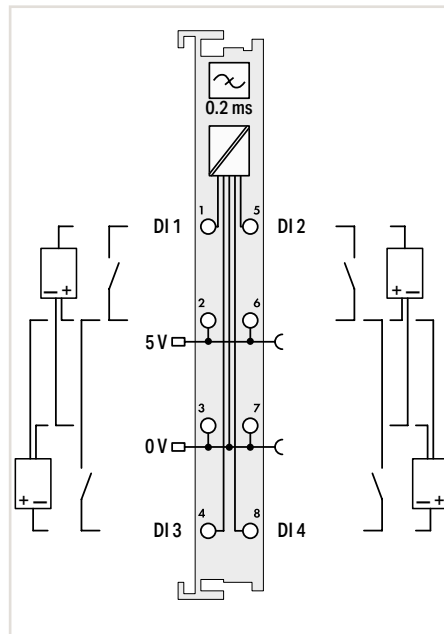
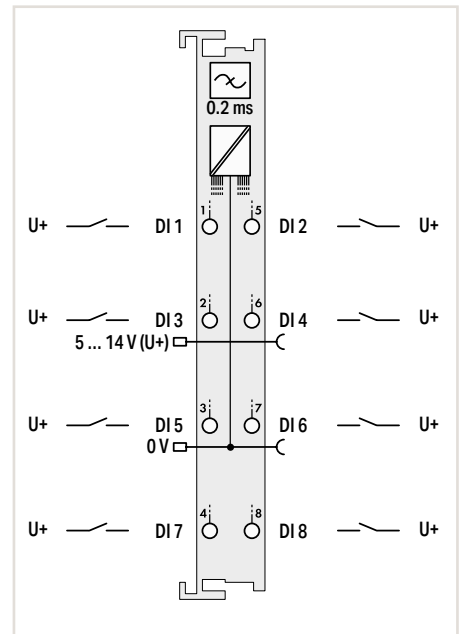


Figure: 753-434



Item Description	4-Channel Digital Input; 5 VDC; 0.2 ms	8-Channel Digital Input; 5/12 VDC; 0.2 ms
Version	Standard	Pluggable (delivery without connector)
Item No.	750-414	753-434
Order Text	4DI; 5 VDC; 0.2ms	8DI; 5/12 VDC; 0.2ms
Technical Data		
Pluggable connector		•
Number of digital inputs	4	8
Signal type	5 VDC	5 ... 14 VDC
Voltage range for signal (0)	0 ... 0.8 VDC	-3 VDC ... 0.2 x U _V
Voltage range for signal (1)	2.4 ... 5 VDC	0.5 U _V ... 1.1 U _V DC
Sensor connection	2 x (2-wire; 3-wire)*	1-wire
Input characteristic	High-side switching	High-side switching
Input filter (digital)	0.2 ms	0.2 ms
Input current per channel for signal (1) typ.	0.05 mA	0.06 mA
Supply voltage (sensor)	5 VDC	
Supply voltage (field)	5 VDC; via power jumper contacts (power supply via blade contact; transmission via spring contact)	5 ... 14 VDC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	5 mA	4 mA
Data width (internal)	4 bits	8 bits
Isolation	500 V system/field	500 V system/field
Surrounding air temperature (operation)	0 ... +55 °C	0 ... +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm	12 x 69 x 100 mm
Approvals	CE, OrdLoc/HazLoc	CE, Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-414	wago.com/753-434
Accessories		Item No.
Pluggable connector		753-110
Coding keys		753-150

Notice:
An additional supply module must be added for operation with 5 VDC!

*A suitable field side connection module (e.g., 750-614) must also be used to connect other sensors.

Notice:
An additional supply module must be added for 5–14 VDC supply!

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 518 or www.wago.com

Digital Input; 24 VDC; 3 ms



Figure: 750-400

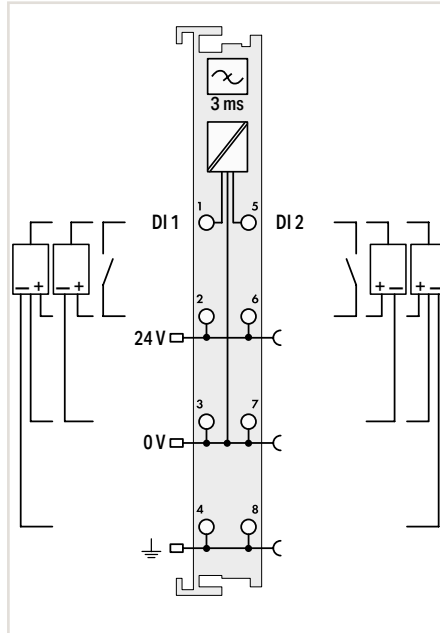
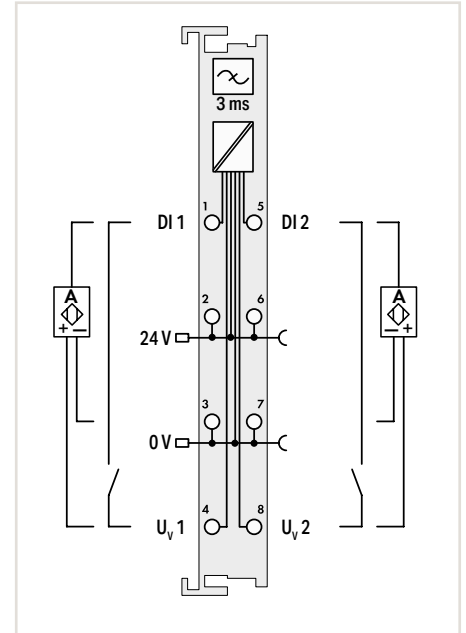


Figure: 753-400



Item Description		2-Channel Digital Input; 24 VDC; 3 ms			2-Channel Digital Input; 24 VDC; 3 ms; Acknowledgement; Diagnostics	
Version		Standard	Extended temperature	Pluggable (delivery without connector)	Standard	Pluggable (delivery without connector)
Item No.		750-400	750-400/025-000	753-400	750-418	753-418
Order Text		2DI; 24 VDC; 3ms	2DI; 24 VDC; 3ms; T	2DI; 24 VDC; 3ms	2DI; 24 VDC; 3ms; Acknol; Diagn	2DI; 24 VDC; 3ms; Acknol; Diagn
Technical Data						
Pluggable connector				•		•
Number of digital inputs		2			2	
Signal type		24 VDC			24 VDC	
Voltage range for signal (0)		-3 ... +5 VDC			-3 ... +5 VDC	
Voltage range for signal (1)		15 ... 30 VDC			15 ... 30 VDC	
Sensor connection		2-wire; 3-wire; 4-wire			2-wire; 3-wire	
Input characteristic		High-side switching			High-side switching	
Input filter (digital)		3 ms			3 ms	
Input current per channel for signal (1) typ.		4.5 mA			3.7 mA	
Supply voltage (sensor)		24 VDC			24 VDC; short-circuit-protected; isolated channels	
Supply voltage (field)		24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)			24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)	
Current consumption – system supply (5 V)		3.7 mA			12 mA	
Data width (internal)		2 bits			4 bits	
Diagnostics					Short circuit; active acknowledgement after error rectified	
Isolation		500 V system/field			500 V system/field	
Surrounding air temperature (operation)		0 ... +55 °C	-20 ... +60 °C	0 ... +55 °C	0 ... +55 °C	
Dimensions W x H x D		12 x 69.8 x 100 mm			12 x 69.8 x 100 mm	
Approvals		CE; Marine; OrdLoc/HazLoc; ATEX/IECEX			CE; Marine; OrdLoc/HazLoc; ATEX/IECEX	
Data sheet and further information, see:		wago.com/750-400		wago.com/753-400	wago.com/750-418	wago.com/753-418
Accessories		Item No.			Item No.	
Pluggable connector		753-110			753-110	
Coding keys		753-150			753-150	

Digital Input; 24 VDC; 3 ms



Figure: 750-421

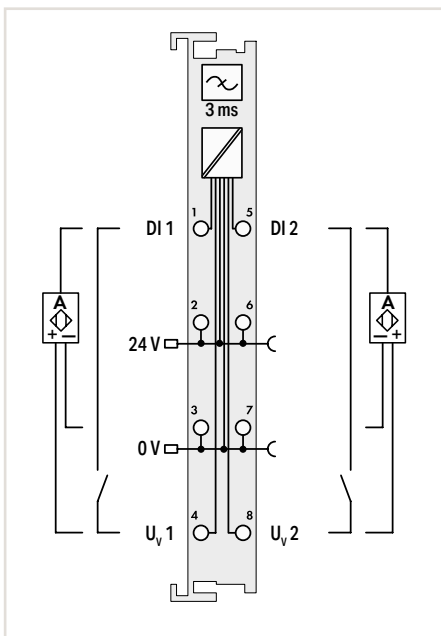
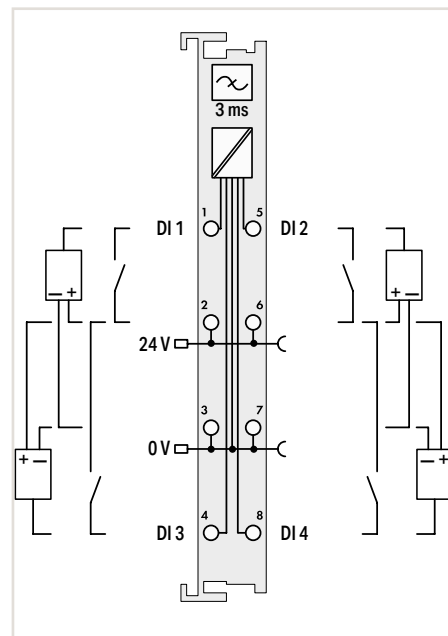


Figure: 750-402



Item Description

Version

Item No.

Order Text

2-Channel Digital Input; 24 VDC; 3 ms; Diagnostics

Standard

Pluggable (delivery without connector)

750-421

753-421

2DI; 24 VDC; 3ms;
Diagn

2DI; 24 VDC; 3ms;
Diagn

4-Channel Digital Input; 24 VDC; 3 ms

Standard

Extended temperature

Pluggable (delivery without connector)

750-402

750-402/025-000

753-402

4DI; 24 VDC;
3ms

4DI; 24 VDC;
3ms; T

4DI; 24 VDC;
3ms

Technical Data

Pluggable connector		•
Number of digital inputs	2	
Signal type	24 VDC	
Voltage range for signal (0)	-3 ... +5 VDC	
Voltage range for signal (1)	15 ... 30 VDC	
Sensor connection	2-wire; 3-wire	
Input characteristic	High-side switching	
Input filter (digital)	3 ms	
Input current per channel for signal (1) typ.	3.7 mA	
Supply voltage (sensor)	24 VDC; short-circuit-protected; isolated channels	
Supply voltage (field)	24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)	
Current consumption – system supply (5 V)	12 mA	
Data width (internal)	4 bits	
Diagnostics	Short circuit; automatic acknowledgement after error rectified	
Isolation	500 V system/field	
Surrounding air temperature (operation)	0 ... +55 °C	
Dimensions W x H x D	12 x 69.8 x 100 mm	
Approvals	CE, Marine; OrdLoc/HazLoc; ATEX/IECEX	
Data sheet and further information, see:	wago.com/750-421	wago.com/753-421

Accessories

Pluggable connector

Coding keys

Item No.

753-110

753-150

		•
4		
24 VDC		
-3 ... +5 VDC		
15 ... 30 VDC		
2 x (2-wire; 3-wire)*		
High-side switching		
3 ms		
4.5 mA		
24 VDC		
24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)		
7.5 mA		
4 bits		
500 V system/field		
0 ... +55 °C	-20 ... +60 °C	0 ... +55 °C
12 x 69.8 x 100 mm		
CE, Marine; OrdLoc/HazLoc; ATEX/IECEX		
wago.com/750-402	wago.com/753-402	

*A suitable field side connection module (e.g., 750-614) must also be used to connect other sensors.

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 518 or www.wago.com

Digital Input; 24 VDC; 3 ms



Figure: 750-432

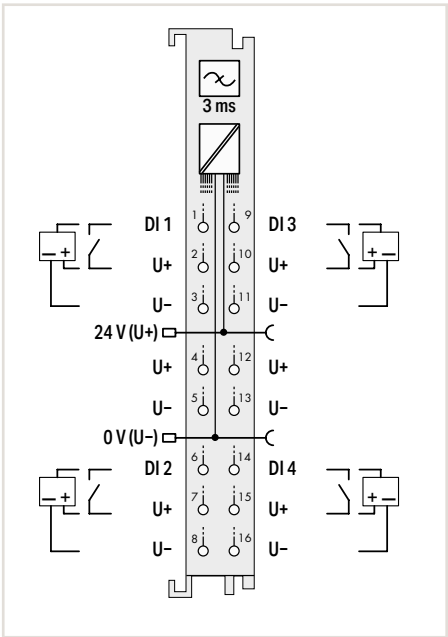
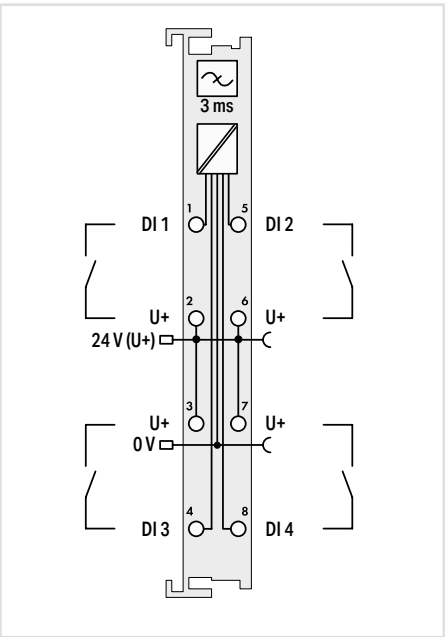


Figure: 750-1420

Item Description	4-Channel Digital Input; 24 VDC; 3 ms; 2-wire connection		4-Channel Digital Input; 24 VDC; 3 ms; 3-wire connection
Version	Standard	Pluggable (delivery without connector)	Standard with 16 connectors
Item No.	750-432	753-432	750-1420
Order Text	4DI; 24 VDC; 3ms; 2-wire	4DI; 24 VDC; 3ms; 2-wire	4DI; 24 VDC; 3ms; 3-wire
Technical Data			
Pluggable connector		●	
Number of digital inputs	4		4
Signal type	24 VDC		24 VDC
Voltage range for signal (0)	-3 ... +5 VDC		-3 ... +5 VDC
Voltage range for signal (1)	15 ... 30 VDC		11 ... 30 VDC
Sensor connection	2-wire		3-wire
Input characteristic	High-side switching		High-side switching
Input filter (digital)	3 ms		3 ms
Input current per channel for signal (1) typ.	4.5 mA		4.5 mA
Supply voltage (sensor)	24 VDC		24 VDC
Supply voltage (field)	24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)		24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	5.5 mA		4 mA
Data width (internal)	4 bits		4 bits
Isolation	500 V system/field		500 V system/field
Surrounding air temperature (operation)	0 ... +55 °C		0 ... +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm		12 x 69 x 100 mm
Approvals	CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx		CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx
Data sheet and further information, see:	wago.com/750-432	wago.com/753-432	wago.com/750-1420
Accessories		Item No.	
Pluggable connector		753-110	
Coding keys		753-150	

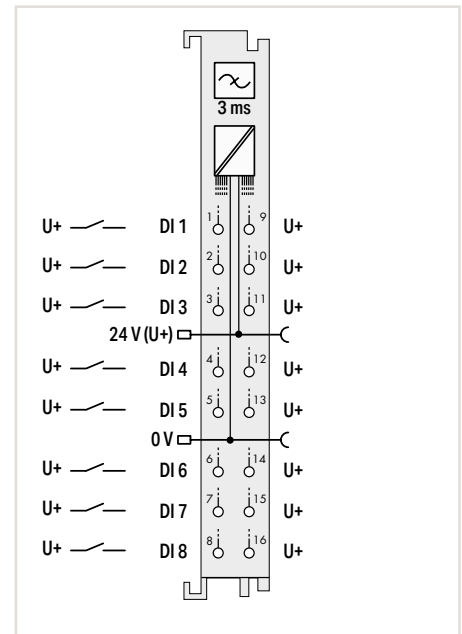
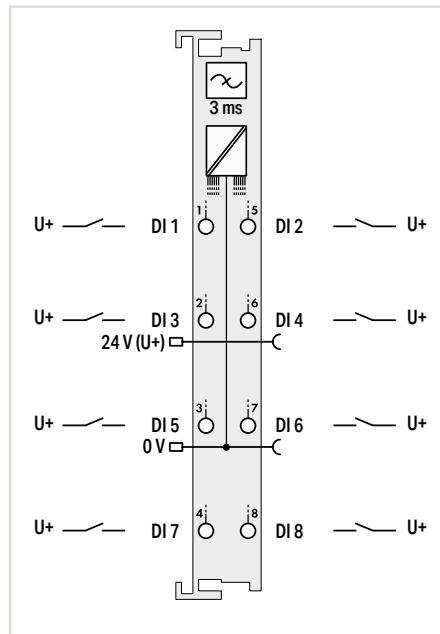
Digital Input; 24 VDC; 3 ms



Figure: 750-430



Figure: 750-1415



Item Description	8-Channel Digital Input; 24 VDC; 3 ms			8-Channel Digital Input; 24 VDC; 3 ms; 2-wire connection
Version	Standard	Extended temperature	Pluggable (delivery without connector)	Standard with 16 connectors
Item No.	750-430	750-430/025-000	753-430	750-1415
Order Text	8DI; 24 VDC; 3ms	8DI; 24 VDC; 3ms; T	8DI; 24 VDC; 3ms	8DI; 24 VDC; 3ms; 2-wire
Technical Data				
Pluggable connector			●	
Number of digital inputs	8			8
Signal type	24 VDC			24 VDC
Voltage range for signal (0)	-3 ... +5 VDC			-3 ... +5 VDC
Voltage range for signal (1)	15 ... 30 VDC			11 ... 30 VDC
Sensor connection	1-wire			2-wire
Input characteristic	High-side switching			High-side switching
Input filter (digital)	3 ms			3 ms
Input current per channel for signal (1) typ.	2.8 mA			4.5 mA
Supply voltage (sensor)				24 VDC
Supply voltage (field)	24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)			24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	17 mA			6 mA
Data width (internal)	8 bits			8 bits
Isolation	500 V system/field			500 V system/field
Surrounding air temperature (operation)	0 ... +55 °C	-20 ... +60 °C	0 ... +55 °C	0 ... +55 °C
Dimensions W x H x D	12 x 67.8 x 100 mm		12 x 69 x 100 mm	12 x 69 x 100 mm
Approvals	CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx			CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx
Data sheet and further information, see:	wago.com/750-430		wago.com/753-430	wago.com/750-1415
Accessories	Item No.			
Pluggable connector	753-110			
Coding keys	753-150			

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 518 or www.wago.com

Digital Input; 24 VDC; 3 ms



Figure: 750-1400

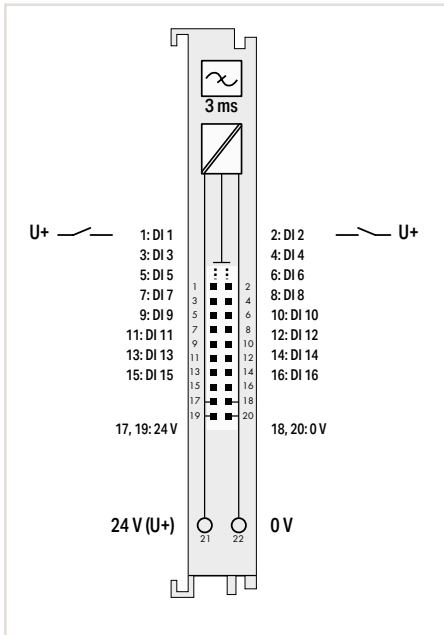
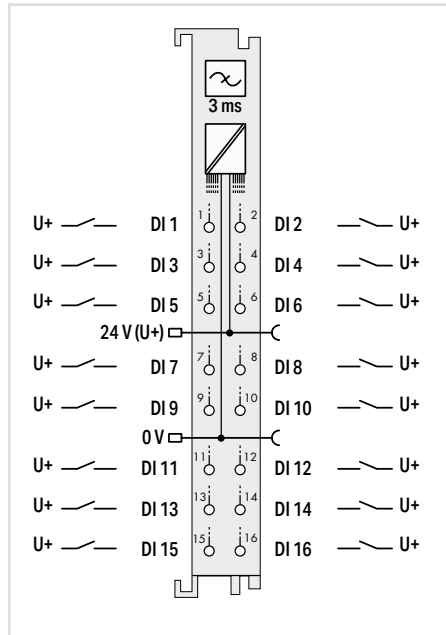


Figure: 750-1405



Item Description	16-Channel Digital Input; 24 VDC; 3 ms; Ribbon cable	16-Channel Digital Input; 24 VDC; 3 ms
Version	Standard with ribbon cable connector	Standard with 16 connectors
Item No.	750-1400	750-1405
Order Text	16DI; 24 VDC; 3ms; Ribbon Cable	16DI; 24 VDC; 3ms
Technical Data		
Number of digital inputs	16	16
Signal type	24 VDC	24 VDC
Voltage range for signal (0)	-3 ... +5 VDC	-3 ... +5 VDC
Voltage range for signal (1)	15 ... 30 VDC	15 ... 30 VDC
Sensor connection	1-wire	1-wire
Input characteristic	High-side switching	High-side switching
Input filter (digital)	3 ms	3 ms
Input current per channel for signal (1) typ.	2.3 mA	2.3 mA
Supply voltage (sensor)	24 VDC	
Supply voltage (field)	24 VDC (-25 ... +30 %); via wiring interface (CAGE CLAMP® connection)	24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	25 mA	25 mA
Data width (internal)	16 bits	16 bits
Isolation	500 V system/field	500 V system/field
Surrounding air temperature (operation)	0 ... +55 °C	0 ... +55 °C
Dimensions W x H x D	12 x 74.1 x 100 mm	12 x 69 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-1400	wago.com/750-1405
Accessories	Item No. See Section 10	
Interface modules for system wiring and inter-face cable		

Digital Input/Output; 24 VDC



Figure: 750-1502

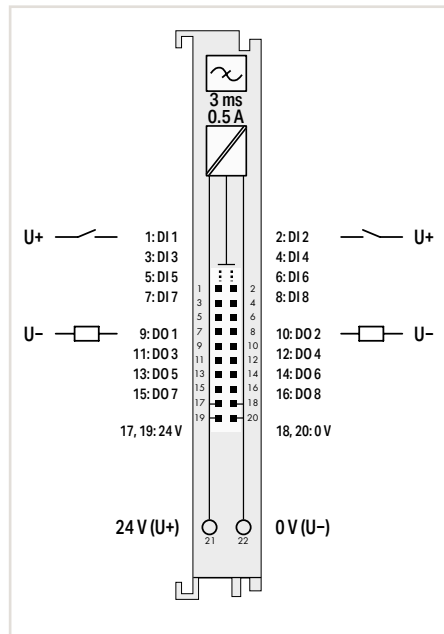
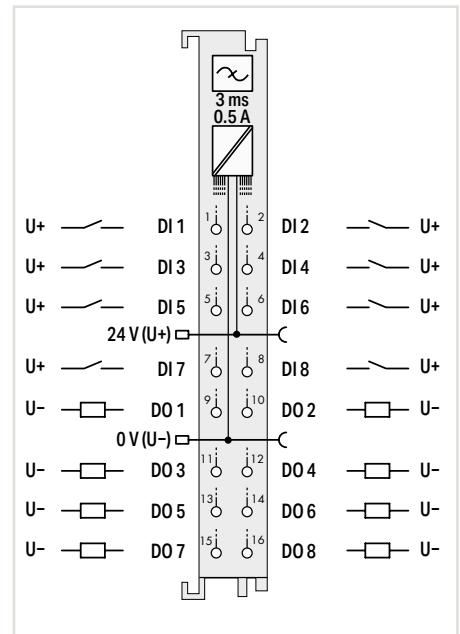


Figure: 750-1506



Item Description	8-Channel Digital Input/Output; 24 VDC; 0.5 A; Ribbon cable	8-Channel Digital Input/Output; 24 VDC; 0.5 A
Version	Standard with ribbon cable connector	Standard with 16 connectors
Item No.	750-1502	750-1506
Order Text	8DIO; 24 VDC; 0.5A; Ribbon Cable	8DIO; 24 VDC; 0.5A
Technical Data		
Number of digital inputs	8	8
Signal type	24 VDC	24 VDC
Voltage range for signal (0)	-3 ... +5 VDC	-3 ... +5 VDC
Voltage range for signal (1)	15 ... 30 VDC	15 ... 30 VDC
Sensor connection	1-wire	1-wire
Input characteristic	High-side switching	High-side switching
Input filter (digital)	3 ms	3 ms
Input current per channel for signal (1) typ.	2.4 mA	2.4 mA
Number of digital outputs	8	8
Output characteristic	High-side switching	High-side switching
Output current per channel	0.5 A; short-circuit-protected	0.5 A; short-circuit-protected
Load type	Resistive; inductive; lamp load	Resistive; inductive; lamp load
Actuator connection	1-wire	1-wire
Switching frequency (max.)	1 kHz	1 kHz
Current consumption, field supply (module with no external load)	16 mA	16 mA
Supply voltage (field)	24 VDC (-25 ... +30 %); via wiring interface (CAGE CLAMP® connection)	24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	30 mA	30 mA
Data width (internal)	8-bit input and 8-bit output	8-bit input and 8-bit output
Isolation	500 V system/field	500 V system/field
Surrounding air temperature (operation)	0 ... +55 °C	0 ... +55 °C
Dimensions W x H x D	12 x 74.1 x 100 mm	12 x 69 x 100 mm
Approvals	CE, Marine, OrdLoc/HazLoc; ATEX/IECEx	CE, Marine, OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-1502	wago.com/750-1506
Accessories	Item No.	
Interface modules for system wiring and inter-face cable	See Section 10	

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

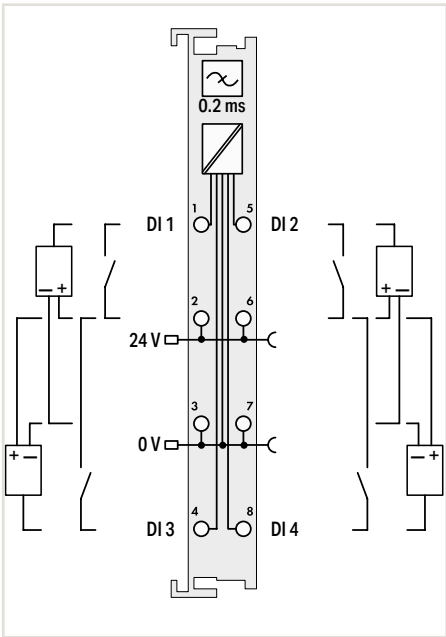
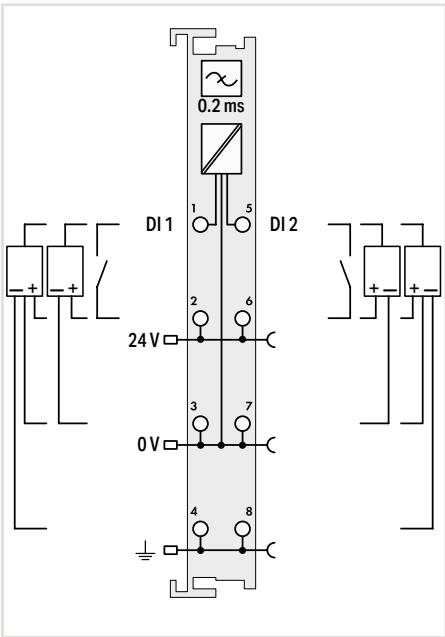
„ Approvals and corresponding ratings, see page 518 or www.wago.com

Digital Input; 24 VDC; 0.2 ms



Figure: 750-401

Figure: 753-401



Item Description		2-Channel Digital Input; 24 VDC; 0.2 ms		4-Channel Digital Input; 24 VDC; 0.2 ms	
Version		Standard	Pluggable (delivery without connector)	Standard	Pluggable (delivery without connector)
Item No.		750-401	753-401	750-403	753-403
Order Text		2DI; 24 VDC; 0.2ms	2DI; 24 VDC; 0.2ms	4DI; 24 VDC; 0.2ms	4DI; 24 VDC; 0.2ms
Technical Data					
Pluggable connector					
Number of digital inputs		2		4	
Signal type		24 VDC		24 VDC	
Voltage range for signal (0)		-3 ... +5 VDC		-3 ... +5 VDC	
Voltage range for signal (1)		15 ... 30 VDC		15 ... 30 VDC	
Sensor connection		2-wire; 3-wire; 4-wire		2 x (2-wire; 3-wire)*	
Input characteristic		High-side switching		High-side switching	
Input filter (digital)		0.2 ms		0.2 ms	
Input current per channel for signal (1) typ.		4.5 mA		4.5 mA	
Supply voltage (sensor)		24 VDC		24 VDC	
Supply voltage (field)		24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)		24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)	
Current consumption – system supply (5 V)		3.7 mA		7.5 mA	
Data width (internal)		2 bits		4 bits	
Isolation		500 V system/field		500 V system/field	
Surrounding air temperature (operation)		0 ... +55 °C		0 ... +55 °C	
Dimensions W x H x D		12 x 69.8 x 100 mm		12 x 69.8 x 100 mm	
Approvals		CE; Marine; OrdLoc/HazLoc; ATEX/IECEX		CE; Marine; OrdLoc/HazLoc; ATEX/IECEX	
Data sheet and further information, see:		wago.com/750-401	wago.com/753-401	wago.com/750-403	wago.com/753-403
Accessories		Item No.		Item No.	
Pluggable connector		753-110		753-110	
Coding keys		753-150		753-150	

*A suitable field side connection module (e.g., 750-614) must also be used to connect other sensors.

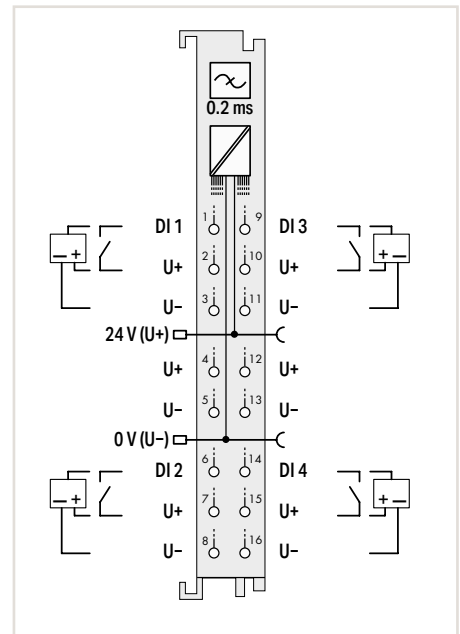
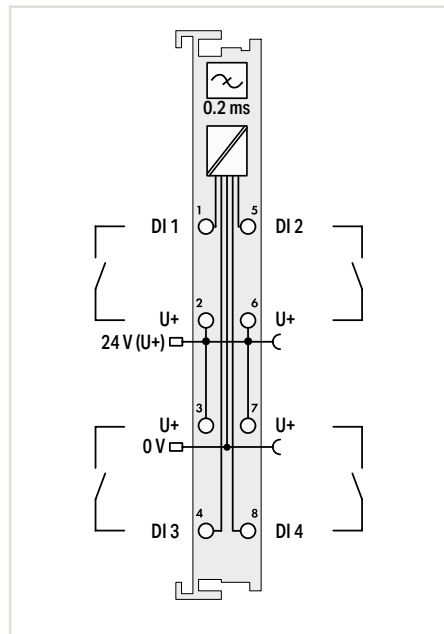
Digital Input; 24 VDC; 0.2 ms



Figure: 750-433



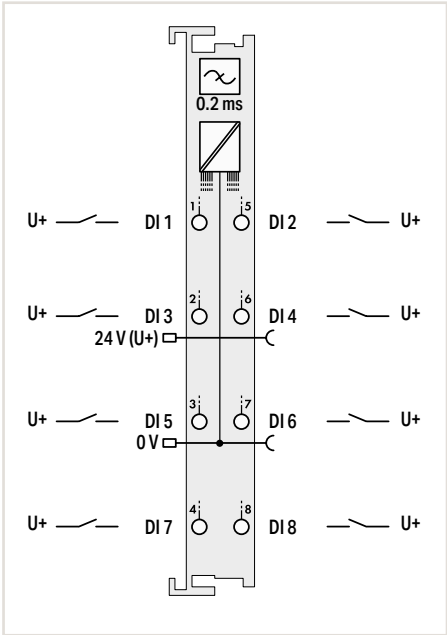
Figure: 750-1421



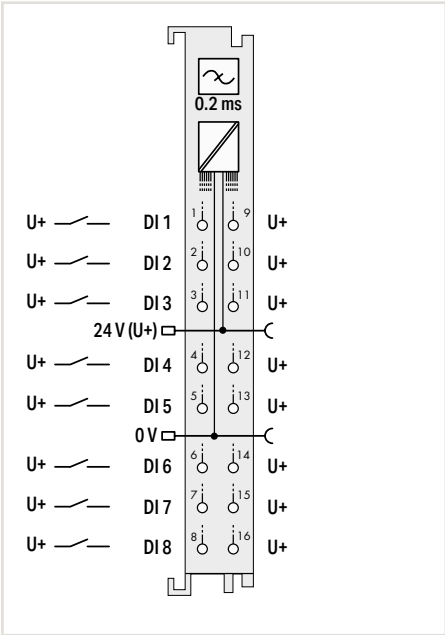
Item Description	4-Channel Digital Input; 24 VDC; 0.2 ms; 2-wire connection		4-Channel Digital Input; 24 VDC; 0.2 ms; 3-wire connection
Version	Standard	Pluggable (delivery without connector)	Standard with 16 connectors
Item No.	750-433	753-433	750-1421
Order Text	4DI; 24 VDC; 0.2ms	4DI; 24 VDC; 0.2ms	4DI; 24 VDC; 0.2ms; 3-wire
Technical Data			
Pluggable connector		●	
Number of digital inputs	4		4
Signal type	24 VDC		24 VDC
Voltage range for signal (0)	-3 ... +5 VDC		-3 ... +5 VDC
Voltage range for signal (1)	15 ... 30 VDC		11 ... 30 VDC
Sensor connection	2-wire		3-wire
Input characteristic	High-side switching		High-side switching
Input filter (digital)	0.2 ms		0.2 ms
Input current per channel for signal (1) typ.	4.5 mA		4.5 mA
Supply voltage (sensor)	24 VDC		24 VDC
Supply voltage (field)	24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)		24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	5.5 mA		4 mA
Data width (internal)	4 bits		4 bits
Isolation	500 V system/field		500 V system/field
Surrounding air temperature (operation)	0 ... +55 °C		0 ... +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm		12 x 69 x 100 mm
Approvals	CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX		CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX
Data sheet and further information, see:	wago.com/750-433	wago.com/753-433	wago.com/750-1421
Accessories		Item No.	
Pluggable connector		753-110	
Coding keys		753-150	

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

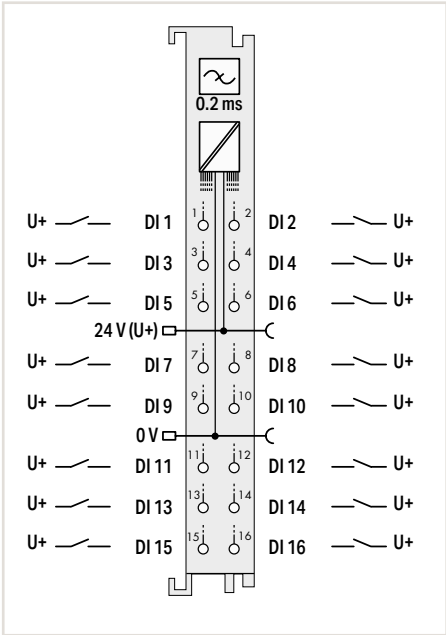
„ Approvals and corresponding ratings, see page 518 or www.wago.com



8-Channel Digital Input; 24 VDC; 0.2 ms	
Standard	Pluggable (delivery without connector)
750-431	753-431
8DI; 24 VDC; 0.2ms	8DI; 24 VDC; 0.2ms



8-Channel Digital Input; 24 VDC; 0.2 ms; 2-wire connection	
Standard with 16 connectors	
750-1416	
8DI; 24 VDC; 0.2ms; 2-wire	



16-Channel Digital Input; 24 VDC; 0.2 ms	
Standard with 16 connectors	
750-1406	
16DI; 24 VDC; 0.2ms	

8	
24 VDC	
-3 ... +5 VDC	
15 ... 30 VDC	
1-wire	
High-side switching	
0.2 ms	
2.8 mA	
24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)	
17 mA	
8 bits	
500 V system/field	
0 ... +55 °C	
12 x 67.8 x 100 mm	12 x 69 x 100 mm
CE; Marine; OrdLoc/HazLoc; ATEX/IECEx	
wago.com/750-431	wago.com/753-431

Item No.
753-110
753-150

8	
24 VDC	
-3 ... +5 VDC	
11 ... 30 VDC	
2-wire	
High-side switching	
0.2 ms	
4.5 mA	
24 VDC	
24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)	
6 mA	
8 bits	
500 V system/field	
0 ... +55 °C	
12 x 69 x 100 mm	
CE; Marine; OrdLoc/HazLoc; ATEX/IECEx	
wago.com/750-1416	

Item No.
750-1416

16	
24 VDC	
-3 ... +5 VDC	
15 ... 30 VDC	
1-wire	
High-side switching	
0.2 ms	
2.3 mA	
24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)	
25 mA	
16 bits	
500 V system/field	
0 ... +55 °C	
12 x 69 x 100 mm	
CE; Marine; OrdLoc/HazLoc; ATEX/IECEx	
wago.com/750-1406	

Item No.
750-1406

Digital Input; 24 VDC; 3 ms; Low-Side Switching



Figure: 750-408

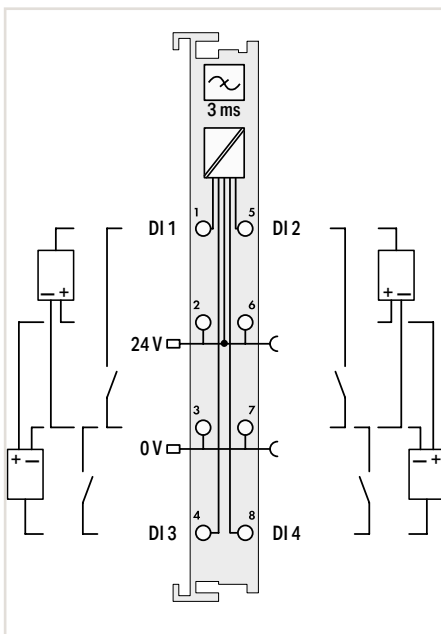
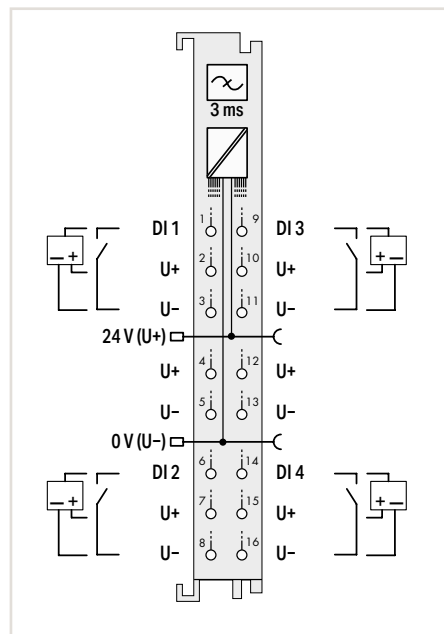


Figure: 750-1422



Item Description	4-Channel Digital Input; 24 VDC; 3 ms; Low-side switching			4-Channel Digital Input; 24 VDC; 3 ms; Low-side switching; 3-wire connection
Version	Standard	Extended temperature	Pluggable (delivery without connector)	Standard with 16 connectors
Item No.	750-408	750-408/025-000	753-408	750-1422
Order Text	4DI; 24 VDC; 3ms; LSS	4DI; 24 VDC; 3ms; LSS; T	4DI; 24 VDC; 3ms; LSS	4DI; 24 VDC; 3ms; LSS; 3-wire
Technical Data				
Pluggable connector			●	
Number of digital inputs	4			4
Signal type	24 VDC			24 VDC
Voltage range for signal (0)	(U _V - 5 V) ... U _V DC			(U _V - 5 V) ... U _V DC
Voltage range for signal (1)	-3 VDC ... (U _V - 15 V)			-3 VDC ... (U _V - 15 V)
Sensor connection	2 x (2-wire; 3-wire)*			3-wire
Input characteristic	Low-side switching			Low-side switching
Input filter (digital)	3 ms			3 ms
Input current per channel for signal (0) typ.	7 mA			2.5 mA
Supply voltage (sensor)	24 VDC			24 VDC
Supply voltage (field)	24 VDC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)			24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	5 mA			7 mA
Data width (internal)	4 bits			4 bits
Isolation	500 V system/field			500 V system/field
Surrounding air temperature (operation)	0 ... +55 °C	-20 ... +60 °C	0 ... +55 °C	0 ... +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm			12 x 69 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX			CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
Data sheet and further information, see:	wago.com/750-408		wago.com/753-408	wago.com/750-1422
Accessories				Item No.
Pluggable connector				753-110
Coding keys				753-150

*A suitable field side connection module (e.g., 750-614) must also be used to connect other sensors.

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 518 or www.wago.com

Digital Input; 24 VDC; 3 ms; Low-Side Switching



Figure: 750-436

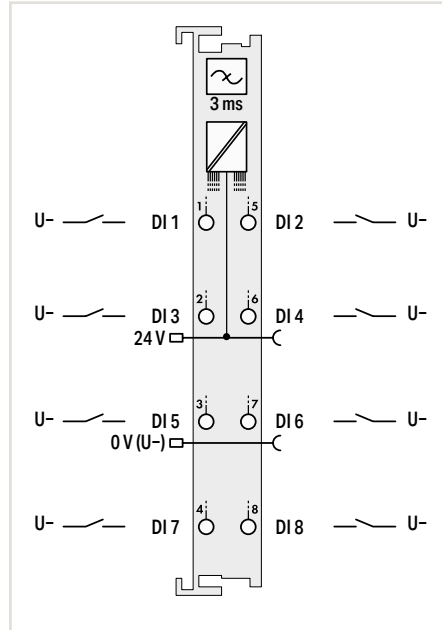
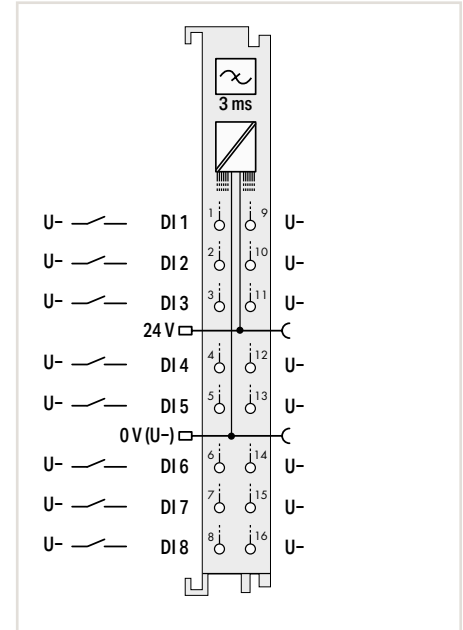


Figure: 750-1417



Item Description	8-Channel Digital Input; 24 VDC; 3 ms; Low-side switching		8-Channel Digital Input; 24 VDC; 3 ms; Low-side switching; 2-wire connection
Version	Standard	Pluggable (delivery without connector)	Standard with 16 connectors
Item No.	750-436	753-436	750-1417
Order Text	8DI; 24 VDC; 3ms; LSS	8DI; 24 VDC; 3ms; LSS	8DI; 24 VDC; 3ms; LSS; 2-wire
Technical Data			
Pluggable connector		●	
Number of digital inputs	8		8
Signal type	24 VDC		24 VDC
Voltage range for signal (0)	15 ... 30 VDC		(U _V - 5 V) ... U _V DC
Voltage range for signal (1)	-3 ... +5 VDC		-3 VDC ... (U _V - 15 V)
Sensor connection	1-wire		2-wire
Input characteristic	Low-side switching		Low-side switching
Input filter (digital)	3 ms		3 ms
Input current per channel for signal (0) typ.	2.8 mA		2.4 mA
Supply voltage (sensor)			24 VDC
Supply voltage (field)	24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)		24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	13 mA		12 mA
Data width (internal)	8 bits		8 bits
Isolation	500 V system/field		500 V system/field
Surrounding air temperature (operation)	0 ... +55 °C		0 ... +55 °C
Dimensions W x H x D	12 x 67.8 x 100 mm	12 x 69 x 100 mm	12 x 69 x 100 mm
Approvals	CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX		CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX
Data sheet and further information, see:	wago.com/750-436	wago.com/753-436	wago.com/750-1417
Accessories		Item No.	
Pluggable connector		753-110	
Coding keys		753-150	

Digital Input; 24 VDC; 3 ms; Low-Side Switching



Figure: 750-1402

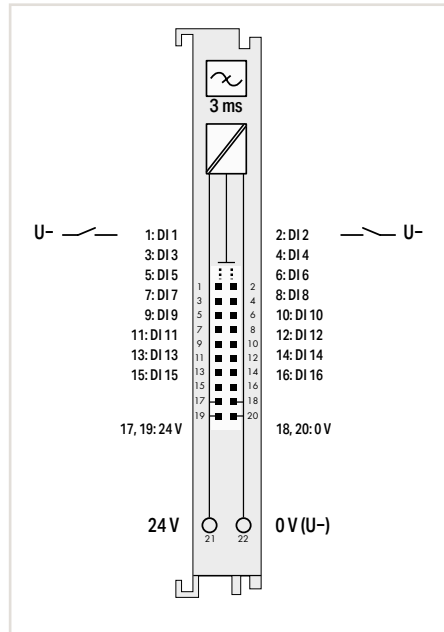
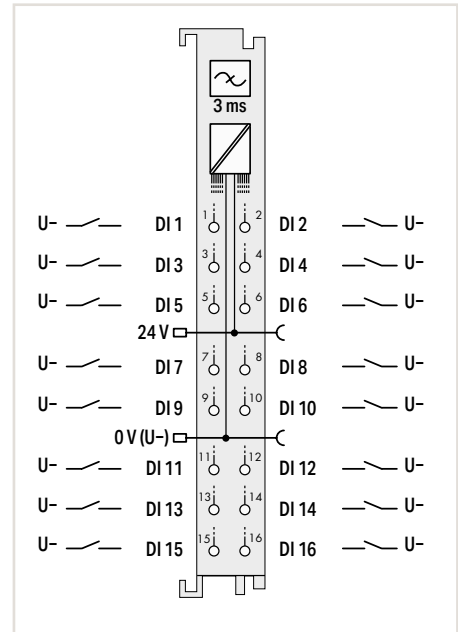


Figure: 750-1407



Item Description	16-Channel Digital Input; 24 VDC; 3 ms; Low-side switching; Ribbon cable	16-Channel Digital Input; 24 VDC; 3 ms; Low-side switching
Version	Standard with ribbon cable connector	Standard with 16 connectors
Item No.	750-1402	750-1407
Order Text	16DI; 24 VDC; 3ms; LSS; Ribbon Cable	16DI; 24 VDC; 3ms; LSS
Technical Data		
Number of digital inputs	16	16
Signal type	24 VDC	24 VDC
Voltage range for signal (0)	(U _V - 5 V) ... U _V DC	(U _V - 5 V) ... U _V DC
Voltage range for signal (1)	-3 VDC ... (U _V - 15 V)	-3 VDC ... (U _V - 15 V)
Sensor connection	1-wire	1-wire
Input characteristic	Low-side switching	Low-side switching
Input filter (digital)	3 ms	3 ms
Input current per channel for signal (1) typ.	2.3 mA	2.3 mA
Supply voltage (sensor)	24 VDC	24 VDC
Supply voltage (field)	24 VDC (-25 ... +30 %); via wiring interface (CAGE CLAMP® connection)	24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	25 mA	25 mA
Data width (internal)	16 bits	16 bits
Isolation	500 V system/field	500 V system/field
Surrounding air temperature (operation)	0 ... +55 °C	0 ... +55 °C
Dimensions W x H x D	12 x 74.1 x 100 mm	12 x 69 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-1402	wago.com/750-1407
Accessories		
Interface modules for system wiring and inter-face cable	Item No. See Section 10	

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

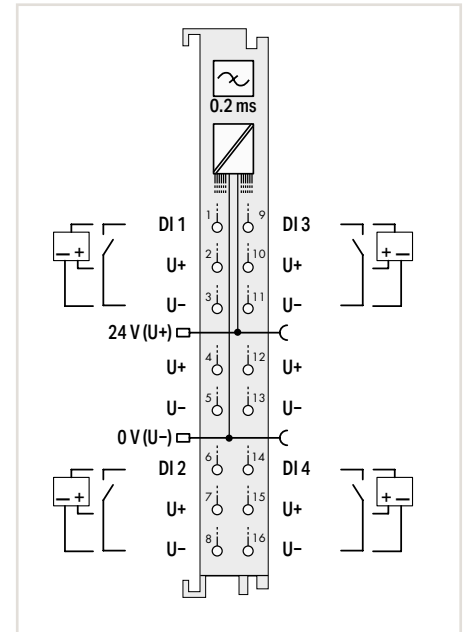
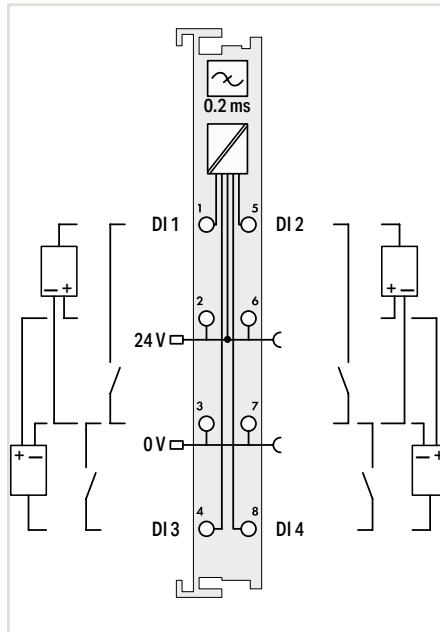
„ Approvals and corresponding ratings, see page 518 or www.wago.com

Digital Input; 24 VDC; 0.2 ms; Low-Side Switching



Figure: 750-409

Figure: 750-1423



Item Description		4-Channel Digital Input; 24 VDC; 0.2 ms; Low-side switching		4-Channel Digital Input; 24 VDC; 0.2 ms; Low-side switching; 3-wire connection
Version		Standard	Pluggable (delivery without connector)	Standard with 16 connectors
Item No.		750-409	753-409	750-1423
Order Text		4DI; 24 VDC; 0.2ms; LSS	4DI; 24 VDC; 0.2ms; LSS	4DI; 24 VDC; 0.2ms; LSS; 3-wire
Technical Data				
Pluggable connector			•	
Number of digital inputs		4		4
Signal type		24 VDC		24 VDC
Voltage range for signal (0)		$(U_V - 5\text{ V}) \dots U_V\text{ DC}$		$(U_V - 5\text{ V}) \dots U_V\text{ DC}$
Voltage range for signal (1)		$-3\text{ VDC} \dots (U_V - 15\text{ V})$		$-3\text{ VDC} \dots (U_V - 15\text{ V})$
Sensor connection		2 x (2-wire; 3-wire)*		3-wire
Input characteristic		Low-side switching		Low-side switching
Input filter (digital)		0.2 ms		0.2 ms
Input current per channel for signal (0) typ.		7 mA		2.5 mA
Supply voltage (sensor)		24 VDC		24 VDC
Supply voltage (field)		24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)		24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)		5 mA		7 mA
Data width (internal)		4 bits		4 bits
Isolation		500 V system/field		500 V system/field
Surrounding air temperature (operation)		0 ... +55 °C		0 ... +55 °C
Dimensions W x H x D		12 x 69.8 x 100 mm		12 x 69 x 100 mm
Approvals		CE; UL; OrdLoc/HazLoc; ATEX/IECEX		CE; UL; Marine; OrdLoc/HazLoc; ATEX/IECEX
Data sheet and further information, see:		wago.com/750-409	wago.com/753-409	wago.com/750-1423
Accessories		Item No.		
Pluggable connector		753-110		
Coding keys		753-150		

*A suitable field side connection module (e.g., 750-614) must also be used to connect other sensors.

Digital Input; 24 VDC; 0.2 ms; Low-Side Switching



Figure: 750-437

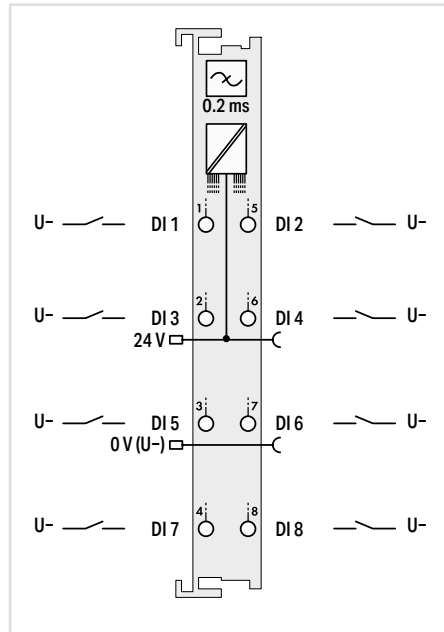
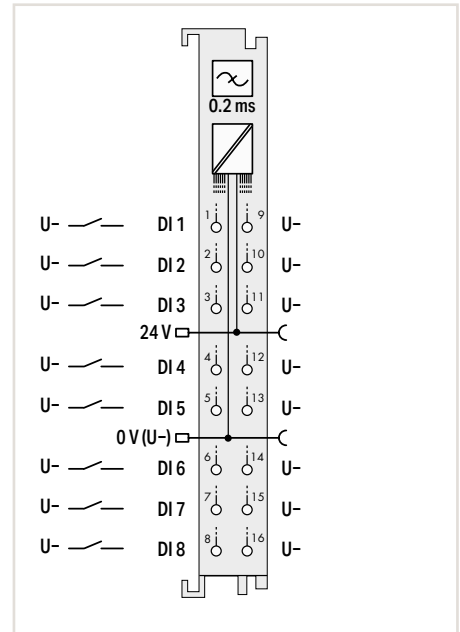


Figure: 750-1418



Item Description	8-Channel Digital Input; 24 VDC; 0.2 ms; Low-side switching		8-Channel Digital Input; 24 VDC; 0.2 ms; Low-side switching; 2-wire connection
Version	Standard	Pluggable (delivery without connector)	Standard with 16 connectors
Item No.	750-437	753-437	750-1418
Order Text	8DI; 24 VDC; 0.2ms; LSS	8DI; 24 VDC; 0.2ms; LSS	8DI; 24 VDC; 0.2ms; LSS; 2-wire
Technical Data			
Pluggable connector		●	
Number of digital inputs	8		8
Signal type	24 VDC		24 VDC
Voltage range for signal (0)	15 ... 30 VDC		(U _V - 5 V) ... U _V DC
Voltage range for signal (1)	-3 ... +5 VDC		-3 VDC ... (U _V - 15 V)
Sensor connection	1-wire		2-wire
Input characteristic	Low-side switching		Low-side switching
Input filter (digital)	0.2 ms		0.2 ms
Input current per channel for signal (0) typ.	2.8 mA		2.4 mA
Supply voltage (sensor)			24 VDC
Supply voltage (field)	24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)		24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	13 mA		12 mA
Data width (internal)	8 bits		8 bits
Isolation	500 V system/field		500 V system/field
Surrounding air temperature (operation)	0 ... +55 °C		0 ... +55 °C
Dimensions W x H x D	12 x 67.8 x 100 mm	12 x 69 x 100 mm	12 x 69 x 100 mm
Approvals	CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX		CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX
Data sheet and further information, see:	wago.com/750-437	wago.com/753-437	wago.com/750-1418
Accessories		Item No.	
Pluggable connector		753-110	
Coding keys		753-150	

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

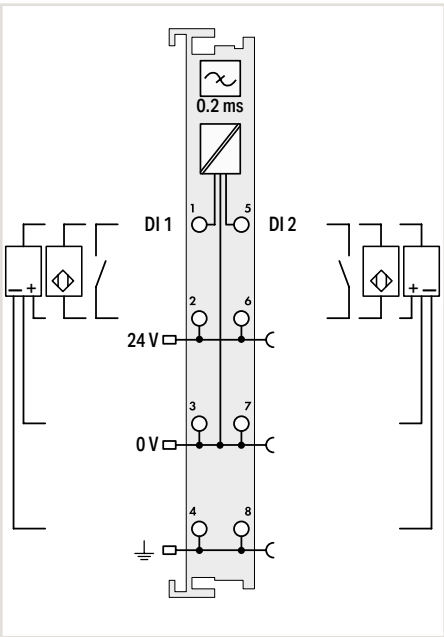
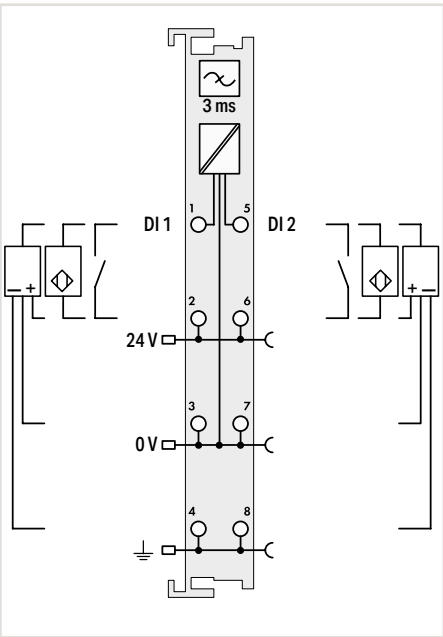
„ Approvals and corresponding ratings, see page 518 or www.wago.com

Digital Input; 24 VDC; Proximity Sensor



Figure: 750-410

Figure: 753-410



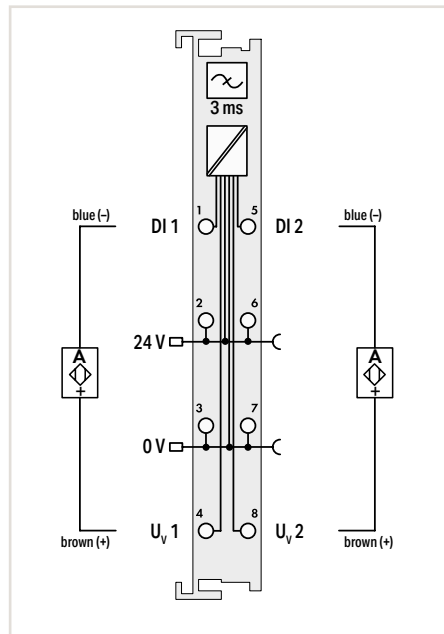
Item Description		2-Channel Digital Input; 24 VDC; 3 ms; Proximity sensor		2-Channel Digital Input; 24 VDC; 0.2 ms; Proximity sensor	
Version		Standard	Pluggable (delivery without connector)	Standard	Pluggable (delivery without connector)
Item No.		750-410	753-410	750-411	753-411
Order Text		2DI; 24 VDC; 3ms; Proxi Sensor	2DI; 24 VDC; 3ms; Proxi Sensor	2DI; 24 VDC; 0.2ms; Proxi Sensor	2DI; 24 VDC; 0.2ms; Proxi Sensor
Technical Data					
Pluggable connector			•		•
Number of digital inputs		2		2	
Signal type		24 VDC		24 VDC	
Voltage range for signal (0)		-3 ... +5 VDC		-3 ... +5 VDC	
Voltage range for signal (1)		15 ... 30 VDC		15 ... 30 VDC	
Sensor connection		2-wire; 3-wire; 4-wire		2-wire; 3-wire; 4-wire	
Input characteristic		High-side switching		High-side switching	
Input filter (digital)		3 ms		0.2 ms	
Input current per channel for signal (1) typ.		8 mA		8 mA	
Supply voltage (sensor)		24 VDC		24 VDC	
Supply voltage (field)		24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)		24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)	
Current consumption – system supply (5 V)		2.5 mA		2.5 mA	
Data width (internal)		2 bits		2 bits	
Isolation		500 V system/field		500 V system/field	
Surrounding air temperature (operation)		0 ... +55 °C		0 ... +55 °C	
Dimensions W x H x D		12 x 69.8 x 100 mm		12 x 69.8 x 100 mm	
Approvals		CE; Marine; OrdLoc/HazLoc; ATEX/IECEx		CE; Marine; OrdLoc/HazLoc; ATEX/IECEx	
Data sheet and further information, see:		wago.com/750-410	wago.com/753-410	wago.com/750-411	wago.com/753-411
Accessories			Item No.		Item No.
Pluggable connector			753-110		753-110
Coding keys			753-150		753-150

Digital Input; NAMUR



Figure: 750-425

Figure: 753-425



Item Description	
Version	
Item No.	
Order Text	
Technical Data	
Pluggable connector	•
Number of digital inputs	2
Signal type	NAMUR
Signal current (0) NAMUR	≤ 1.2 mA
Signal current (1) NAMUR	≥ 2.1 mA
Sensor connection	2-wire
Input characteristic	High-side switching
Input filter (digital)	3 ms
Open-circuit voltage	8.2 VDC
Diagnostics	Short circuit; wire break
Supply voltage (sensor)	8.2 VDC; short-circuit-protected; isolated channels
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	5 mA
Data width (internal)	4 bits
Isolation	500 V system/field
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
Data sheet and further information, see:	wago.com/750-425 wago.com/753-425
Accessories	
Pluggable connector	Item No. 753-110
Coding keys	753-150

This digital input module receives control signals from NAMUR proximity sensors (per DIN EN 60947-5-6) from the field side. Each channel of the sensors is supplied with a short-circuit-protected voltage of 8.2 V. A short circuit or a line break is indicated in the process image (1 bit) and via the red LED.

The green LED indicates the input status:

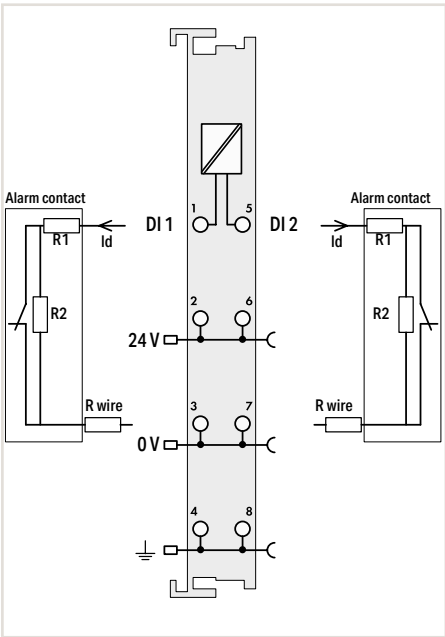
- Signal current (0): LED off
 - Signal current (1): LED on
- Field and system levels are electrically isolated.

Digital Input; Intruder Detection



Figure: 750-424

Figure: 753-424



Item Description	
Version	
Item No.	
Order Text	
Technical Data	
Pluggable connector	
Number of digital inputs	2
Signal type	Current loop (intruder detection)
Sensor connection	2-wire
Specific sensor properties	Alarm contact: R1 = 1.5 kΩ (±5 %); R2 = 2.2 kΩ (±5 %), Conductor resistance (R wire) max. 200 Ω
Supply voltage (sensor)	24 VDC
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption, field supply (module with no external load)	16 mA
Current consumption – system supply (5 V)	6 mA
Data width (internal)	4 bits
Isolation	500 V system/field
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
Data sheet and further information, see:	wago.com/750-424wago.com/753-424
Accessories	
Pluggable connector	Item No. 753-110
Coding keys	753-150

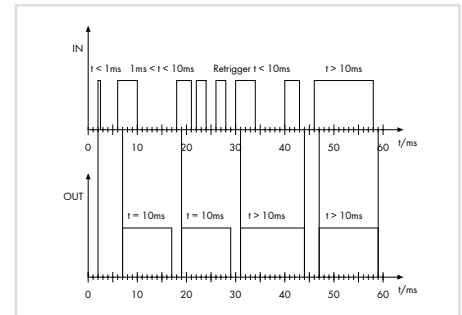
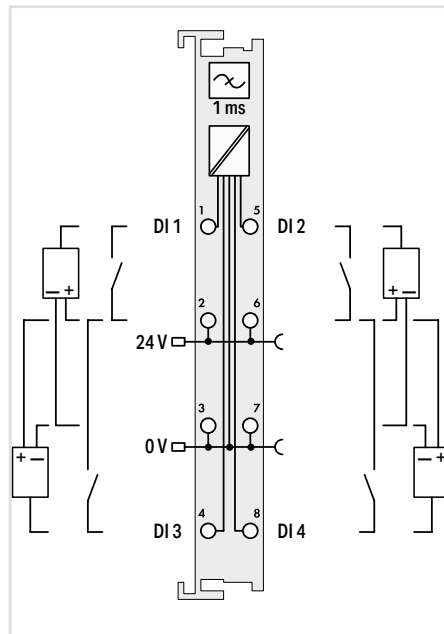
This I/O module incorporates a current loop, which makes it possible to monitor alarm contacts (window contacts) with a fixed resistance ratio (R1, R2), for intruder detection. The module indicates the status of the connected contact via LEDs and status bits in the process image.

Digital Input; 24 VDC; Pulse Extension



Figure: 750-422

Figure: 753-422



This I/O module extends input signals to at least 10 ms. Only signals ≥ 1 ms will be acquired. Input signals with a pulse duration > 10 ms are not extended (without fall delay). Field and system levels are electrically isolated.

Item Description	4-Channel Digital Input; 24 VDC; Pulse extension	
Version	Standard	Pluggable (delivery without connector)
Item No.	750-422	753-422
Order Text	4DI; 24 VDC; Pulse Extension	4DI; 24 VDC; Pulse Extension

Technical Data

Pluggable connector		•
Number of digital inputs	4	
Signal type	24 VDC	
Voltage range for signal (0)	-3 ... +5 VDC	
Voltage range for signal (1)	15 ... 30 VDC	
Sensor connection	2 x (2-wire; 3-wire)*	
Input characteristic	High-side switching	
Input filter (digital)	1 ms	
Input current per channel for signal (1) typ.	4 mA	
Signal frequency (max.)	80 Hz	
Supply voltage (sensor)	24 VDC	
Supply voltage (field)	24 VDC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)	
Current consumption – system supply (5 V)	9 mA	
Data width (internal)	4 bits	
Isolation	500 V system/field	
Surrounding air temperature (operation)	0 ... +55 °C	
Dimensions W x H x D	12 x 69.8 x 100 mm	
Approvals	CE, UL, OrdLoc/HazLoc, ATEX/IECEX	
Data sheet and further information, see:	wago.com/750-422	wago.com/753-422

Accessories

	Item No.
Pluggable connector	753-110
Coding keys	753-150

*A suitable field side connection module (e.g., 750-614) must also be used to connect other sensors.

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 518 or www.wago.com

Digital Input; 24 VAC/DC



Figure: 750-415

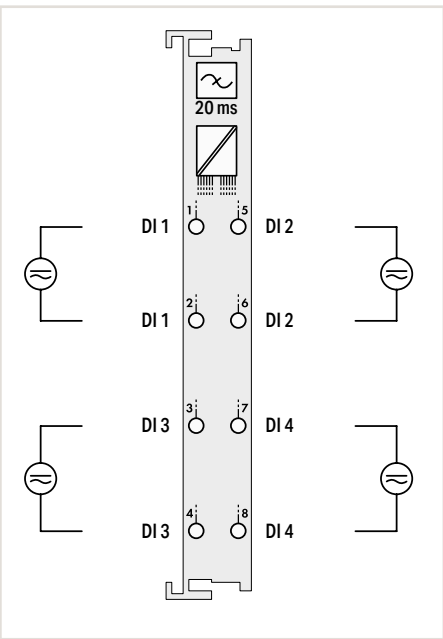
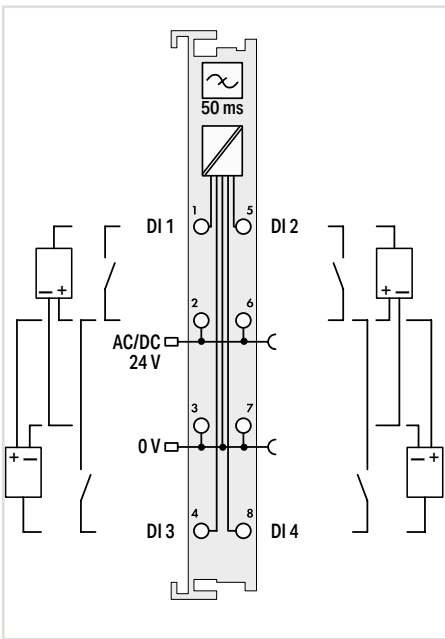


Figure: 753-415



Item Description
Version
Item No.
Order Text

4-Channel Digital Input; 24 VAC/DC; 20 ms	
Standard	Pluggable (delivery without connector)
750-415	753-415
4DI; 24 VAC/VDC; 20ms	4DI; 24 VAC/VDC; 20ms

4-Channel Digital Input; 24 VAC/DC; 50 ms	
Standard	Pluggable (delivery without connector)
750-423	753-423
4DI; 24 VAC/VDC; 50ms	4DI; 24 VAC/VDC; 50ms

Technical Data

Pluggable connector
Number of digital inputs
Signal type
Voltage range for signal (0)
Voltage range for signal (1)
Sensor connection
Input characteristic
Input filter (digital)
Input current (typ.) at 24 VDC
Input current (typ.) at 24 VAC
Supply voltage (sensor)
Supply voltage (field)

		•
	4	
	24 VAC/DC	
	-3 ... +5 VDC; 0 ... 5 VAC	
	11 ... 30 VDC; 10 ... 27 VAC	
	2-wire	
	High-side switching	
	20 ms	
	7.5 mA	
	9.5 mA	

		•
	4	
	24 VAC/DC	
	-3 ... +5 VDC; 0 ... 5 VAC	
	11 ... 30 VDC; 10 ... 27 VAC	
	2 x (2-wire; 3-wire)*	
	High-side switching	
	50 ms	
	7.5 mA	
	9.5 mA	

Current consumption – system supply (5 V)
Data width (internal)
Isolation
Surrounding air temperature (operation)
Dimensions W x H x D

10 mA
4 bits
500 V (system/field); 50 V (channel/channel)
0 ... +55 °C
12 x 69.8 x 100 mm

10 mA
4 bits
500 V system/field
0 ... +55 °C
12 x 69.8 x 100 mm

Approvals

CE; Marine; OrdLoc/HazLoc; ATEX/IECEx

CE; Marine; OrdLoc/HazLoc; ATEX/IECEx

Data sheet and further information, see:

wago.com/750-415	wago.com/753-415

wago.com/750-423	wago.com/753-423

Accessories
Pluggable connector
Coding keys

Item No.
753-110
753-150

Item No.
753-110
753-150

Notice:
An additional supply module must be added for 24 VAC supply!

*A suitable field side connection module (e.g., 750-614) must also be used to connect other sensors.

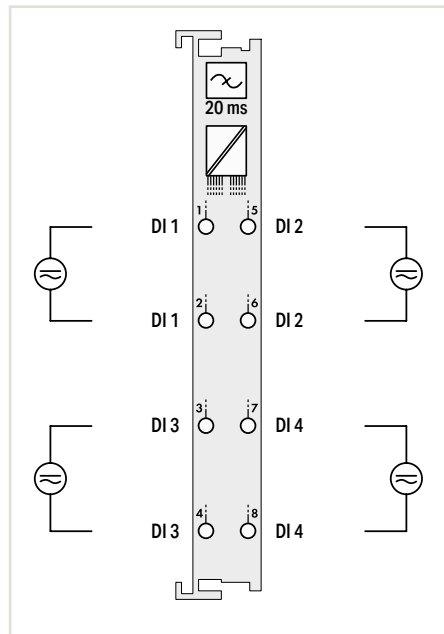
Digital Input; 42 VAC/DC



Figure: 750-428



Figure: 753-428



Item Description		4-Channel Digital Input; 24 VAC/DC; 20 ms	
Version		Standard	Pluggable (delivery without connector)
Item No.		750-428	753-428
Order Text		4DI; 42 VAC/VDC; 20ms	4DI; 42 VAC/VDC; 20ms
Technical Data			
Pluggable connector		●	
Number of digital inputs		4	
Signal type		42 VAC/VDC	
Voltage range for signal (0)		-3 ... +10 VDC; 0 ... 10 VAC	
Voltage range for signal (1)		30 ... 53 VDC; 30 ... 53 VAC	
Sensor connection		2-wire	
Input characteristic		High-side switching	
Input filter (digital)		20 ms	
Input current (typ.) at 42 VDC		3.6 mA	
Input current (typ.) at 42 VAC		6 mA	
Current consumption – system supply (5 V)		5 mA	
Data width (internal)		4 bits	
Isolation		500 V (system/field); 500 V (channel/channel)	
Surrounding air temperature (operation)		0 ... +55 °C	
Dimensions W x H x D		12 x 69.8 x 100 mm	
Approvals		CE; UL; OrdLoc/HazLoc; ATEX/IECEx	
Data sheet and further information, see:		wago.com/750-428	wago.com/753-428
Accessories		Item No.	
Pluggable connector		753-110	
Coding keys		753-150	

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

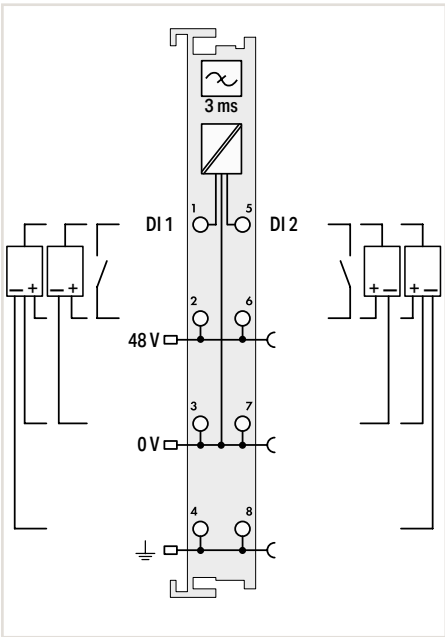
„ Approvals and corresponding ratings, see page 518 or www.wago.com

Digital Input; 48 VDC



Figure: 750-412

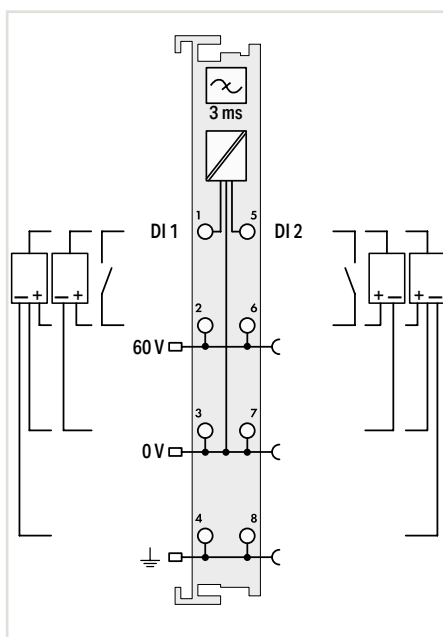
Figure: 753-412



Item Description		2-Channel Digital Input; 48 VDC; 3 ms	
Version		Standard	Pluggable (delivery without connector)
Item No.		750-412	753-412
Order Text		2DI; 48 VDC; 3ms	2DI; 48 VDC; 3ms
Technical Data			
Pluggable connector			●
Number of digital inputs		2	
Signal type		48 VDC	
Voltage range for signal (0)		-6 ... +10 VDC	
Voltage range for signal (1)		34 ... 60 VDC	
Sensor connection		2-wire; 3-wire; 4-wire	
Input characteristic		High-side switching	
Input filter (digital)		3 ms	
Input current per channel for signal (1) typ.		3.8 mA	
Supply voltage (sensor)		48 VDC	
Supply voltage (field)		48 VDC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)	
Current consumption – system supply (5 V)		2.5 mA	
Data width (internal)		2 bits	
Isolation		500 V system/field	
Surrounding air temperature (operation)		0 ... +55 °C	
Dimensions W x H x D		12 x 69.8 x 100 mm	
Approvals		CE, OrdLoc/HazLoc, ATEX/IECEX	
Data sheet and further information, see:		wago.com/750-412	wago.com/753-412
Accessories		Item No.	
Pluggable connector		753-110	
Coding keys		753-150	

Notice:
An additional supply module must be added for 48 VDC supply!

Digital Input; 60 VDC



Item Description	2-Channel Digital Input; 60 VDC; 3 ms
Version	Pluggable (delivery without connector)
Item No.	753-429
Order Text	2DI; 60 VDC; 3ms
Technical Data	
Pluggable connector	•
Number of digital inputs	2
Signal type	60 VDC
Voltage range for signal (0)	-7.5 ... +12 VDC
Voltage range for signal (1)	44 ... 75 VDC
Sensor connection	2-wire; 3-wire; 4-wire
Input characteristic	High-side switching
Input filter (digital)	3 ms
Input current per channel for signal (1) typ.	2.9 mA
Supply voltage (sensor)	60 VDC
Supply voltage (field)	60 VDC (-20 ... +25 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	2.5 mA
Data width (internal)	2 bits
Isolation	500 V system/field
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm
Approvals	CE; UL; OrdLoc/HazLoc; ATEX/IECEEx
Data sheet and further information, see:	wago.com/753-429
Accessories	
Pluggable connector	753-110
Coding keys	753-150

Notice:
An additional supply module must be added for 60 VDC supply!

„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

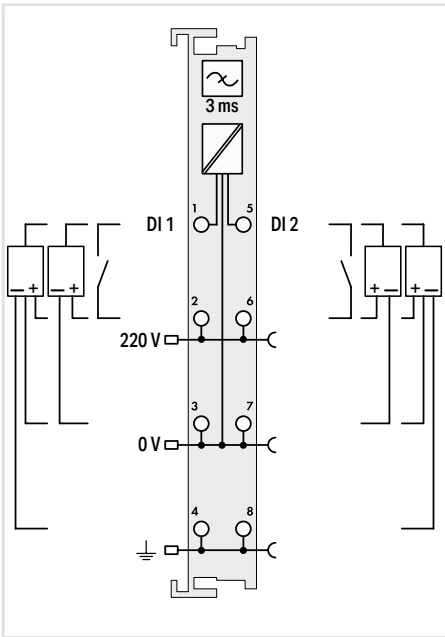
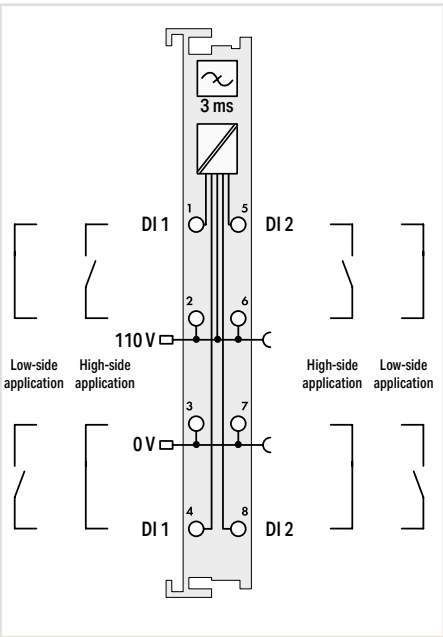
„ Approvals and corresponding ratings, see page 518 or www.wago.com

Digital Input, 110 VDC or 220 VDC



Figure: 750-427

Figure: 750-407



Item Description		2-Channel Digital Input; 110 VDC		2-Channel Digital Input; 220 VDC	
Version		Standard	Pluggable (delivery without connector)	Standard	
Item No.		750-427	753-427	750-407	
Order Text		2DI; 110 VDC	2DI; 110 VDC	2DI; 220 VDC	
Technical Data					
Pluggable connector					
Number of digital inputs		2		2	
Signal type		110 VDC		220 VDC	
Voltage range for signal (0)		-14 ... +50 VDC		-3 ... +100 VDC	
Voltage range for signal (1)		-70 ... +143 VDC		160 ... 286 VDC	
Sensor connection		2-wire		2-wire; 3-wire; 4-wire	
Input characteristic		High-side/low-side switching; configurable		High-side switching	
Input filter (digital)		3 ms		3 ms	
Input current per channel for signal (1) typ.		2.5 mA		1.2 mA	
Supply voltage (sensor)		110 VDC		220 VDC	
Supply voltage (field)		110 VDC (-20 ... +25 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)		220 VDC (-20 ... +25 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)	
Current consumption – system supply (5 V)		2.5 mA		5 mA	
Data width (internal)		2 bits		2 bits	
Isolation		1500 V (system/field)		2500 V (system/field)	
Surrounding air temperature (operation)		0 ... +55 °C		0 ... +55 °C	
Dimensions W x H x D		12 x 69.8 x 100 mm		12 x 69.8 x 100 mm	
Approvals		CE, OrdLoc/HazLoc, ATEX/IECEX		CE, OrdLoc	
Data sheet and further information, see:		wago.com/750-427		wago.com/750-407	
Accessories		Item No.			
Pluggable connector		753-110			
Coding keys		753-150			

Notice:
An additional supply module must be added for 110 VDC supply!

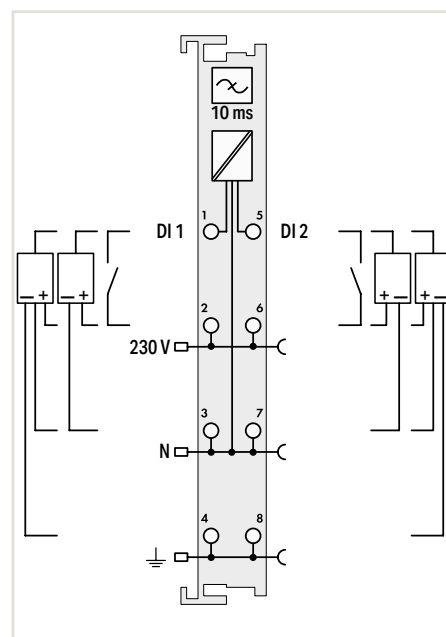
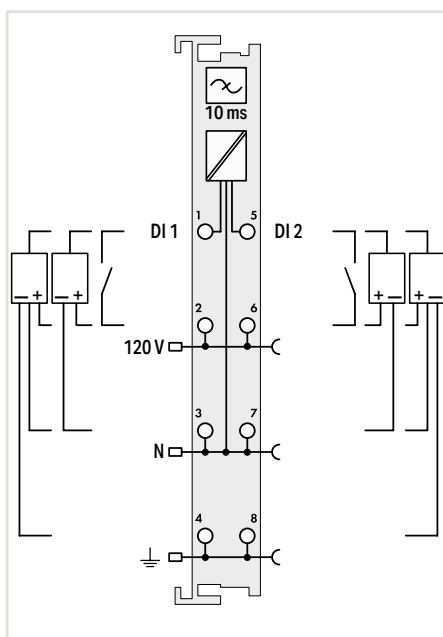
Notice:
An additional supply module must be added for 220 VDC supply!

Digital Input; 120 or 230 VAC



Figure: 750-406

Figure: 753-406



Item Description		2-Channel Digital Input; 120 VAC		2-Channel Digital Input; 230 VAC	
Version		Standard	Pluggable (delivery without connector)	Standard	Pluggable (delivery without connector)
Item No.		750-406	753-406	750-405	753-405
Order Text		2DI; 120 VAC	2DI; 120 VAC	2DI; 230 VAC	2DI; 230 VAC
Technical Data					
Pluggable connector					
Number of digital inputs		2		2	
Signal type		120 VAC		230 VAC	
Voltage range for signal (0)		0 ... 20 VAC		0 ... 40 VAC	
Voltage range for signal (1)		79 VAC ... 1.1 U _N		164 VAC ... 1.1 U _N	
Sensor connection		2-wire; 3-wire; 4-wire		2-wire; 3-wire; 4-wire	
Input characteristic		High-side switching		High-side switching	
Input filter (digital)		10 ms		10 ms	
Signal frequency (min./max.)		45 Hz/65 Hz		45 Hz/65 Hz	
Input current per channel for signal (1) typ.		4.5 mA		6.5 mA	
Supply voltage (sensor)		120 VAC		230 VAC	
Supply voltage (field)		120 VAC (–15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)		230 VAC (–15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)	
Current consumption – system supply (5 V)		2 mA		2 mA	
Data width (internal)		2 bits		2 bits	
Isolation		1500 V (system/field)		1500 V (system/field)	
Surrounding air temperature (operation)		0 ... +55 °C		0 ... +55 °C	
Dimensions W x H x D		12 x 69.8 x 100 mm		12 x 69.8 x 100 mm	
Approvals		CE; Marine; OrdLoc/HazLoc; ATEX/IECEx		CE; Marine; OrdLoc/HazLoc; ATEX/IECEx	
Data sheet and further information, see:		wago.com/750-406	wago.com/753-406	wago.com/750-405	wago.com/753-405
Accessories		Item No.		Item No.	
Pluggable connector		753-110		753-110	
Coding keys		753-150		753-150	

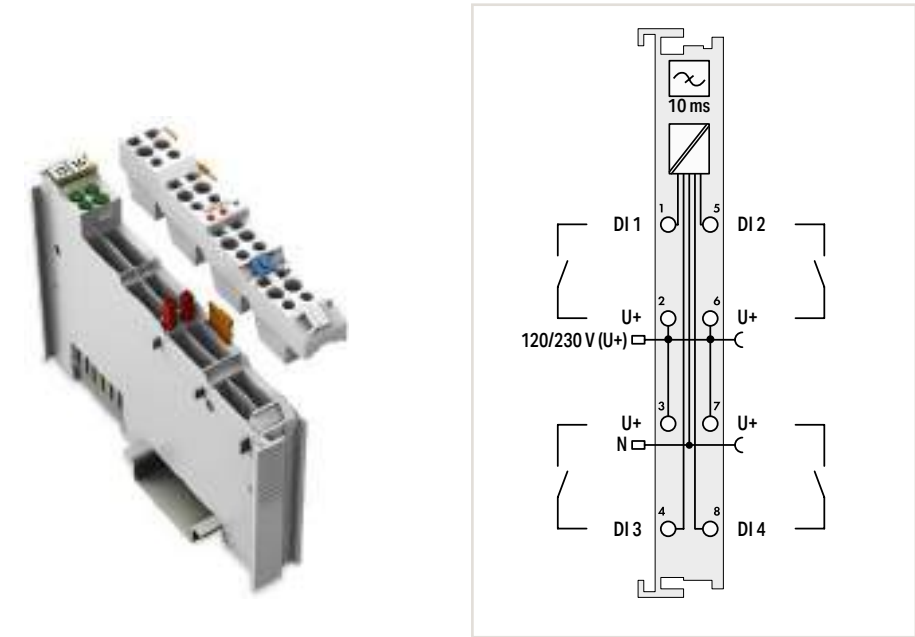
Notice:
An additional supply module must be added for 120 VAC supply!

Notice:
An additional supply module must be added for 230 VAC supply!

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 518 or www.wago.com

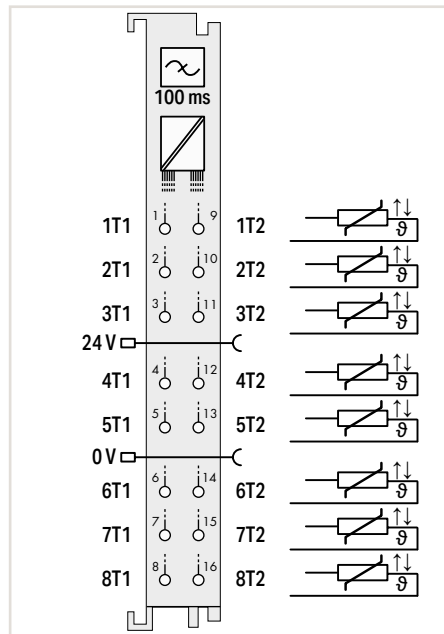
Digital Input; 120 / 230 VAC



Item Description	4-Channel Digital Input; 120/230 VAC
Version	Pluggable (delivery without connector)
Item No.	753-440
Order Text	4DI; 120/230 VAC
Technical Data	
Pluggable connector	●
Number of digital inputs	4
Signal type	120 (230) VAC
Voltage range for signal (0)	0 ... 40 VAC
Voltage range for signal (1)	79 ... 230 VAC (–15 ... +10 %)
Sensor connection	2-wire
Input characteristic	High-side switching
Input filter (digital)	10 ms
Signal frequency (min./max.)	45 Hz/65 Hz
Overvoltage protection	275 VAC (varistor)
Input current (typ.) at 120 VAC	2.3 mA
Input current (typ.) at 230 VAC	4.7 mA
Supply voltage (sensor)	230 VAC
Supply voltage (field)	90 ... 230 VAC (–15 ... +10 %); via power jumper contacts (power supply via blade contact; trans- mission via spring contact)
Current consumption – system supply (5 V)	15 mA
Data width (internal)	4 bits
Isolation	1500 V (system/field)
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm
Approvals	CE, UL, OrdLoc/HazLoc, ATEX/IECEX
Data sheet and further information, see:	wago.com/753-440
Accessories	Item No.
Pluggable connector	753-110
Coding keys	753-150

Notice:
An additional supply module must be added for
120/230 VAC supply!

Digital Input; PTC



Item Description	8-Channel Digital Input; PTC
Version	Standard with 16 connectors
Item No.	750-1425
Order Text	8DI; PTC
Technical Data	
Number of digital inputs	8
Signal type	PTC; Thermistor per DIN 44081/44082
Sensor	Sensor voltage: $\leq 2.5 \text{ V} / \leq 7.5 \text{ V}$ (dependent on resistance value); Number of PTCs per channel: Max. 6 in a series; Operating value (status bit "1" to "0"): $R \geq 3 \text{ k}\Omega$; Return value (status bit "0" to "1"): $\leq 1.5 \text{ k}\Omega$; Hysteresis: $R = 1.5 \text{ k}\Omega$; Wire break value: $R \geq 8 \text{ k}\Omega$; Short circuit value: $R \leq 20 \Omega$
Input filter (digital)	100 ms
Output current (max.)	0.001 A
Supply voltage (field)	24 VDC ($-25 \dots +30 \%$); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	52 mA
Data width (internal)	16 bits
Isolation	500 V system/field
Surrounding air temperature (operation)	$0 \dots +55 \text{ }^{\circ}\text{C}$
Dimensions W x H x D	12 x 69 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
Data sheet and further information, see:	wago.com/750-1425

The PTC module is used to connect PTC thermistors according to DIN 44081 and DIN 44082 for thermal monitoring (overload protection) of motors, machinery, bearings, etc. Up to six PTC thermistors can be connected in series per channel. If the nominal response temperature (θ_{nat}) is exceeded, a bit is set in the module's input process image. In addition, wire breaks and short circuits are monitored for each channel. If an error occurs, a bit is also set in the input process image. One green and one red status LED per channel indicate an overtemperature or wiring errors.

Digital Output Modules



Housing design (750 Series)

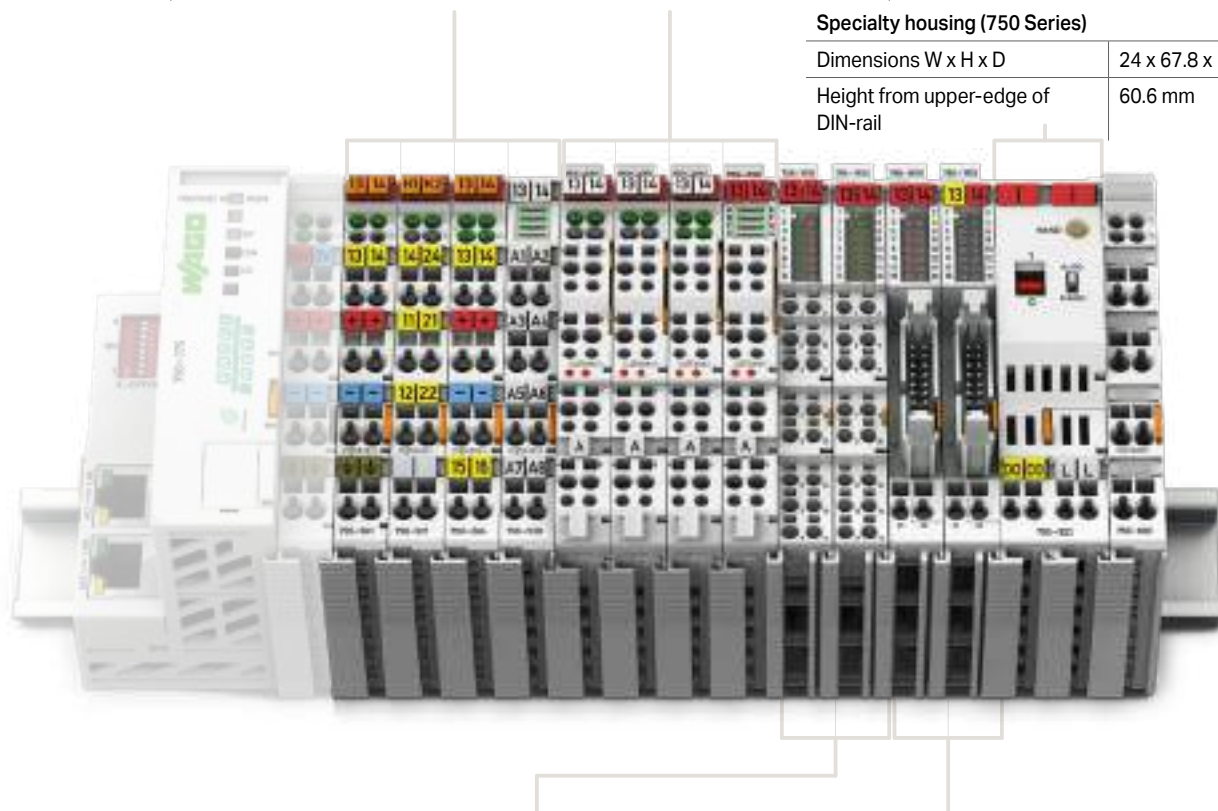
Dimensions W x H x D	Housing with 4 LEDs: 12 x 69.8 x 100 mm Housing with 8 LEDs: 12 x 67.8 x 100 mm
Height from upper-edge of DIN-rail	Housing with 4 LEDs: 62.6 mm Housing with 8 LEDs: 60.6 mm
Connection technology	CAGE CLAMP®
Conductor cross section	0.08 ... 2.5 mm² / 28 ... 14 AWG
Strip length	8 ... 9 mm / 0.33 inch

Housing design (753 Series)

Dimensions W x H x D	Housing with 4 LEDs: 12 x 69.8 x 100 mm Housing with 8 LEDs: 12 x 69 x 100 mm
Height from upper-edge of DIN-rail	Housing with 4 LEDs: 62.6 mm Housing with 8 LEDs: 61.8 mm
Connection technology	CAGE CLAMP®
Conductor cross section	0.08 ... 2.5 mm² / 28 ... 14 AWG
Strip length	9 ... 10 mm / 0.37 inch

Specialty housing (750 Series)

Dimensions W x H x D	24 x 67.8 x 100 mm
Height from upper-edge of DIN-rail	60.6 mm



Housing design (750 Series), with Push-in CAGE CLAMP® connections (up to 16 connection points)

Dimensions W x H x D	12 x 69 x 100 mm
Height from upper-edge of DIN-rail	61.8 mm
Connection technology	Push-in CAGE CLAMP®
Conductor cross section	Solid: 0.08 ... 1.5 mm² / 28 ... 16 AWG Fine-stranded: 0.25 ... 1.5 mm² / 22 ... 16 AWG
Strip length	8 ... 9 mm / 0.33 inch

Housing design (750 Series), with ribbon cable connection

Dimensions W x H x D	12 x 74.1 x 100 mm
Height from upper-edge of DIN-rail	66.9 mm
Connection technology	20-pole male connector + 2 x CAGE CLAMP®
Conductor cross section	0.08 ... 2.5 mm² / 28 ... 14 AWG
Strip length	8 ... 9 mm / 0.33 inch



I/O System –
750 XTR Series

I/O System – 750 and 753 Series, Digital Output Modules

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Functional Safety								See Section 5.8			
Ex i								See Section 5.9			
*This module is also available as a 750 XTR Series variant.								See Section 6			

Digital Output; 5 or 12 VDC



Figure: 750-519

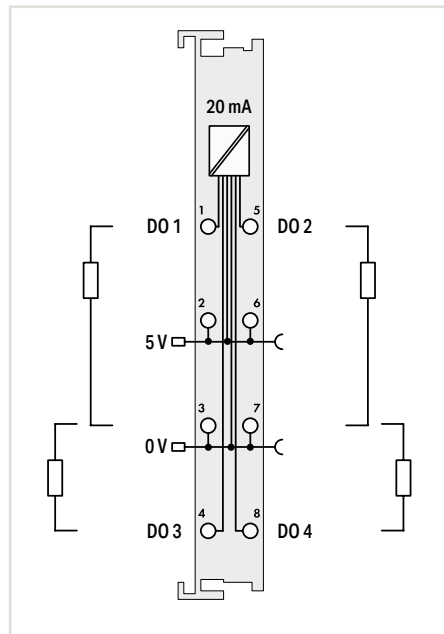
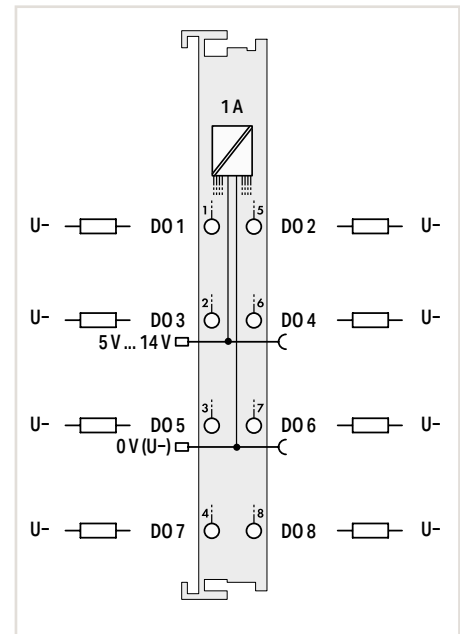


Figure: 753-534



Item Description		4-Channel Digital Output; 5 VDC; 20 mA		8-Channel Digital Output; 12 VDC; 1 A	
Version		Standard		Standard	Pluggable (delivery without connector)
Item No.		750-519		750-534	753-534
Order Text		4DO; 5 VDC; 20mA		8DO; 12 VDC; 1A	8DO; 12 VDC; 1A
Technical Data					
Pluggable connector					●
Number of digital outputs		4		8	
Signal type		5 VDC		5 ... 14 VDC	
Output characteristic		High-side switching		High-side switching	
Output current per channel		20 mA; short-circuit-protected		1 A; short-circuit-protected	
Load type		Resistive; inductive; lamp load		Resistive; inductive	
Actuator connection		2 x (2-wire)*		1-wire	
Switching frequency (max.)		5 kHz		2 kHz	
Supply voltage (field)		5 VDC; via power jumper contacts (power supply via blade contact; transmission via spring contact)		14 VDC; via power jumper contacts (power supply via blade contact; transmission via spring contact)	
Current consumption – system supply (5 V)		10 mA		20 mA	
Data width (internal)		4 bits		8 bits	
Isolation		500 V (system/field)		500 V (system/field)	
Surrounding air temperature (operation)		0 ... +55 °C		0 ... +55 °C	
Dimensions W x H x D		12 x 69.8 x 100 mm		12 x 67.8 x 100 mm	12 x 69 x 100 mm
Approvals		CE; UL; OrdLoc/HazLoc		CE; UL; Marine; OrdLoc/HazLoc; ATEX/IECEx	
Data sheet and further information, see:		wago.com/750-519		wago.com/750-534	wago.com/753-534
Accessories					Item No.
Pluggable connector					753-110
Coding keys					753-150

Notice:
An additional supply module must be added for 5 VDC supply!

*A suitable field side connection module (e.g., 750-614) must also be used to connect other actuators.

Notice:
An additional supply module must be added for 5–14 VDC supply!

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 519 or www.wago.com

Digital Output; 24 VDC



Figure: 750-501

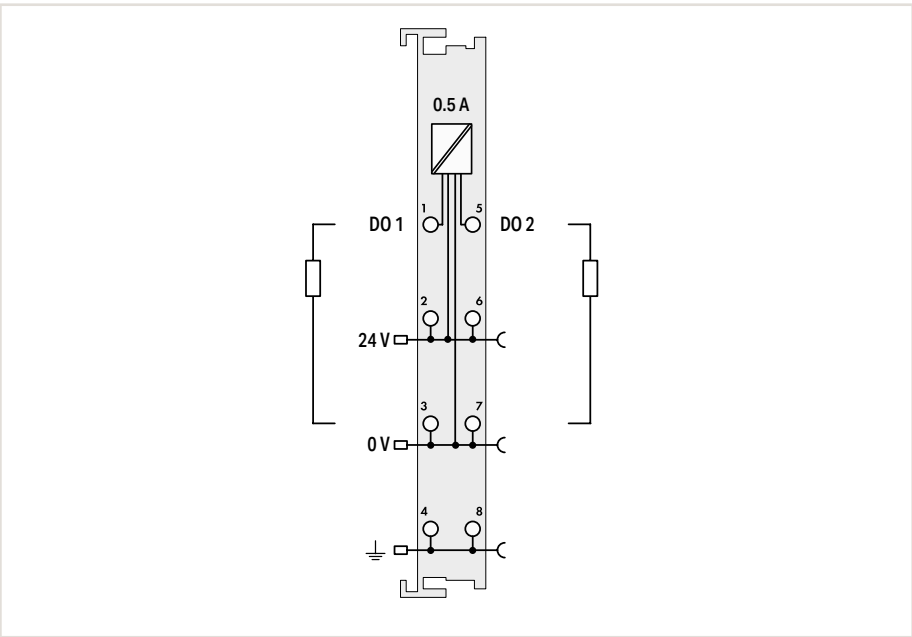


Figure: 753-501

Item Description		2-Channel Digital Output; 24 VDC; 0.5 A			
Version		Standard	Interference-free	Pluggable (delivery without connector)	Pluggable (delivery without connector); Interference-free
Item No.		750-501	750-501/000-800	753-501	753-501/000-800
Order Text		2DO; 24 VDC; 0.5A	2DO; 24 VDC; 0.5A; IF	2DO; 24 VDC; 0.5A	2DO; 24 VDC; 0.5A; IF
Technical Data					
Pluggable connector				●	
Interference-free for use in safety functions		●		●	
Number of digital outputs		2			
Signal type		24 VDC			
Output characteristic		High-side switching			
Output current per channel		0.5 A; short-circuit-protected			
Load type		Resistive; inductive; lamp load			
Actuator connection		2-wire; 3-wire; 4-wire			
Switching frequency (max.)		5 kHz			
Supply voltage (field)		24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)			
Current consumption – system supply (5 V)		3.5 mA			
Data width (internal)		2 bits			
Isolation		500 V (system/field)			
Surrounding air temperature (operation)		0 ... +55 °C			
Dimensions W x H x D		12 x 69.8 x 100 mm			
Approvals		CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX			
Data sheet and further information, see:		wago.com/750-501		wago.com/753-501	
Accessories		Item No.			
Pluggable connector		753-110			
Coding keys		753-150			

Digital Output; 24 VDC



Figure: 750-502

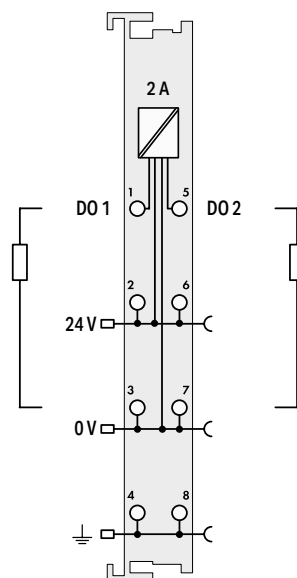


Figure: 753-502

Item Description		2-Channel Digital Output; 24 VDC; 2.0 A			
Version		Standard	Interference-free	Pluggable (delivery without connector)	Pluggable (delivery without connector); Interference-free
Item No.		750-502	750-502/000-800	753-502	753-502/000-800
Order Text		2DO; 24 VDC; 2A	2DO; 24 VDC; 2A; IF	2DO; 24 VDC; 2A	2DO; 24 VDC; 2A; IF
Technical Data					
Pluggable connector				●	
Interference-free for use in safety functions			●	●	
Number of digital outputs		2			
Signal type		24 VDC			
Output characteristic		High-side switching			
Output current per channel		2 A; short-circuit-protected			
Load type		Resistive; inductive; lamp load			
Actuator connection		2-wire; 3-wire; 4-wire			
Switching frequency (max.)		2.5 kHz			
Supply voltage (field)		24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)			
Current consumption – system supply (5 V)		3.5 mA			
Data width (internal)		2 bits			
Isolation		500 V (system/field)			
Surrounding air temperature (operation)		0 ... +55 °C			
Dimensions W x H x D		12 x 69.8 x 100 mm			
Approvals		CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx			
Data sheet and further information, see:		wago.com/750-502		wago.com/753-502	
Accessories		Item No.			
Pluggable connector		753-110			
Coding keys		753-150			

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 519 or www.wago.com

Digital Output; 24 VDC



Figure: 750-506

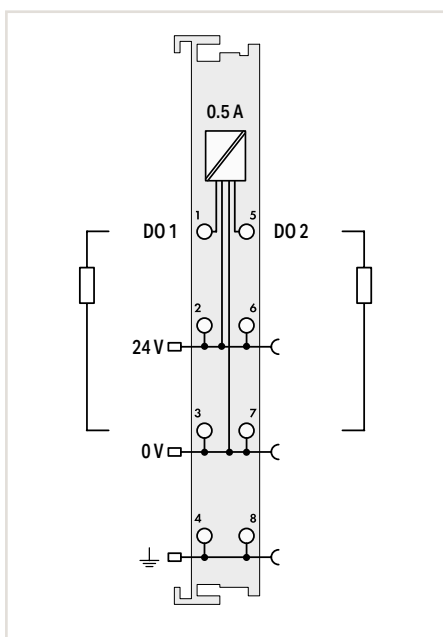
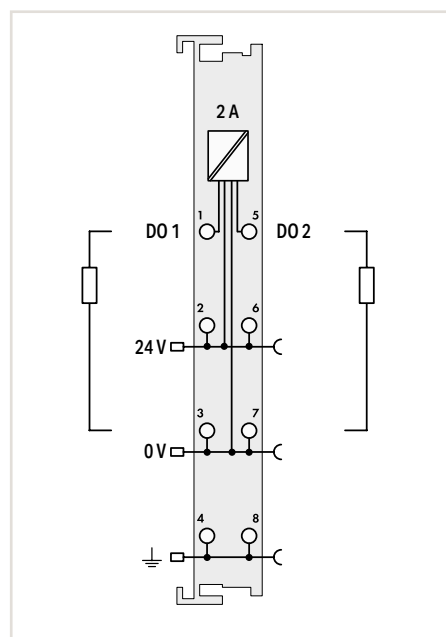


Figure: 753-506



Item Description	2-Channel Digital Output; 24 VDC; 0.5 A; Diagnostics			2-Channel Digital Output; 24 VDC; 2.0 A; Diagnostics		
Version	Standard	Interference-free	Pluggable (delivery without connector)	Standard	Interference-free	Pluggable (delivery without connector)
Item No.	750-506	750-506/000-800	753-506	750-508	750-508/000-800	753-508
Order Text	2DO; 24 VDC; 0.5A; Diagn	2DO; 24 VDC; 0.5A; IF; Diagn	2DO; 24 VDC; 0.5A; Diagn	2DO; 24 VDC; 2A; Diagn	2DO; 24 VDC; 2A; IF; Diagn	2DO; 24 VDC; 2A; Diagn
Technical Data						
Pluggable connector			•			•
Interference-free for use in safety functions		•			•	
Number of digital outputs	2			2		
Signal type	24 VDC			24 VDC		
Output characteristic	High-side switching			High-side switching		
Output current per channel	0.5 A; short-circuit-protected			2 A; short-circuit-protected		
Load type	Resistive; inductive; lamp load			Resistive; inductive; lamp load		
Actuator connection	2-wire; 3-wire; 4-wire			2-wire; 3-wire; 4-wire		
Switching frequency (max.)	5 kHz			1 kHz		
Diagnostics	Open circuit; short circuit; overload			Open circuit; short circuit; overload		
Supply voltage (field)	24 VDC (–15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)			24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)		
Current consumption – system supply (5 V)	15 mA			14 mA		
Data width (internal)	2-bit input; 2-bit output			2-bit input; 2-bit output		
Isolation	500 V (system/field)			500 V (system/field)		
Surrounding air temperature (operation)	0 ... +55 °C			0 ... +55 °C		
Dimensions W x H x D	12 x 69.8 x 100 mm			12 x 69.8 x 100 mm		
Approvals	CE; OrdLoc/HazLoc; ATEX/IECEX			CE; Marine; OrdLoc/HazLoc; ATEX/IECEX		
Data sheet and further information, see:	wago.com/750-506		wago.com/753-506	wago.com/750-508		wago.com/753-508
Accessories			Item No.			Item No.
Pluggable connector			753-110			753-110
Coding keys			753-150			753-150

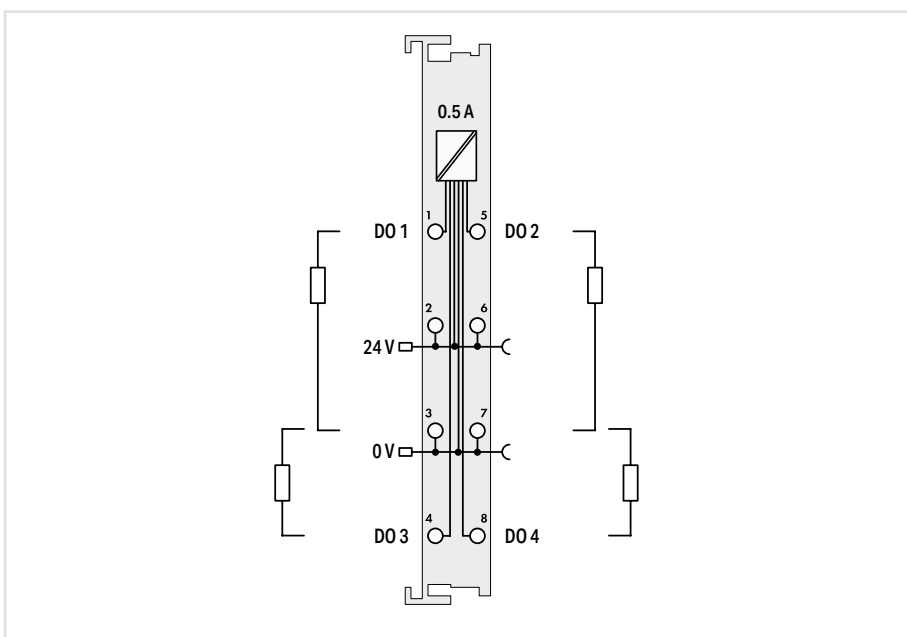
Digital Output; 24 VDC



Figure: 750-504



Figure: 753-504



Item Description		4-Channel Digital Output; 24 VDC; 0.5 A				
Version		Standard	Extended temperature	Pluggable (delivery without connector)	Interference-free	Interference-free; Extended temperature
Item No.		750-504	750-504/025-000	753-504	750-504/000-800	750-504/025-800
Order Text		4DO; 24 VDC; 0.5A	4DO; 24 VDC; 0.5A; T	4DO; 24 VDC; 0.5A	4DO; 24 VDC; 0.5A; IF	4DO; 24 VDC; 0.5A; IF; T
Technical Data						
Pluggable connector				●		
Interference-free for use in safety functions					●	
Number of digital outputs		4				
Signal type		24 VDC				
Output characteristic		High-side switching				
Output current per channel		0.5 A; short-circuit-protected				
Load type		Resistive; inductive; lamp load				
Actuator connection		2 x (2-wire; 3-wire)*				
Switching frequency (max.)		1 kHz				
Supply voltage (field)		24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)				
Current consumption – system supply (5 V)		10 mA				
Data width (internal)		4 bits				
Isolation		500 V (system/field)				
Surrounding air temperature (operation)		0 ... +55 °C	–20 ... +60 °C	0 ... +55 °C		–20 ... +60 °C
Dimensions W x H x D		12 x 69.8 x 100 mm				
Approvals		CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX				
Data sheet and further information, see:		wago.com/750-504		wago.com/753-504	wago.com/750-504	
Accessories				Item No.		
Pluggable connector				753-110		
Coding keys				753-150		

*A suitable field side connection module (e.g., 750-614) must also be used to connect other actuators.

Digital Output; 24 VDC



Figure: 750-531

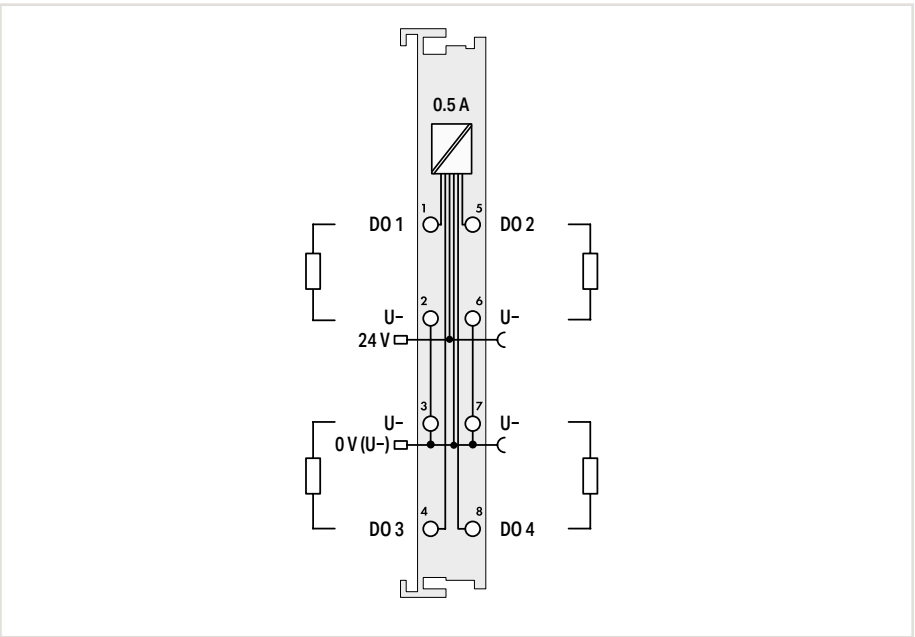


Figure: 753-531

Item Description		4-Channel Digital Output; 24 VDC; 0.5 A; 2-wire connection			
Version		Standard	Interference-free	Pluggable (delivery without connector)	Pluggable (delivery without connector); Interference-free
Item No.		750-531	750-531/000-800	753-531	753-531/000-800
Order Text		4DO; 24 VDC; 0.5A; 2-wire	4DO; 24 VDC; 0.5A; IF; 2-wire	4DO; 24 VDC; 0.5A; 2-wire	4DO; 24 VDC; 0.5A; IF; 2-wire
Technical Data					
Pluggable connector				•	
Interference-free for use in safety functions			•	•	
Number of digital outputs		4			
Signal type		24 VDC			
Output characteristic		High-side switching			
Output current per channel		0.5 A; short-circuit-protected			
Load type		Resistive; inductive; lamp load			
Actuator connection		2-wire			
Switching frequency (max.)		1 kHz			
Supply voltage (field)		24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)			
Current consumption – system supply (5 V)		10 mA			
Data width (internal)		4 bits			
Isolation		500 V (system/field)			
Surrounding air temperature (operation)		0 ... +55 °C			
Dimensions W x H x D		12 x 69.8 x 100 mm			
Approvals		CE; Marine; OrdLoc/HazLoc; ATEX/IECEx			
Data sheet and further information, see:		wago.com/750-531		wago.com/753-531	
Accessories		Item No.			
Pluggable connector		753-110			
Coding keys		753-150			

Digital Output; 24 VDC



Figure: 750-516

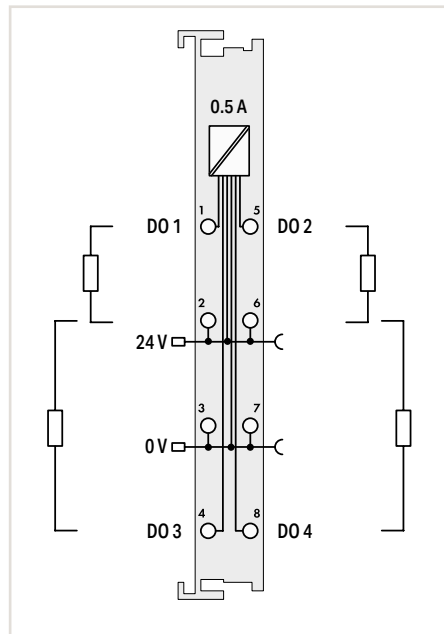
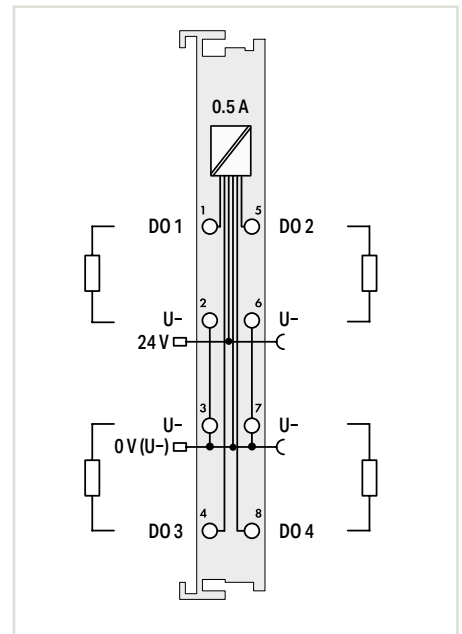


Figure: 750-532

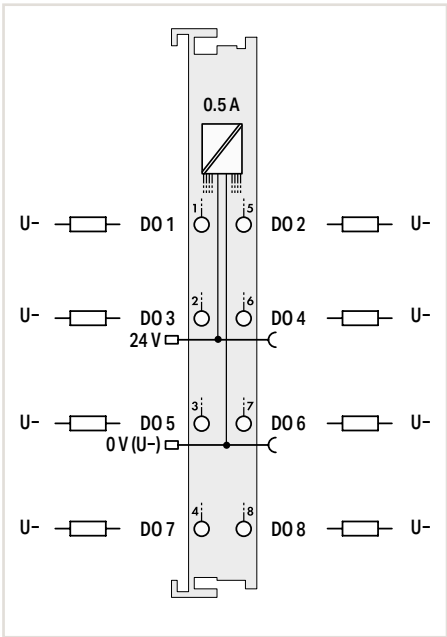


Item Description	4-Channel Digital Output; 24 VDC; 0.5 A; Low-side switching		4-Channel Digital Output; 24 VDC; 0.5 A; Diagnostics
Version	Standard	Pluggable (delivery without connector)	Standard
Item No.	750-516	753-516	750-532
Order Text	4DO; 24 VDC; 0.5A; LSS	4DO; 24 VDC; 0.5A; LSS	4DO; 24 VDC; 0.5A; Diagn
Technical Data			
Pluggable connector		●	
Number of digital outputs	4		4
Signal type	24 VDC		24 VDC
Output characteristic	Low-side switching		High-side switching
Output current per channel	0.5 A; short-circuit-protected		0.5 A; short-circuit-protected
Load type	Resistive; inductive; lamp load		Resistive; inductive; lamp load
Actuator connection	2 x (2-wire)*		2-wire
Switching frequency (max.)	5 kHz		2 kHz
Diagnostics			Open circuit; short circuit; overload
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)		24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	7 mA		10 mA
Data width (internal)	4 bits		4-bit input; 4-bit output
Isolation	500 V (system/field)		500 V (system/field)
Surrounding air temperature (operation)	0 ... +55 °C		0 ... +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm		12 x 67.8 x 100 mm
Approvals	CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX		CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX
Data sheet and further information, see:	wago.com/750-516	wago.com/753-516	wago.com/750-532
Accessories		Item No.	
Pluggable connector		753-110	
Coding keys		753-150	

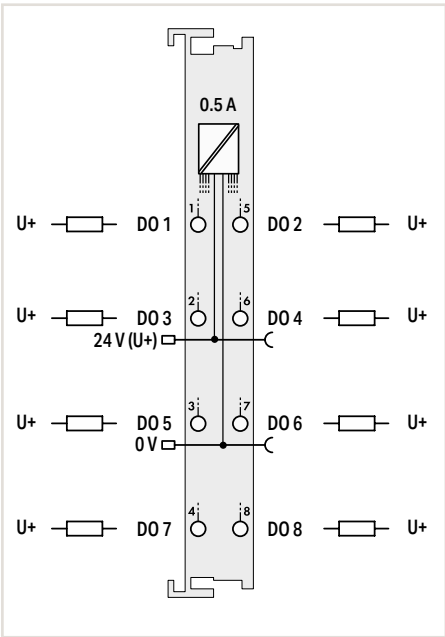
*A suitable field side connection module (e.g., 750-614) must also be used to connect other actuators.

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

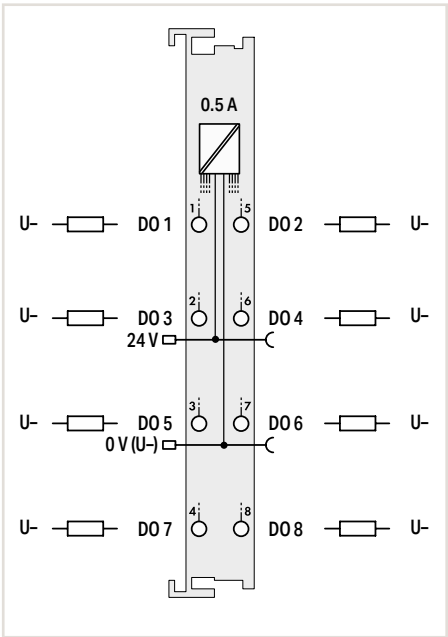
„ Approvals and corresponding ratings, see page 519 or www.wago.com



8-Channel Digital Output; 24 VDC; 0.5 A		
Standard	Extended temperature	Pluggable (delivery without connector)
750-530	750-530/025-000	753-530
8DO; 24 VDC; 0.5A	8DO; 24 VDC; 0.5A; T	8DO; 24 VDC; 0.5A



8-Channel Digital Output; 24 VDC; 0.5 A; Low-side switching	
Standard	Pluggable (delivery without connector)
750-536	753-536
8DO; 24 VDC; 0.5A; LSS	8DO; 24 VDC; 0.5A; LSS



8-Channel Digital Output; 24 VDC; 0.5 A; Diagnostics	
Standard	Pluggable (delivery without connector)
750-537	753-537
8DO; 24 VDC; 0.5A; Diagn	8DO; 24 VDC; 0.5A; Diagn

8		
24 VDC		
High-side switching		
0.5 A; short-circuit-protected		
Resistive; inductive; lamp load		
1-wire		
2 kHz		
24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)		
25 mA		
8 bits		
500 V (system/field)		
0 ... +55 °C	–20 ... +60 °C	0 ... +55 °C
12 x 67.8 x 100 mm	12 x 69 x 100 mm	
CE; Marine; OrdLoc/HazLoc; ATEX/IECEx		
wago.com/750-530	wago.com/753-530	

	Item No.
	753-110
	753-150

8	
24 VDC	
Low-side switching	
0.5 A; short-circuit-protected	
Resistive; inductive; lamp load	
1-wire	
2 kHz	
24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)	
25 mA	
8 bits	
500 V (system/field)	
0 ... +55 °C	
12 x 67.8 x 100 mm	12 x 69 x 100 mm
CE; Marine; OrdLoc/HazLoc; ATEX/IECEx	
wago.com/750-536	wago.com/753-536

	Item No.
	753-110
	753-150

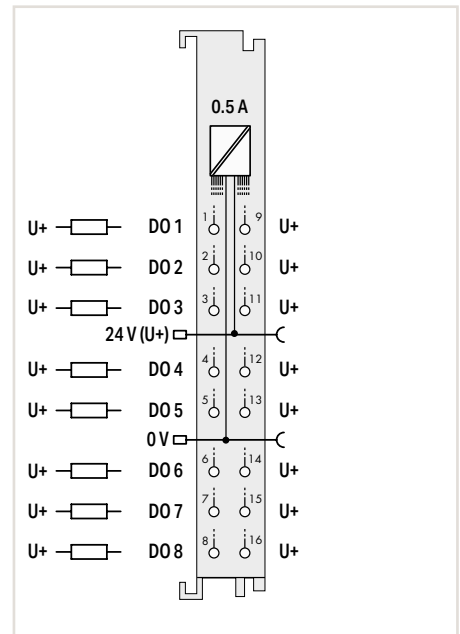
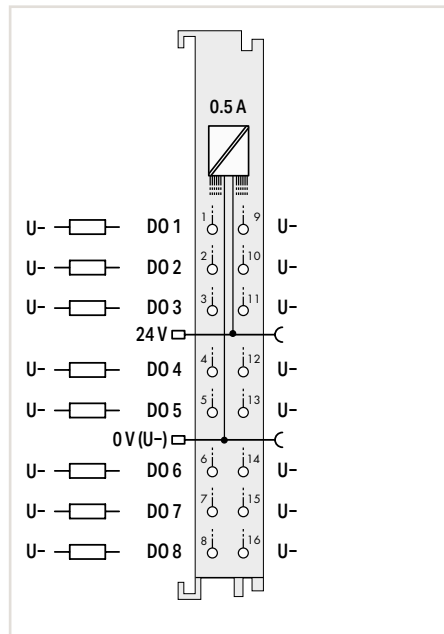
8	
24 VDC	
High-side switching	
0.5 A; short-circuit-protected	
Resistive; inductive; lamp load	
1-wire	
1 kHz	
Open circuit; short circuit; overload	
24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)	
50 mA	
8-bit output; 8-bit input	
500 V (system/field)	
0 ... +55 °C	
12 x 67.8 x 100 mm	12 x 69 x 100 mm
CE; Marine; OrdLoc/HazLoc; ATEX/IECEx	
wago.com/750-537	wago.com/753-537

	Item No.
	753-110
	753-150

Digital Output; 24 VDC



Figure: 750-1515



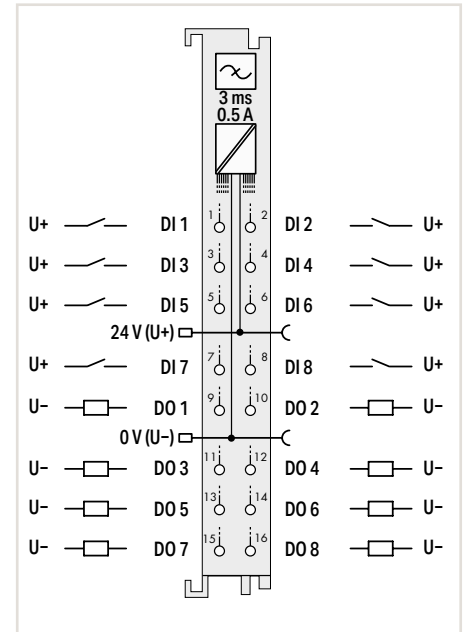
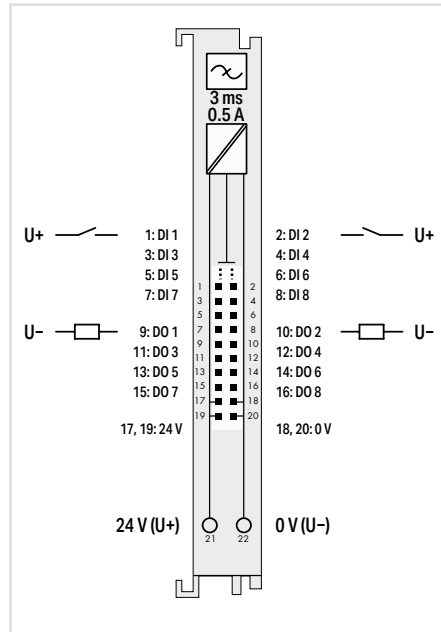
Item Description	8-Channel Digital Output; 24 VDC; 0.5 A; 2-wire connection	8-Channel Digital Output; 24 VDC; 0.5 A; Low-side switching; 2-wire connection
Version	Standard with 16 connectors	Standard with 16 connectors
Item No.	750-1515	750-1516
Order Text	8DO; 24 VDC; 0.5A; 2-wire	8DO; 24 VDC; 0.5A; LSS; 2-wire
Technical Data		
Number of digital outputs	8	8
Signal type	24 VDC	24 VDC
Output characteristic	High-side switching	Low-side switching
Output current per channel	0.5 A; short-circuit-protected	0.5 A; short-circuit-protected
Load type	Resistive; inductive; lamp load	Resistive; inductive; lamp load
Actuator connection	2-wire	2-wire
Switching frequency (max.)	1 kHz	1 kHz
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)	24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	20 mA	20 mA
Data width (internal)	8 bits	8 bits
Isolation	500 V (system/field)	500 V (system/field)
Surrounding air temperature (operation)	0 ... +55 °C	0 ... +55 °C
Dimensions W x H x D	12 x 69 x 100 mm	12 x 69 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-1515	wago.com/750-1516

Digital Input/Output; 24 VDC



Figure: 750-1502

Figure: 750-1506



Item Description	8-Channel Digital Input/Output; 24 VDC; 0.5 A; Ribbon cable	8-Channel Digital Input/Output; 24 VDC; 0.5 A
Version	Standard with ribbon cable connector	Standard with 16 connectors
Item No.	750-1502	750-1506
Order Text	8DIO; 24 VDC; 0.5A; Ribbon Cable	8DIO; 24 VDC; 0.5A
Technical Data		
Number of digital inputs	8	8
Signal type	24 VDC	24 VDC
Voltage range for signal (0)	-3 ... +5 VDC	-3 ... +5 VDC
Voltage range for signal (1)	15 ... 30 VDC	15 ... 30 VDC
Sensor connection	1-wire	1-wire
Input characteristic	High-side switching	High-side switching
Input filter (digital)	3 ms	3 ms
Input current per channel for signal (1) typ.	2.4 mA	2.4 mA
Number of digital outputs	8	8
Output characteristic	High-side switching	High-side switching
Output current per channel	0.5 A; short-circuit-protected	0.5 A; short-circuit-protected
Load type	Resistive; inductive; lamp load	Resistive; inductive; lamp load
Actuator connection	1-wire	1-wire
Switching frequency (max.)	1 kHz	1 kHz
Current consumption, field supply (module with no external load)	16 mA	16 mA
Supply voltage (field)	24 VDC (-25 ... +30 %); via wiring interface (CAGE CLAMP® connection)	24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	30 mA	30 mA
Data width (internal)	8-bit input; 8-bit output	8-bit input; 8-bit output
Isolation	500 V (system/field)	500 V (system/field)
Surrounding air temperature (operation)	0 ... +55 °C	0 ... +55 °C
Dimensions W x H x D	12 x 74.1 x 100 mm	12 x 69 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
Data sheet and further information, see:	wago.com/750-1502	wago.com/750-1506
Accessories		
Interface modules for system wiring and interface cable	Item No. See Section 10	

Digital Output; 24 VDC



Figure: 750-1500

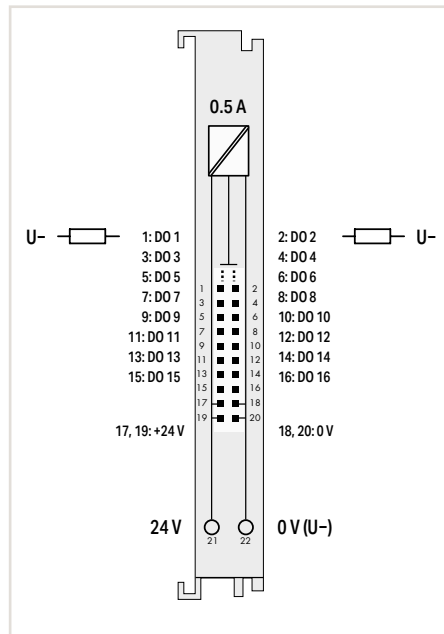
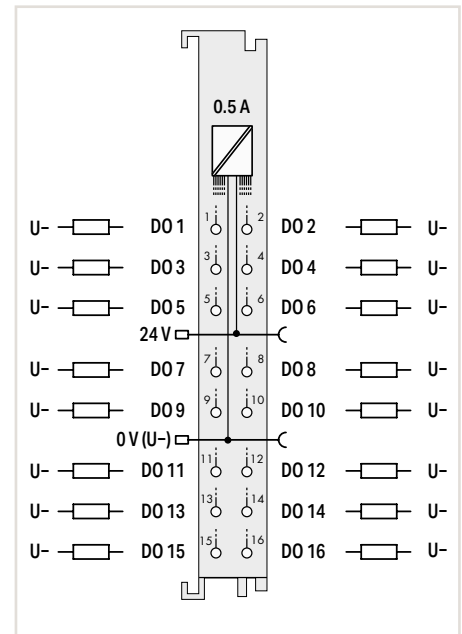


Figure: 750-1504



Item Description	16-Channel Digital Output; 24 VDC; 0.5 A; Ribbon cable	16-Channel Digital Output; 24 VDC; 0.5 A
Version	Standard with ribbon cable connector	Standard with 16 connectors
Item No.	750-1500	750-1504
Order Text	16DO; 24 VDC; 0.5A; Ribbon Cable	16DO; 24 VDC; 0.5A
Technical Data		
Number of digital outputs	16	16
Signal type	24 VDC	24 VDC
Output characteristic	High-side switching	High-side switching
Output current per channel	0.5 A; short-circuit-protected	0.5 A; short-circuit-protected
Load type	Resistive; inductive; lamp load	Resistive; inductive; lamp load
Actuator connection	1-wire	1-wire
Switching frequency (max.)	1 kHz	1 kHz
Supply voltage (field)	24 VDC (–25 ... +30 %); via wiring interface (CAGE CLAMP® connection)	24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	40 mA	40 mA
Data width (internal)	16 bits	16 bits
Isolation	500 V (system/field)	500 V (system/field)
Surrounding air temperature (operation)	0 ... +55 °C	0 ... +55 °C
Dimensions W x H x D	12 x 74.1 x 100 mm	12 x 69 x 100 mm
Approvals	CE, Marine, OrdLoc/HazLoc; ATEX/IECEX	CE, Marine, OrdLoc/HazLoc; ATEX/IECEX
Data sheet and further information, see:	wago.com/750-1500	wago.com/750-1504
Accessories		
Interface modules for system wiring and inter-face cable	Item No. See Section 10	

Digital Output; 24 VDC



Figure: 750-1501

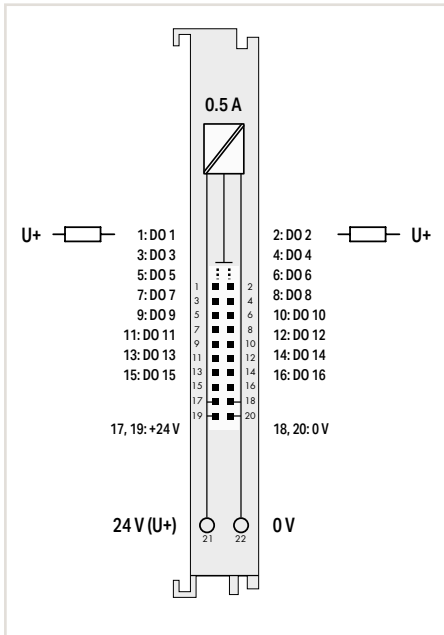
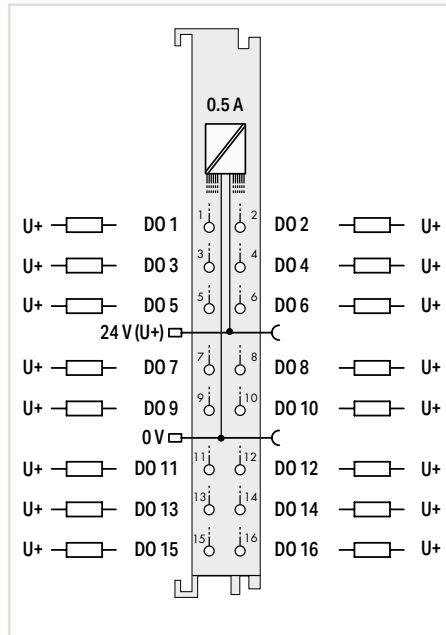


Figure: 750-1505



Item Description	16-Channel Digital Output; 24 VDC; 0.5 A; Low-side switching; Ribbon cable	16-Channel Digital Output; 24 VDC; 0.5 A; Low-side switching
Version	Standard with ribbon cable connector	Standard with 16 connectors
Item No.	750-1501	750-1505
Order Text	16DO; 24 VDC; 0.5A; LSS; Ribbon Cable	16DO; 24 VDC; 0.5A; LSS
Technical Data		
Number of digital outputs	16	16
Signal type	24 VDC	24 VDC
Output characteristic	Low-side switching	Low-side switching
Output current per channel	0.5 A; short-circuit-protected	0.5 A; short-circuit-protected
Load type	Resistive; inductive; lamp load	Resistive; inductive; lamp load
Actuator connection	1-wire	1-wire
Switching frequency (max.)	1 kHz	1 kHz
Supply voltage (field)	24 VDC (–25 ... +30 %); via wiring interface (CAGE CLAMP® connection)	24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	40 mA	40 mA
Data width (internal)	16 bits	16 bits
Isolation	500 V (system/field)	500 V (system/field)
Surrounding air temperature (operation)	0 ... +55 °C	0 ... +55 °C
Dimensions W x H x D	12 x 74.1 x 100 mm	12 x 69 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-1501	wago.com/750-1505
Accessories	Item No. See Section 10	
Interface modules for system wiring and interface cable		

Digital Output; 230 VAC



Figure: 753-540

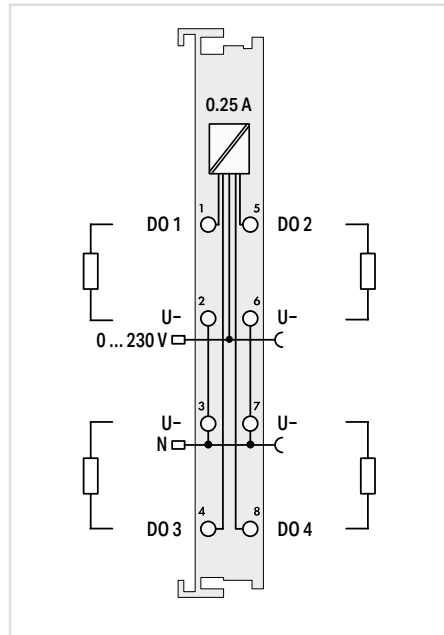
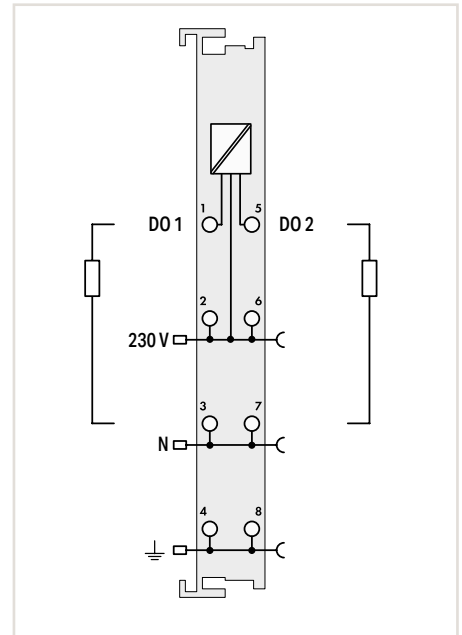


Figure: 750-509



Item Description	4-Channel Digital Output; 230 VAC; 0.25 A; Solid-state	2-Channel Digital Output; 230 VAC; 0.3 A; Solid-state	
Version	Pluggable (delivery without connector)	Standard	Pluggable (delivery without connector)
Item No.	753-540	750-509	753-509
Order Text	4DO; 230 VAC; 0.25A; SSR	2DO; 230 VAC; 0.3A; SSR	2DO; 230 VAC; 0.3A; SSR
Technical Data			
Pluggable connector	●		●
Number of digital outputs	4	2	
Signal type	0 ... 250 VAC	0 ... 230 VAC/DC	
Output circuit design		Solid-state load relays	
Output characteristic	High-side switching		
Output current per channel	0.25 A; short-circuit-protected	0.3 A	
Load type	Resistive; inductive	Resistive; inductive	
Actuator connection	2-wire	2-wire; 3-wire; 4-wire	
Overvoltage protection	275 VAC (varistor)	275 VAC (varistor)	
Short-circuit current	max. 10 A (16 ms)		
Switching frequency (max.)		5 Hz (24 V 0.3 A DF = 50 %); 0.5 Hz (230 V 0.3 A DF = 50 %)	
Supply voltage (field)	230 VAC; via power jumper contacts (power supply via blade contact; transmission via spring contact)	250 V AC/DC; via power jumper contacts (power supply via blade contact; transmission via spring contact)	
Current consumption – system supply (5 V)	18 mA	10 mA	
Data width (internal)	4 bits	2 bits	
Isolation	1500 V (system/field)	1500 V (system/field)	
Surrounding air temperature (operation)	0 ... +55 °C	0 ... +55 °C	
Dimensions W x H x D	12 x 69.8 x 100 mm	12 x 69.8 x 100 mm	
Approvals	CE; OrdLoc/HazLoc; ATEX/IECEx	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx	
Data sheet and further information, see:	wago.com/753-540	wago.com/750-509	wago.com/753-509
Accessories	Item No.		Item No.
Pluggable connector	753-110		753-110
Coding keys	753-150		753-150

Notice:
An additional supply module must be added for 0–250 VAC supply!

Notice:
An additional supply module must be added for 0–230 VAC/DC supply!

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

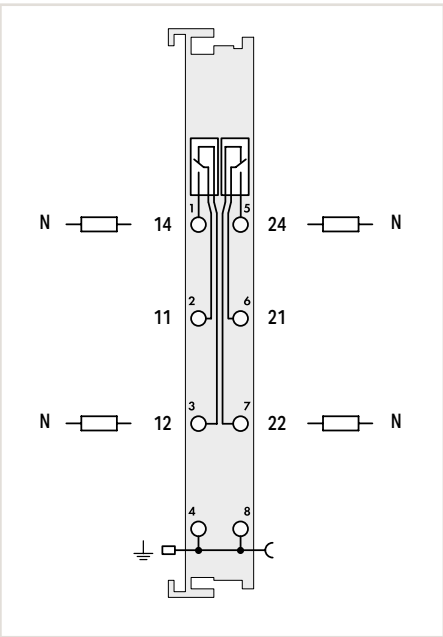
„ Approvals and corresponding ratings, see page 519 or www.wago.com

Relay Output; 125 VAC



Figure: 750-514

Figure: 753-514



Item Description		2-Channel Relay Output; 125 VAC; 0.5 A; Potential-free; Relay with 2 changeover contacts	
Version		Standard	Pluggable (delivery without connector)
Item No.		750-514	753-514
Order Text		2RO; 125 VAC; 0.5A; Pot-free; Relay2CO	2RO; 125 VAC; 0.5A; Pot-free; Relay2CO
Technical Data			
Pluggable connector			●
Number of digital outputs		2	
Switching voltage (max.)		125 VAC; 30 VDC	
Output circuit design		Relay with 2 changeover contacts	
Output characteristic		Potential-free	
Switching current (max.)		0.5 A for AC; 1 A for DC	
Switching current (min.)		0.01 mA / 10 mV (DC)	
Actuator connection		1-wire	
Switching frequency (max.)		0.33 Hz	
Mechanical switching operations (min.)		100 x 10 ⁶	
Electrical switching operations (min.)		1 x 10 ⁵	
Supply voltage (field)		Transmission of ground potential via power jumper contact	
Current consumption – system supply (5 V)		70 mA	
Data width (internal)		2 bits	
Isolation		1500 V (system/field)	
Surrounding air temperature (operation)		0 ... +55 °C	
Dimensions W x H x D		12 x 69.8 x 100 mm	
Approvals		CE; Marine;	
Data sheet and further information, see:		wago.com/750-514	wago.com/753-514
Accessories		Item No.	
Pluggable connector		753-110	
Coding keys		753-150	

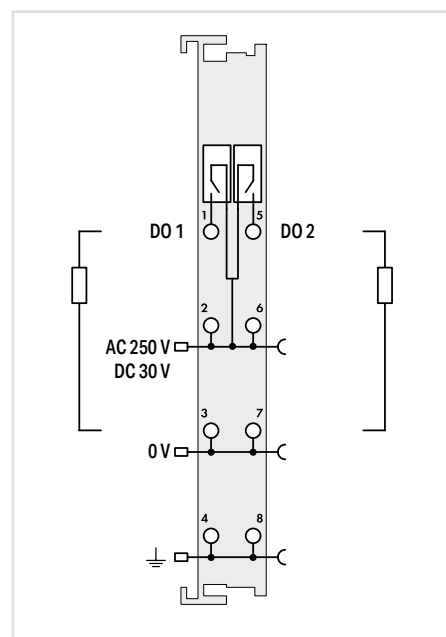
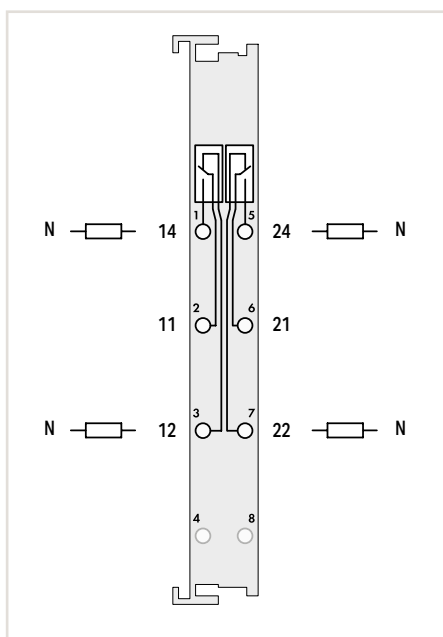
Relay Output; 250 VAC



Figure: 750-517



Figure: 750-512



Item Description

Version

Item No.

Order Text

2-Channel Relay Output; 250 VAC; 1 A; Potential-free; Relay with 2 changeover contacts

Standard

Pluggable (delivery without connector)

750-517

753-517

2RO; 250 VAC; 1A; Pot-free; Relay2CO

2RO; 250 VAC; 1A; Pot-free; Relay2CO

2-Channel Relay Output; 250 VAC; 2 A; Relay with 2 make contacts

Standard

Pluggable (delivery without connector)

750-512

753-512

2RO; 250 VAC; 2A; Relay2NO

2RO; 250 VAC; 2A; Relay2NO

Technical Data

Pluggable connector

Number of digital outputs

Switching voltage (max.)

Output circuit design

Output characteristic

Switching current (max.)

Switching current (min.)

Actuator connection

Switching frequency (max.)

Mechanical switching operations (min.)

Electrical switching operations (min.)

Supply voltage (field)

Current consumption – system supply (5 V)

Data width (internal)

Isolation

Surrounding air temperature (operation)

Dimensions W x H x D

Approvals

Data sheet and further information, see:

Accessories

Pluggable connector

Coding keys

2

250 VAC; 300 VDC

Relay with 2 changeover contacts

Potential-free

1 A at 250 VAC / 40 VDC; 0.15 A at 300 VDC

100 mA (12 VDC)

1-wire

0.1 Hz

5 x 10⁶

10 x 10⁵

90 mA

2 bits

1500 V (system/field)

0 ... +55 °C

12 x 69.8 x 100 mm

CE; Marine; OrdLoc/HazLoc;
ATEX/IECEX

wago.com/750-517

wago.com/753-517

Item No.

753-110

753-150

2

250 VAC; 30 VDC

Relay with 2 make contacts

Non-floating

2 A

10 mA / 5 VDC

2-wire; 3-wire

0.5 Hz

20 x 10⁶

3 x 10⁵

250 VAC; via power jumper contacts (power supply via blade contact; transmission via spring contact)

100 mA

2 bits

1500 V (system/field)

0 ... +55 °C

12 x 69.8 x 100 mm

CE; Marine; OrdLoc/HazLoc;
ATEX/IECEX

wago.com/750-512

wago.com/753-512

Item No.

753-110

753-150

Notice:

An additional supply module must be added for 0–250 VAC/0–30 VDC supply!

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

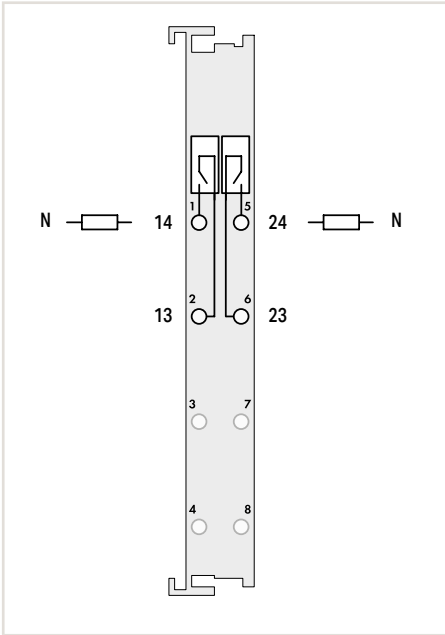
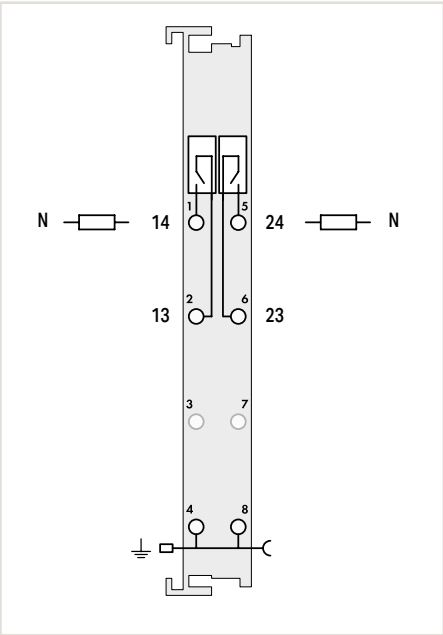
„ Approvals and corresponding ratings, see page 519 or www.wago.com

Relay Output; 250 VAC



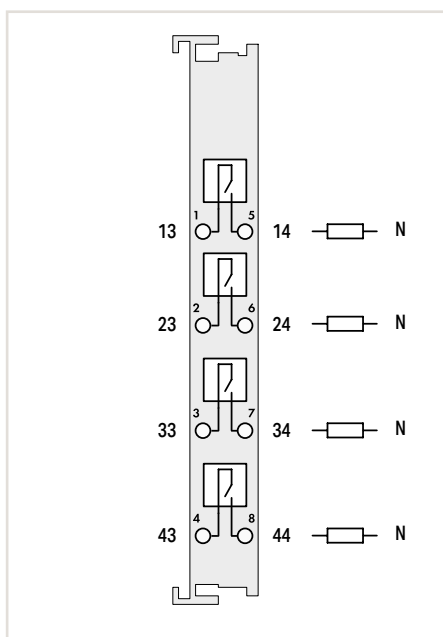
Figure: 750-513

Figure: 750-513/000-001



Item Description		2-Channel Relay Output; 250 VAC; 2 A; Potential-free; Relay with 2 make contacts		2-Channel Relay Output; 250 VAC; 2 A; Potential-free; Relay with 2 make contacts	
Version		Standard	Pluggable (delivery without connector)	Without power jumper contacts	Without power jumper contacts; Pluggable (delivery without connector)
Item No.		750-513	753-513	750-513/000-001	753-513/000-001
Order Text		2RO; 250 VAC; 2A; Pot-free; Relay2NO	2RO; 250 VAC; 2A; Pot-free; Relay2NO	2RO; 250 VAC; 2A; Pot-free; NC; Relay2NO	2RO; 250 VAC; 2A; Pot-free; NC; Relay2NO
Technical Data					
Pluggable connector			•		•
Number of digital outputs		2		2	
Switching voltage (max.)		250 VAC; 30 VDC		250 VAC; 30 VDC	
Output circuit design		Relay with 2 make contacts		Relay with 2 make contacts	
Output characteristic		Potential-free		Potential-free	
Switching current (max.)		2 A		2 A	
Switching current (min.)		10 mA / 5 VDC		10 mA / 5 VDC	
Actuator connection		1-wire		1-wire	
Switching frequency (max.)		0.5 Hz		0.5 Hz	
Mechanical switching operations (min.)		20 x 10 ⁶		20 x 10 ⁶	
Electrical switching operations (min.)		3 x 10 ⁵		3 x 10 ⁵	
Supply voltage (field)		Transmission of ground potential via power jumper contact			
Current consumption – system supply (5 V)		100 mA		100 mA	
Data width (internal)		2 bits		2 bits	
Isolation		1500 V (system/field)		1500 V (system/field)	
Surrounding air temperature (operation)		0 ... +55 °C		0 ... +55 °C	
Dimensions W x H x D		12 x 69.8 x 100 mm		12 x 69.8 x 100 mm	
Approvals		CE; Marine; OrdLoc/HazLoc; ATEX/IECEX		CE; Marine; OrdLoc/HazLoc; ATEX/IECEX	
Data sheet and further information, see:		wago.com/750-513	wago.com/753-513	wago.com/750-513/000-001	wago.com/753-513/000-001
Accessories		Item No.		Item No.	
Pluggable connector		753-110		753-110	
Coding keys		753-150		753-150	

Relay Output; 250 VAC



Item Description

4-Channel Relay Output; 250 VAC; 2 A; Potential-free; Relay with 4 make contacts

Version

Standard

Item No.

750-515

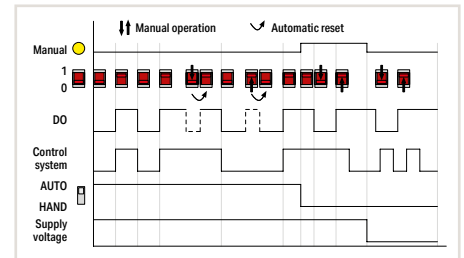
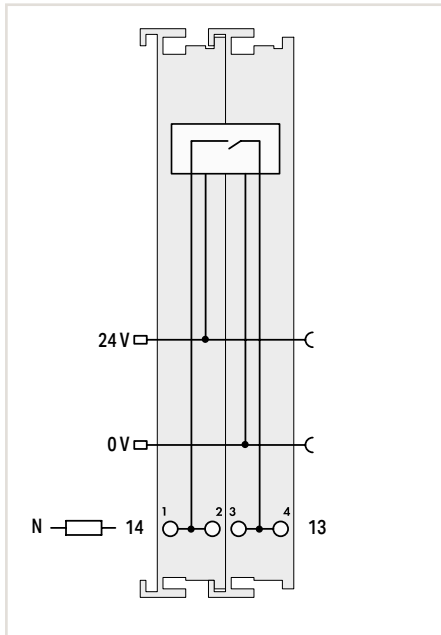
Order Text

4RO; 250 VAC; 2A; Pot-free; Relay4NO

Technical Data

Number of digital outputs	4
Switching voltage (max.)	250 VAC; 30 VDC; 110 VDC at 0.4 A
Output circuit design	Relay with 4 make contacts
Output characteristic	Potential-free
Switching current (max.)	2 A (5 A for single-channel use)
Switching current (min.)	1 mA / 5 VDC
Actuator connection	1-wire
Switching frequency (max.)	0.33 Hz; 0.1 Hz at 5 A
Mechanical switching operations (min.)	20 x 10 ⁶
Electrical switching operations (min.)	1 x 10 ⁵
Current consumption – system supply (5 V)	95 mA
Data width (internal)	4 bits
Isolation	1500 V (system/field)
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	12 x 67.8 x 100 mm
Approvals	CE; Marine; ATEX/IECEX
Data sheet and further information, see:	wago.com/750-515

Relay Output; 250 VAC



Item Description	1-Channel Relay Output; 230 VAC; 16 A; Potential-free; Relay with 1 make contacts
Version	Standard
Item No.	750-523
Order Text	1RO; 230 VAC; 16A; Pot-free; Relay1NO
Technical Data	
Number of digital outputs	1
Switching voltage (max.)	440 VAC
Output circuit design	Relay with 1 make contact
Output characteristic	Potential-free
Switching current	16 A
Actuator connection	1-wire
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	5 mA
Data width (internal)	2-bit input; 2-bit output
Isolation	1500 V (system/field)
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	24 x 67.8 x 100 mm
Approvals	CE; Marine; OrdLoc
Data sheet and further information, see:	wago.com/750-523

This relay output module switches a connected actuator or load.

The 24 VDC supply is derived from the power jumper contacts to trigger the relays.

The switched status of the relay is shown by the manual switch (1/0). The operating mode can be set using a manual/automatic selector switch. The mode status is indicated by an LED and via status bits in the process image.

Manual: Coil triggering is interrupted. Actuation only via the red manual operating switches.

Auto: The relay is operated via the control system; manual status transitions via the manual switch are reset by the control system after less than 500 ms.

The manual switch can also be used without 24 V supply to switch the output ON.

The relay meets both international standards of IEC and DIN EN 61810 part 1 /VDE 0435 part 201, as well as overload and short circuit requirements of IEC and DIN EN 61036 /61037.

Analog Input Modules



Housing design (750 Series)

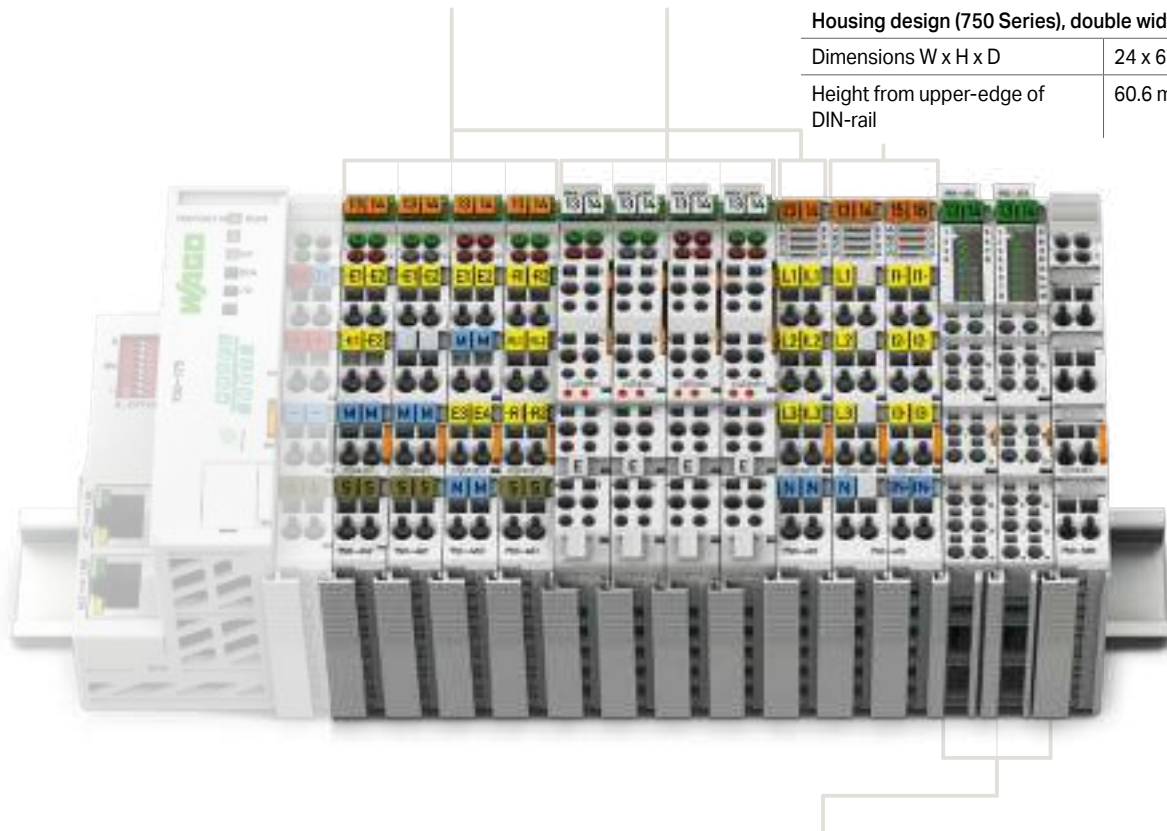
Dimensions W x H x D	Housing with 4 LEDs: 12 x 69.8 x 100 mm Housing with 8 LEDs: 12 x 67.8 x 100 mm
Height from upper-edge of DIN-rail	Housing with 4 LEDs: 62.6 mm Housing with 8 LEDs: 60.6 mm
Connection technology	CAGE CLAMP®
Conductor range	0.08 ... 2.5 mm² / 28 ... 14 AWG
Strip length	8 ... 9 mm / 0.33 inch

Housing design (753 Series)

Dimensions W x H x D	Housing with 4 LEDs: 12 x 69.8 x 100 mm Housing with 8 LEDs: 12 x 69 x 100 mm
Height from upper-edge of DIN-rail	Housing with 4 LEDs: 62.6 mm Housing with 8 LEDs: 61.8 mm
Connection technology	CAGE CLAMP®
Conductor range	0.08 ... 2.5 mm² / 28 ... 14 AWG
Strip length	9 ... 10 mm / 0.37 inch

Housing design (750 Series), double width

Dimensions W x H x D	24 x 67.8 x 100 mm
Height from upper-edge of DIN-rail	60.6 mm



Housing design (750 Series), with Push-in CAGE CLAMP® connections (up to 16 connection points)

Dimensions W x H x D	12 x 69 x 100 mm
Height from upper-edge of DIN-rail	61.8 mm
Connection technology	Push-in CAGE CLAMP®
Conductor range	Solid: 0.08 ... 1.5 mm² / 28 ... 16 AWG Fine-stranded: 0.25–1.5 mm² / 22–16 AWG;
Strip length	8 ... 9 mm / 0.33 inch



I/O System –
750 XTR Series



I/O-System – 750 and 753 Series; Analog Input Modules

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Ex i						See Section 5.9				
*This module is also available as a 750 XTR Series variant.						See Section 6				

5.4 AI

Analog Input; 0 ... 20 mA; Differential Input

5.4



Figure: 750-452

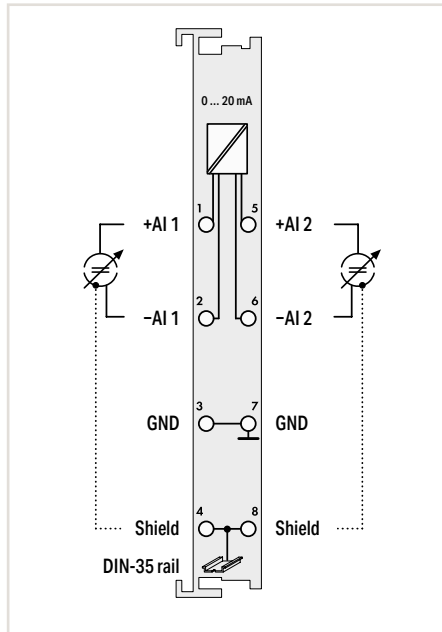
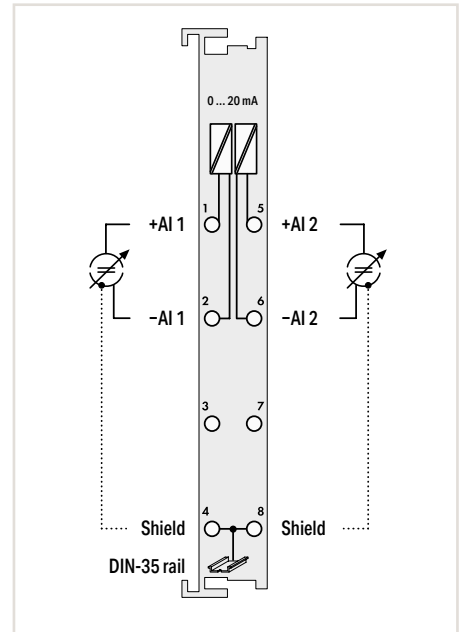


Figure: 750-480



Item Description		2-Channel Analog Input; 0 ... 20 mA; Differential input			2-Channel Analog Input; 0 ... 20 mA; Differential input	
Version		Standard	Data format (S5 control)	Pluggable (delivery without connector)	Standard	Pluggable (delivery without connector)
Item No.		750-452	750-452/000-200	753-452	750-480	753-480
Order Text		2AI; 0-20mA; Diff	2AI; 0-20mA; Diff; S5	2AI; 0-20mA; Diff	2AI; 0-20mA; Diff	2AI; 0-20mA; Diff
Technical Data						
Extended functionality					Time-synchronized measured value acquisition within the module	
Pluggable connector						
Customized data format for S5 control*						
Number of analog inputs		2			2	
Signal type		0 ... 20 mA			0 ... 20 mA	
Signal characteristic		Differential			Differential	
Resolution		12 bits			13 bits	
Conversion time		2 ms			1 ms	
Input resistance		< 220 Ω / 20 mA			< 270 Ω / 20 mA	
Input filter (analog)					5 kHz	
Measuring error (max.) at 25 °C		±0.2 % of the upper-range value			±0.05 % of the upper-range value	
Temperature error (max.)		±0.01 % of the upper-range value			±0.01 % of the upper-range value	
Current consumption – system supply (5 V)		70 mA			80 mA	
Data width		2 x 16-bit data; 2 x 8-bit control/status (optional)			2 x 16-bit data; 2 x 8-bit control/status (optional)	
Isolation		500 V (system/field)			500 V (system/field or channel/channel)	
Surrounding air temperature (operation)		0 ... +55 °C			0 ... +55 °C	
Dimensions W x H x D		12 x 69.8 x 100 mm			12 x 69.8 x 100 mm	
Approvals		CE; Marine; OrdLoc/HazLoc; ATEX/IECEx			CE; OrdLoc/HazLoc; ATEX/IECEx	
Data sheet and further information, see:		wago.com/750-452		wago.com/753-452	wago.com/750-480	wago.com/753-480
Accessories		Item No.			Item No.	
Pluggable connector		753-110			753-110	
Coding keys		753-150			753-150	

*The S5 format allows you to import data with the standard S5 FB 250 function block.

„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ Approvals and corresponding ratings, see page 520 or www.wago.com

Analog Input; 0 ... 20 mA; Single-Ended



Figure: 750-465

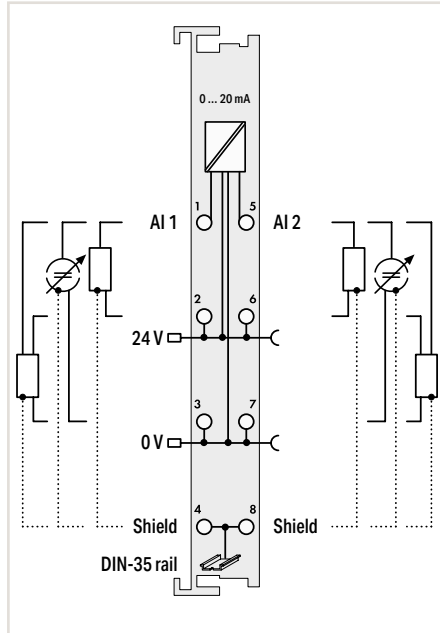
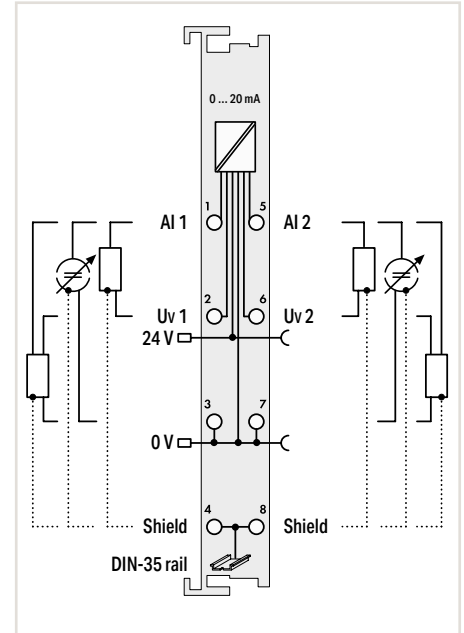


Figure: 750-470



Item Description		2-Channel Analog Input; 0 ... 20 mA; Single-ended			2-Channel Analog Input; 0 ... 20 mA; Single-ended; Short-circuit-protected sensor supply	
Version		Standard	Extended temperature	Pluggable (delivery without connector)	Standard	60 Hz
Item No.		750-465	750-465/025-000	753-465	750-470	750-470/005-000
Order Text		2AI; 0-20mA; SE	2AI; 0-20mA; SE; T	2AI; 0-20mA; SE	2AI; 0-20mA; SE	2AI; 0-20mA; SE; 60Hz
Technical Data						
Extended functionality					Short-circuit-protected sensor supply	
Pluggable connector						
Number of analog inputs		2			2	
Signal type		0 ... 20 mA			0 ... 20 mA	
Signal characteristic		Single-ended			Single-ended	
Resolution		12 bits			12 bits	
Conversion time		2 ms			80 ms	
Input resistance		< 220 Ω / 20 mA			< 160 Ω / 20 mA	
Input filter (analog)					50 Hz	60 Hz
Measuring error (max.) at 25 °C		±0.2 % of the upper-range value			±0.1 % of the upper-range value	
Temperature error (max.)		±0.01 % of the upper-range value			±0.01 % of the upper-range value	
Supply voltage (field)		24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)			24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)	
Current consumption – system supply (5 V)		75 mA			100 mA	
Data width		2 x 16-bit data; 2 x 8-bit control/status (optional)			2 x 16-bit data; 2 x 8-bit control/status (optional)	
Isolation		500 V (system/field)			500 V (system/field)	
Surrounding air temperature (operation)		0 ... +55 °C	–20 ... +60 °C	0 ... +55 °C	0 ... +55 °C	
Dimensions W x H x D		12 x 69.8 x 100 mm			12 x 69.8 x 100 mm	
Approvals		CE, OrdLoc/HazLoc; ATEX/IECEx			CE, Marine; OrdLoc/HazLoc; ATEX/IECEx	
Data sheet and further information, see:		wago.com/750-465			wago.com/750-470	
Accessories						
Pluggable connector						
Coding keys						

Analog Input; 0 ... 20 mA; Single-Ended

5.4



Figure: 750-472

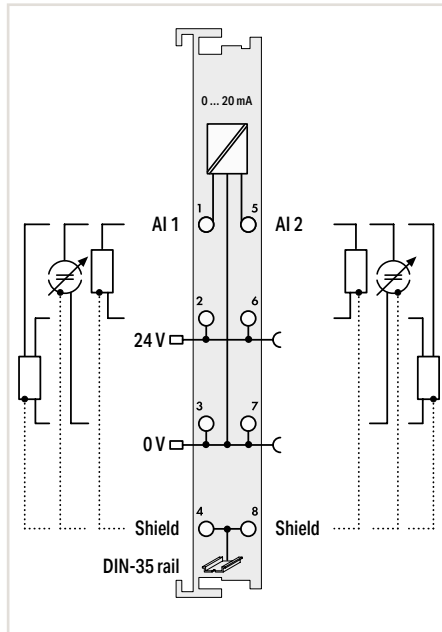
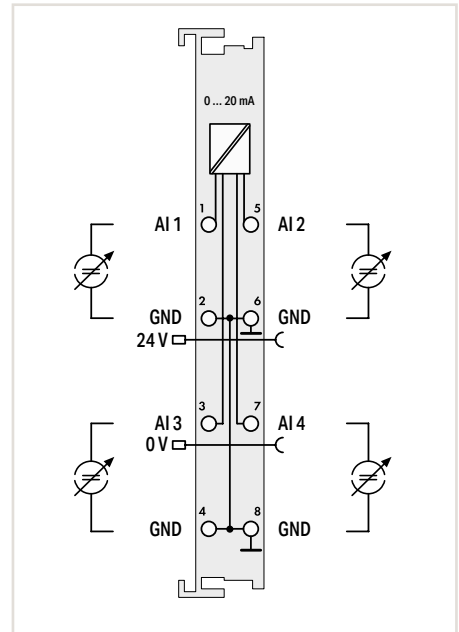


Figure: 750-453



Item Description	2-Channel Analog Input; 0 ... 20 mA; Single-ended; 16 bits			4-Channel Analog Input; 0 ... 20 mA; Single-ended	
Version	Standard	60 Hz	Pluggable (delivery without connector)	Standard	Pluggable (delivery without connector)
Item No.	750-472	750-472/005-000	753-472	750-453	753-453
Order Text	2AI; 0-20mA; SE; 16bits	2AI; 0-20mA; SE; 16bits; 60Hz	2AI; 0-20mA; SE; 16bits	4AI; 0-20mA; SE	4AI; 0-20mA; SE

Technical Data

Extended functionality	Overload protection				
Pluggable connector					
Number of analog inputs	2			4	
Signal type	0 ... 20 mA			0 ... 20 mA	
Signal characteristic	Single-ended			Single-ended	
Resolution	15 bits			12 bits	
Conversion time	80 ms			10 ms	
Input resistance	220 Ω / 20 mA			< 100 Ω / 20 mA	
Input filter (analog)	50 Hz	60 Hz	50 Hz		
Measuring error (max.) at 25 °C	±0.1 % of the upper-range value			±0.1 % of the upper-range value	
Temperature error (max.)	±0.01 % of the upper-range value			±0.01 % of the upper-range value	
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)			24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)	
Current consumption – system supply (5 V)	75 mA			65 mA	
Data width	2 x 16-bit data; 2 x 8-bit control/status (optional)			4 x 16-bit data; 4 x 8-bit control/status (optional)	
Isolation	500 V (system/field)			500 V (system/field)	
Surrounding air temperature (operation)	0 ... +55 °C			0 ... +55 °C	
Dimensions W x H x D	12 x 69.8 x 100 mm			12 x 69.8 x 100 mm	
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX			CE; Marine; OrdLoc/HazLoc; ATEX/IECEX	
Data sheet and further information, see:	wago.com/750-472 wago.com/753-472			wago.com/750-453 wago.com/753-453	
Accessories					
Pluggable connector				Item No. 753-110	
Coding keys				Item No. 753-150	

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

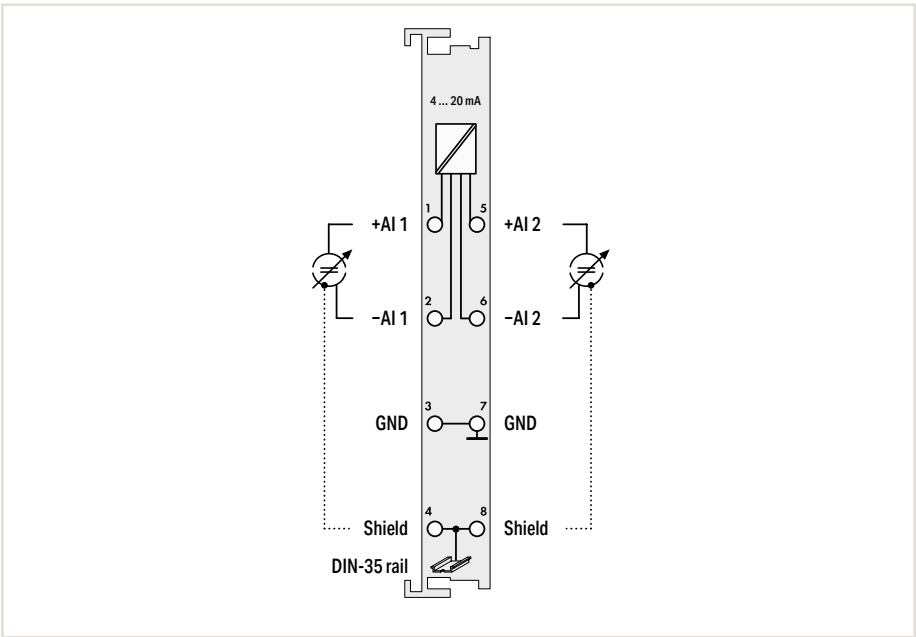
„ Approvals and corresponding ratings, see page 520 or www.wago.com

Analog Input; 4 ... 20 mA; Differential Input



Figure: 750-454

Figure: 753-454



Item Description		2-Channel Analog Input; 4 ... 20 mA; Differential input					
Version		Standard	Extended temperature	Pluggable (delivery with-out connector)	Data format (S5 control)	Extended measurement range	Extended temperature; Extended measurement range
Item No.		750-454	750-454/025-000	753-454	750-454/000-200	750-454/000-003	750-454/025-003
Order Text		2AI; 4-20mA; Diff	2AI; 4-20mA; Diff; T	2AI; 4-20mA; Diff	2AI; 4-20mA; Diff; S5	2AI; 4-20mA; Diff; EM	2AI; 4-20mA; Diff; T; EM
Technical Data							
Pluggable connector				●			
Customized data format for S5 control*					●		
Number of analog inputs		2					
Signal type		4 ... 20 mA				3.8 ... 20.5 mA	
Signal characteristic		Differential					
Resolution		12 bits					
Conversion time		2 ms					
Input resistance		< 220 Ω / 20 mA					
Measuring error (max.) at 25 °C		±0.2 % of the upper-range value					
Temperature error (max.)		±0.01 % of the upper-range value					
Current consumption – system supply (5 V)		70 mA					
Data width		2 x 16-bit data; 2 x 8-bit control/status (optional)					
Isolation		500 V (system/field)					
Surrounding air temperature (operation)		0 ... +55 °C	–20 ... +60 °C	0 ... +55 °C			–20 ... +60 °C
Dimensions W x H x D		12 x 69.8 x 100 mm					
Approvals		CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx					
Data sheet and further information, see:		wago.com/750-454		wago.com/753-454		wago.com/750-454	
Accessories				Item No.			
Pluggable connector				753-110			
Coding keys				753-150			

*The S5 format allows you to import data with the standard S5 FB 250 function block.

Analog Input; 4 ... 20 mA; Differential Input

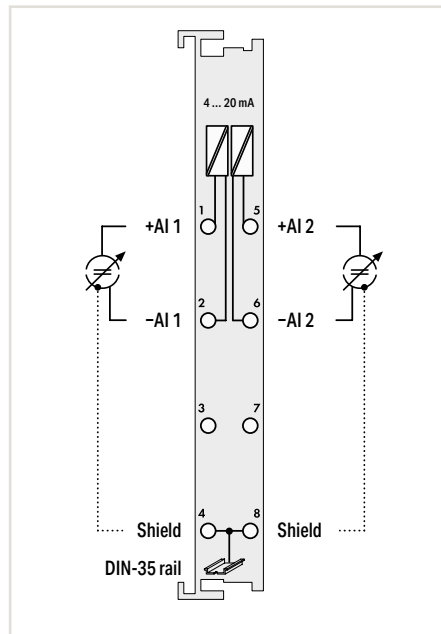
5.4



Figure: 750-492



Figure: 753-492



Item Description		2-Channel Analog Input; 4 ... 20 mA; Differential input	
Version		Standard	Pluggable (delivery without connector)
Item No.		750-492	753-492
Order Text		2AI; 4-20mA; Diff	2AI; 4-20mA; Diff
Technical Data			
Extended functionality		Time-synchronized measured value acquisition within the module	
Pluggable connector			•
Number of analog inputs		2	
Signal type		4 ... 20 mA	
Signal characteristic		Differential	
Resolution		13 bits	
Conversion time		1 ms	
Input resistance		< 270 Ω / 20 mA	
Measuring error (max.) at 25 °C		±0.05 % of the upper-range value	
Temperature error		±0.01 % of the upper-range value	
Current consumption – system supply (5 V)		80 mA	
Data width		2 x 16-bit data; 2 x 8-bit control/status (optional)	
Isolation		500 V (system/field or channel/channel)	
Surrounding air temperature (operation)		0 ... +55 °C	
Dimensions W x H x D		12 x 69.8 x 100 mm	
Approvals		CE, UL, OrdLoc/HazLoc, ATEX/IECEx	
Data sheet and further information, see:		wago.com/750-492	wago.com/753-492
Accessories		Item No.	
Pluggable connector		753-110	
Coding keys		753-150	

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

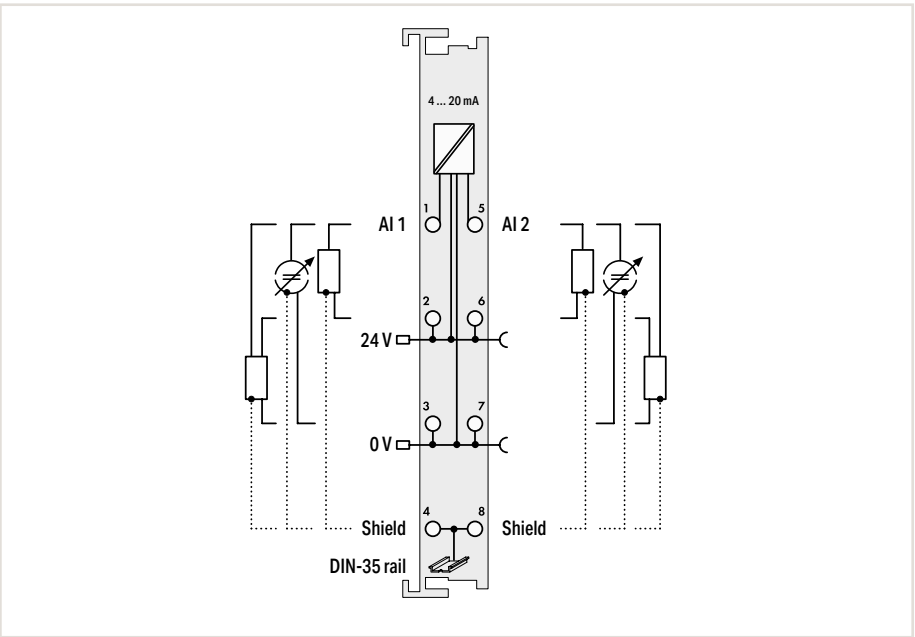
„ Approvals and corresponding ratings, see page 520 or www.wago.com

Analog Input; 4 ... 20 mA; Single-Ended



Figure: 750-466

Figure: 753-466



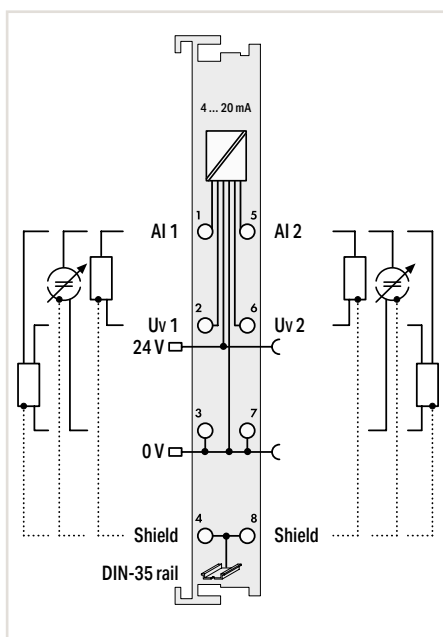
5.4

Item Description	2-Channel Analog Input; 4 ... 20 mA; Single-ended				
Version	Standard	Extended temperature	Pluggable (delivery without connector)	Data format (S5 control)	Extended measurement range
Item No.	750-466	750-466/025-000	753-466	750-466/000-200	750-466/000-003
Order Text	2AI; 4-20mA; SE	2AI; 4-20mA; SE; T	2AI; 4-20mA; SE	2AI; 4-20mA; SE; S5	2AI; 4-20mA; SE; EM
Technical Data					
Pluggable connector			●		
Customized data format for S5 control*				●	
Number of analog inputs	2				
Signal type	4 ... 20 mA				3.8 ... 20.5 mA
Signal characteristic	Single-ended				
Resolution	12 bits				
Conversion time	2 ms				
Input resistance	< 220 Ω / 20 mA				
Measuring error (max.) at 25 °C	±0.2 % of the upper-range value				
Temperature error (max.)	±0.01 % of the upper-range value				
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)				
Current consumption – system supply (5 V)	75 mA				
Data width	2 x 16-bit data; 2 x 8-bit control/status (optional)				
Isolation	500 V (system/field)				
Surrounding air temperature (operation)	0 ... +55 °C	–20 ... +60 °C	0 ... +55 °C		
Dimensions W x H x D	12 x 69.8 x 100 mm				
Approvals	CE;   OrdLoc/HazLoc;  ATEX/IECEx				
Data sheet and further information, see:	wago.com/750-466		wago.com/753-466	wago.com/750-466	
Accessories			Item No.		
Pluggable connector			753-110		
Coding keys			753-150		

*The S5 format allows you to import data with the standard S5 FB 250 function block.

Analog Input; 4 ... 20 mA; Single-Ended

5.4



Item Description

Version

Item No.

Order Text

2-Channel Analog Input; 4 ... 20 mA; Single-ended

Standard

750-473

2AI; 4-20mA; SE

60 Hz

750-473/005-000

2AI; 4-20mA; SE: 60Hz

Technical Data

Extended functionality

Number of analog inputs

Signal type

Signal characteristic

Resolution

Conversion time

Input resistance

Input filter (analog)

Measuring error (max.) at 25 °C

Temperature error (max.)

Supply voltage (field)

Current consumption – system supply (5 V)

Data width

Isolation

Surrounding air temperature (operation)

Dimensions W x H x D

Approvals

Data sheet and further information, see:

Short-circuit-protected sensor supply

2

4 ... 20 mA

Single-ended

12 bits

80 ms

< 160 Ω / 20 mA

50 Hz

60 Hz

±0.1 % of the upper-range value

±0.01 % of the upper-range value

24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)

100 mA

2 x 16-bit data; 2 x 8-bit control/status (optional)

500 V (system/field)

0 ... +55 °C

12 x 69.8 x 100 mm

CE; Marine; OrdLoc/HazLoc;

ATEX/IECEX

wago.com/750-473

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

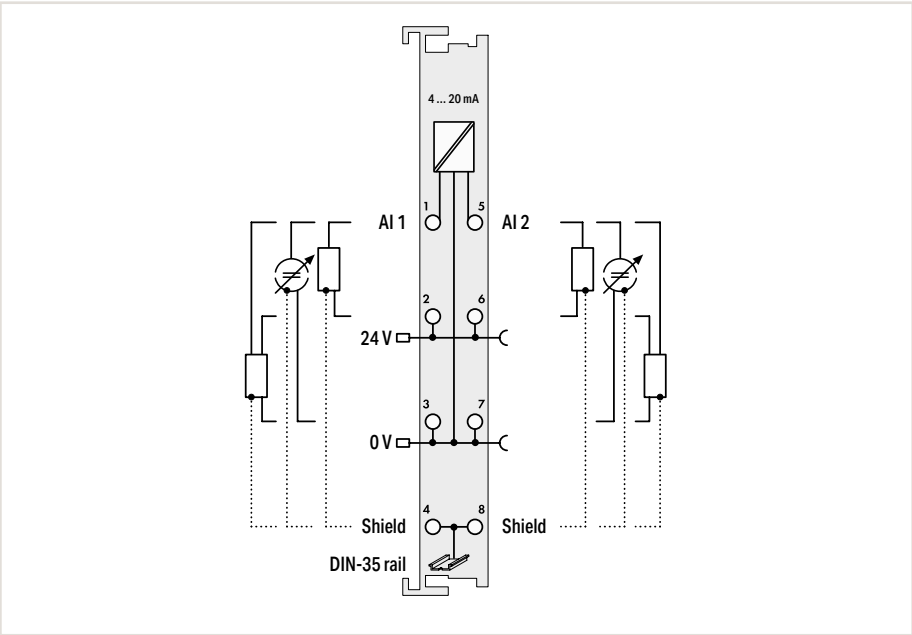
„ Approvals and corresponding ratings, see page 520 or www.wago.com

Analog Input; 4 ... 20 mA; Single-Ended



Figure: 750-474

Figure: 753-474



5.4

Item Description		2-Channel Analog Input; 4 ... 20 mA; Single-ended; 16 bits		
Version		Standard	60 Hz	Pluggable (delivery without connector) Data format (S5 control)
Item No.		750-474	750-474/005-000	753-474 750-474/000-200
Order Text		2AI; 4-20mA; SE; 16bits	2AI; 4-20mA; SE; 16bits; 60Hz	2AI; 4-20mA; SE; 16bits S5
Technical Data				
Extended functionality		Overload protection		
Pluggable connector				•
Customized data format for S5* controller				•
Number of analog inputs		2		
Signal type		4 ... 20 mA		
Signal characteristic		Single-ended		
Resolution		15 bits		
Conversion time		80 ms		
Input resistance		220 Ω / 20 mA		
Input filter (analog)		50 Hz	60 Hz	50 Hz
Measuring error (max.) at 25 °C		±0.1 % of the upper-range value		
Temperature error (max.)		±0.01 % of the upper-range value		
Supply voltage (field)		24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)		
Current consumption – system supply (5 V)		75 mA		
Data width		2 x 16-bit data; 2 x 8-bit control/status (optional)		
Isolation		500 V (system/field)		
Surrounding air temperature (operation)		0 ... +55 °C		
Dimensions W x H x D		12 x 69.8 x 100 mm		
Approvals		CE; Marine; OrdLoc/HazLoc; ATEX/IECEx		
Data sheet and further information, see:		wago.com/750-474	wago.com/753-474	wago.com/750-474/000-200
Accessories		Item No.		
Pluggable connector		753-110		
Coding keys		753-150		

*The S5 format allows you to import data with the standard S5 FB 250 function block.

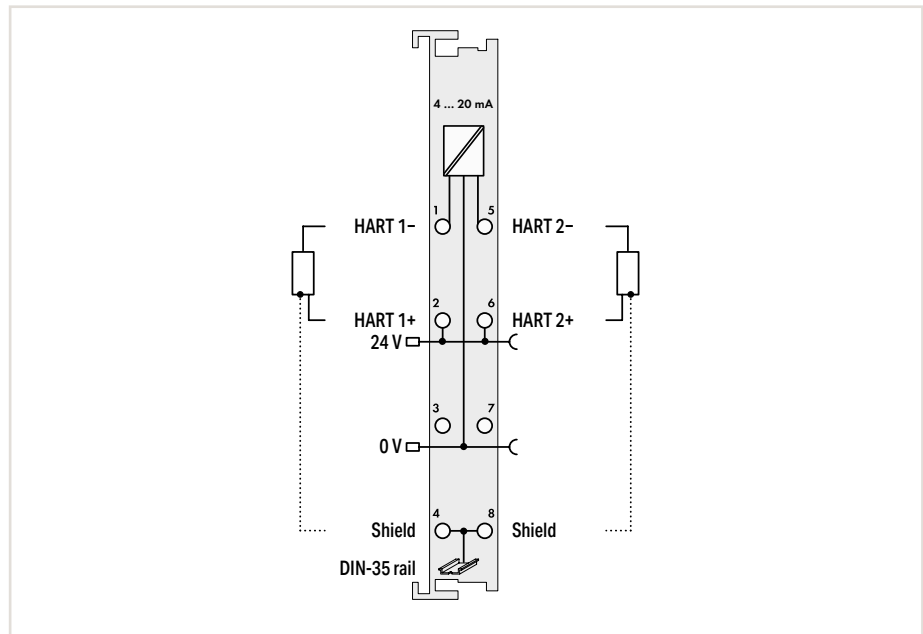
Analog Input; 4 ... 20 mA HART

5.4



Figure: 750-482

Figure: 753-482



Item Description		2-Channel Analog Input; 4 ... 20 mA HART			
Version		Standard	Extended temperature	Pluggable (delivery without connector)	Data format (S7 controller)
Item No.		750-482	750-482/025-000	753-482	750-482/000-300
Order Text		2AI; 4-20mA HART	2AI; 4-20mA HART; T	2AI; 4-20mA HART	2AI; 4-20mA HART; S7
Technical Data					
Extended functionality		Overload protection			
Pluggable connector				●	
Customized data format for S7 control					●
Number of analog inputs		2			
Signal type		4 ... 20 mA			
Signal characteristic		Single-ended			
Resolution		12 bits			
Conversion time		10 ms			
Measuring error (max.) at 25 °C		±0.1 % of the upper-range value			
Temperature error (max.)		±0.01 % of the upper-range value			
Supply voltage (field)		24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)			
Current consumption – system supply (5 V)		65 mA			
Data width		2 x 2-byte data; 2 x 2-byte data + 2n x 4-byte data (n = number of dynamic variables); 2 x 2-byte data + 6-byte mailbox			
Configurable functions		4 HART dynamic variables (PV, SV, TV, QV)			
Isolation		500 V (system/field)			
Surrounding air temperature (operation)		0 ... +55 °C	–20 ... +60 °C	0 ... +55 °C	
Dimensions W x H x D		12 x 69.8 x 100 mm			
Approvals		CE;   OrdLoc/HazLoc;  ATEX/IECEx			
Data sheet and further information, see:		wago.com/750-482		wago.com/753-482	wago.com/750-482/000-300
Accessories				Item No.	
Pluggable connector				753-110	
Coding keys				753-150	

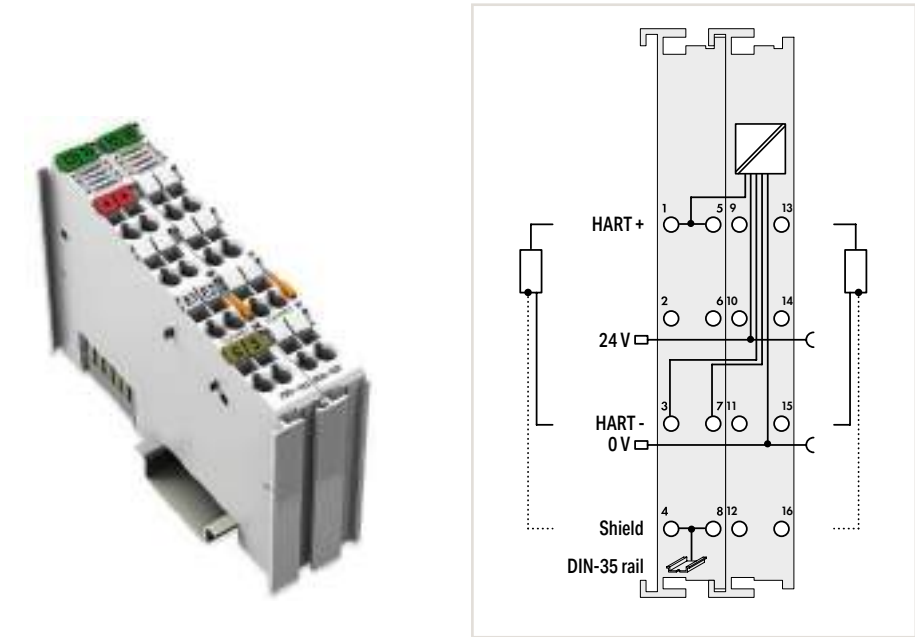
HART devices per channel:
1 device (SingleDrop, no MultiDrop)

For select fieldbus couplers, FDT/DTM device drivers are available that can be used to integrate the I/O module into a higher-level control system.

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 520 or www.wago.com

Analog Input; 4 ... 20 mA HART



Item Description	2-Channel Analog Input; 4 ... 20 mA HART
Version	NAMUR NE43
Item No.	750-482/000-001
Order Text	2AI; 4-20mA HART; NE43
Technical Data	
Extended functionality	Overload protection
Number of analog inputs	2
Signal type	3.6 ... 21 mA
Signal characteristic	Single-ended
Resolution	12 bits
Conversion time	10 ... 640 ms (programmable)
Measuring error (max.) at 25 °C	±0.2 % of the upper-range value
Temperature error (max.)	±0.01 % of the upper-range value
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	25 mA
Data width	2 x 2-byte data; 2 x 2-byte data + 2n x 4-byte data (n = number of dynamic variables); 2 x 2-byte data + 6-byte mailbox
Configurable functions	4 HART dynamic variables (PV, SV, TV, QV)
Isolation	500 V (system/field)
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	24 x 67.8 x 100 mm
Approvals	CE; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-482/000-001

HART devices per channel:
1 device (SingleDrop, no MultiDrop)

For select fieldbus couplers, FDT/DTM device drivers are available that can be used to integrate the I/O module into a higher-level control system.

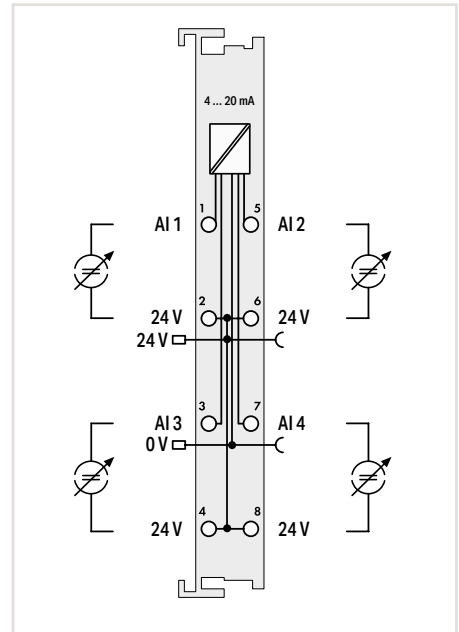
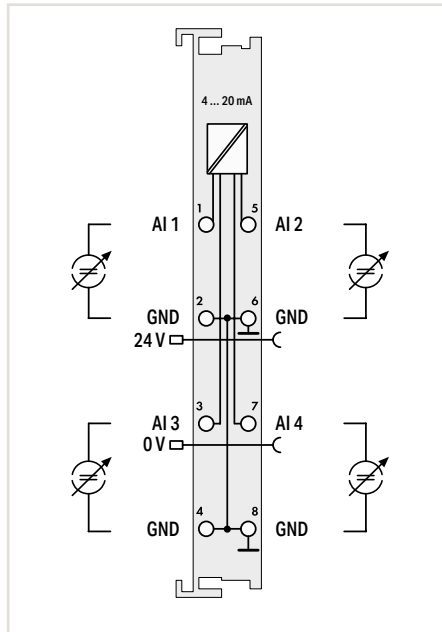
Analog Input; 4 ... 20 mA; Single-Ended

5.4



Figure: 750-455

Figure: 753-455

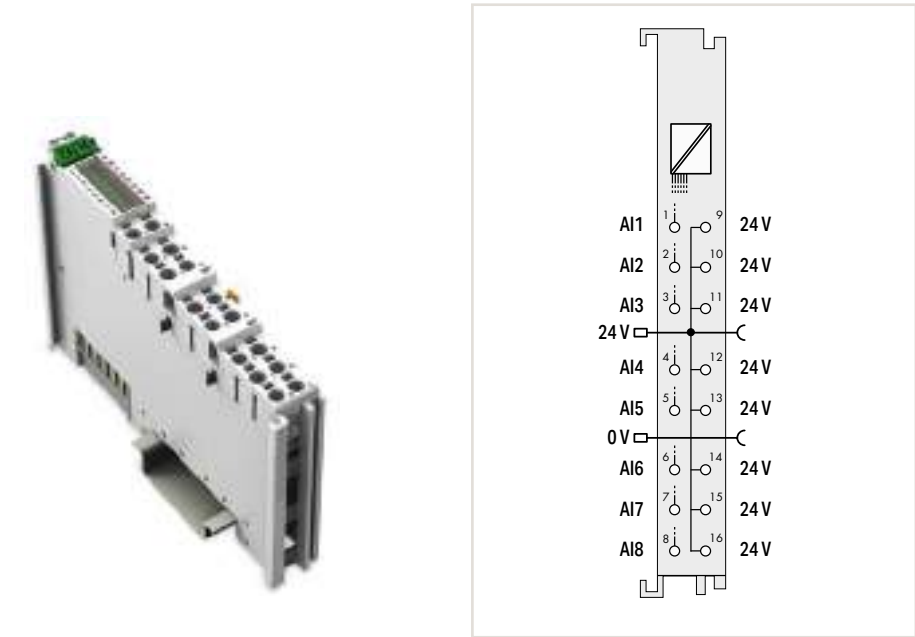


Item Description	4-Channel Analog Input; 4 ... 20 mA; Single-ended; 4 x GND			4-Channel Analog Input; 4 ... 20 mA; Single-ended; 4 x 24 V
Version	Standard	Extended temperature	Pluggable (delivery with-out connector)	4 x 24 V
Item No.	750-455	750-455/025-000	753-455	750-455/020-000
Order Text	4AI; 4-20mA; SE	4AI; 4-20mA; SE; T	4AI; 4-20mA; SE	4AI; 4-20mA; SE; 4x24V
Technical Data				
Pluggable connector			●	
Number of analog inputs	4			4
Signal type	4 ... 20 mA			4 ... 20 mA
Signal characteristic	Single-ended			Single-ended
Resolution	12 bits			12 bits
Conversion time	10 ms			10 ms
Input resistance	< 100 Ω / 20 mA			< 100 Ω / 20 mA
Measuring error (max.) at 25 °C	±0.1 % of the upper-range value			±0.1 % of the upper-range value
Temperature error (max.)	±0.01 % of the upper-range value			±0.01 % of the upper-range value
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)			24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	65 mA			65 mA
Data width	4 x 16-bit data; 4 x 8-bit control/status (optional)			4 x 16-bit data; 4 x 8-bit control/status (optional)
Isolation	500 V (system/field)			500 V (system/field)
Surrounding air temperature (operation)	0 ... +55 °C			0 ... +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm			12 x 69.8 x 100 mm
Approvals	CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx			CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx
Data sheet and further information, see:	wago.com/750-455		wago.com/753-455	wago.com/750-455/020-000
Accessories				Item No.
Pluggable connector				753-110
Coding keys				753-150

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 520 or www.wago.com

Analog Input; Configurable 0/4 ... 20 mA; Single-Ended



Item Description	8-Channel Analog Input; 0/4 ... 20 mA; Single-ended
Version	Standard
Item No.	750-496
Order Text	8AI; 0/4-20mA; SE
Technical Data	
Number of analog inputs	8
Signal type	Configurable: 0 ... 20 mA; 4 ... 20 mA; 3.6 ... 21 mA
Resolution	12 bits
Conversion time	10 ms
Input resistance	< 220 Ω
Input voltage (max.)	31.2 VDC
Measuring error (max.) at 25 °C	±0.1 % of the upper-range value
Temperature error (max.)	±0.01 % of the upper-range value
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	69 mA
Data width	8 x 16-bit data; 8 x 8-bit control/status (optional)
Isolation	500 V (system/field)
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	12 x 69 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-496

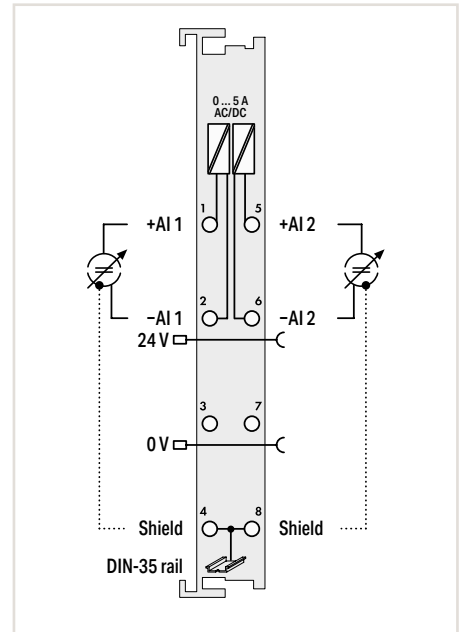
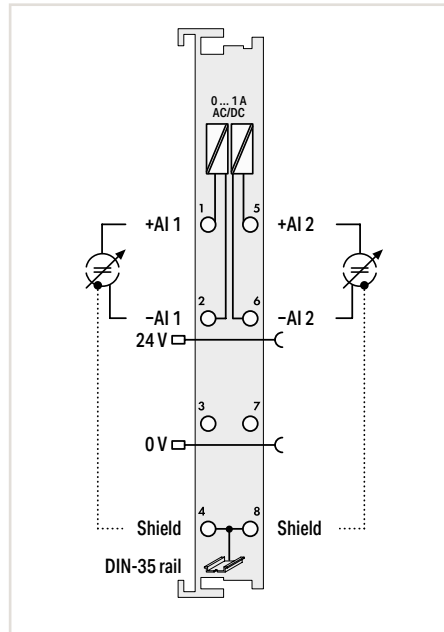
Analog Input; 0 ... 1 A or 0 ... 5 AAC/DC; Differential Input

5.4



Figure: 750-475

Figure: 753-475



Item Description	2-Channel Analog Input; 0 ... 1 AAC/DC; Differential input		2-Channel Analog Input; 0 ... 5 AAC/DC; Differential input
Version	Standard	Pluggable (delivery without connector)	0 ... 5 AAC/DC
Item No.	750-475	753-475	750-475/020-000
Order Text	2AI; 0-1A AC/DC; Diff	2AI; 0-1A AC/DC; Diff	2AI; 0-5A AC/DC; Diff
Technical Data			
Pluggable connector		●	
Number of analog inputs	2		2
Signal type	0 ... 1 A rms (peak value 2.0 A)		0 ... 5 A rms (peak value 6.0 A)
Signal characteristic	Differential		Differential
Input voltage (max.)	24 VAC/DC (–20 ... +20 %)		24 VAC/DC (–20 ... +20 %)
Resolution	15 bits		15 bits
Conversion time	200 ms		200 ms
Load impedance	22 mΩ		22 mΩ
Measuring error (max.) at 25 °C	±0.1 % of the upper-range value		±0.1 % of the upper-range value
Temperature error (max.)	±110 ppm/K of the upper-range value		±110 ppm/K of the upper-range value
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)		24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	80 mA		80 mA
Data width	2 x 16-bit data; 2 x 8-bit control/status (optional)		2 x 16-bit data; 2 x 8-bit control/status (optional)
Isolation	500 V (system/field or channel/channel)		500 V (system/field or channel/channel)
Surrounding air temperature (operation)	0 ... +55 °C		0 ... +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm		12 x 69.8 x 100 mm
Approvals	CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx		CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx
Data sheet and further information, see:	wago.com/750-475	wago.com/753-475	wago.com/750-475/020-000
Accessories		Item No.	
Pluggable connector		753-110	
Coding keys		753-150	

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 520 or www.wago.com

Analog Input; ± 10 VDC; Differential Input



Figure: 750-456

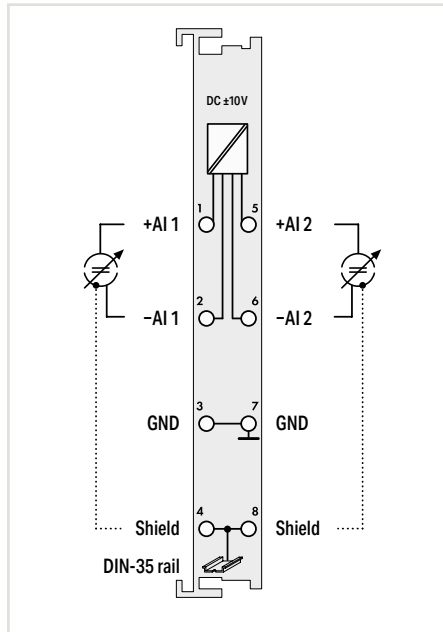
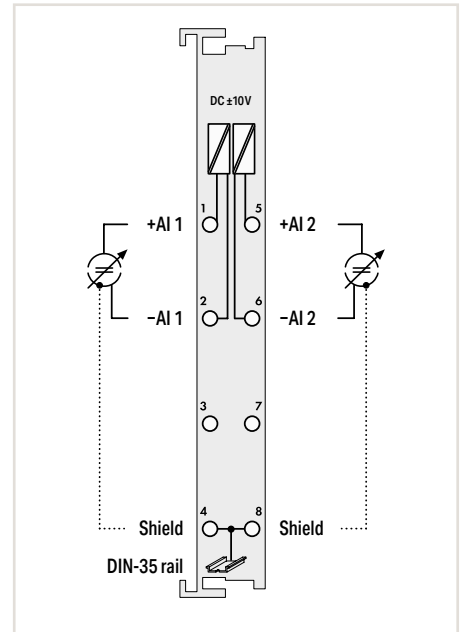


Figure: 750-479



Item Description		2-Channel Analog Input; ± 10 VDC; Differential input			2-Channel Analog Input; ± 10 VDC; Differential input		
Version		Standard	Data format (S5 control)	Pluggable (delivery without connector)	Standard	Synchronous	Pluggable (delivery without connector)
Item No.		750-456	750-456/000-200	753-456	750-479	750-479/000-001	753-479
Order Text		2AI; ± 10 VDC; Diff	2AI; ± 10 VDC; Diff; S5	2AI; ± 10 VDC; Diff	2AI; ± 10 VDC; Diff	2AI; ± 10 VDC; Diff; Sync	2AI; ± 10 VDC; Diff
Technical Data							
Extended functionality					Time-synchronized measured value acquisition within the module		
Pluggable connector							
Customized data format for S5 control*							
Number of analog inputs		2			2		
Signal type		± 10 V			± 10 V		
Signal characteristic		Differential			Differential		
Resolution		12 bits			13 bits + sign		
Conversion time		2 ms			1 ms		
Internal resistance		570 k Ω			1 M Ω		
Input filter (analog)					5 kHz		
Admissible continuous overload					60 V		
Measuring error (max.) at 25 °C		± 0.2 % of the upper-range value			± 0.05 % of the upper-range value		
Temperature error (max.)		± 0.015 %/K of the upper-range value			± 0.01 % of the upper-range value		
Current consumption – system supply (5 V)		80 mA			100 mA		
Data width		2 x 16-bit data; 2 x 8-bit control/status (optional)			2 x 16-bit data; 2 x 8-bit control/status (optional)		
Isolation		500 V (system/field)			500 V (system/field or channel/channel)		
Surrounding air temperature (operation)		0 ... +55 °C			0 ... +55 °C		
Dimensions W x H x D		12 x 69.8 x 100 mm			12 x 69.8 x 100 mm		
Approvals		CE; Marine; OrdLoc/HazLoc; ATEX/IECEx			CE; Marine; OrdLoc/HazLoc; ATEX/IECEx		
Data sheet and further information, see:		wago.com/750-456			wago.com/750-479		
Accessories		Item No.			Item No.		
Pluggable connector		753-110			753-110		
Coding keys		753-150			753-150		

*The S5 format allows you to import data with the standard S5 FB 250 function block.

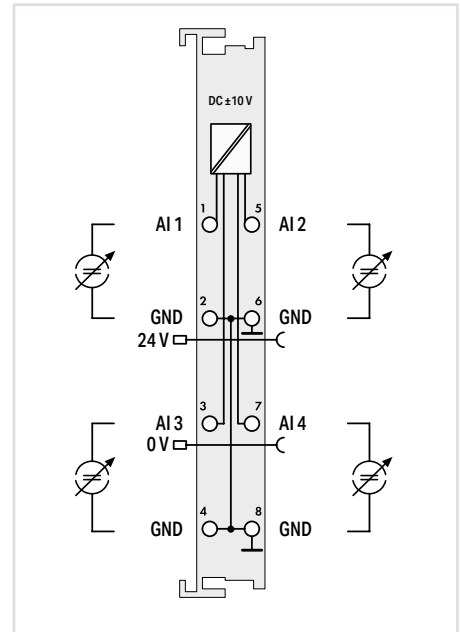
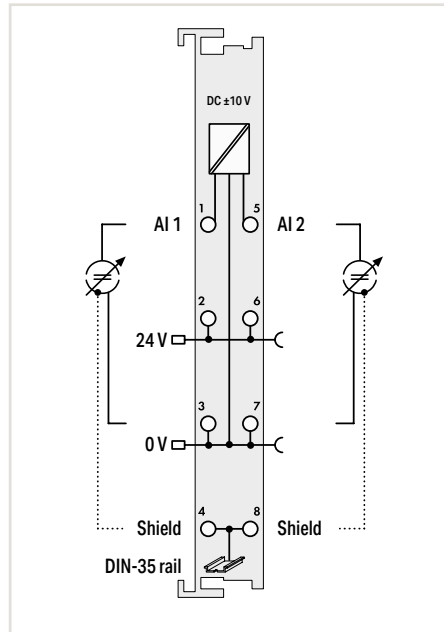
Analog Input; ± 10 VDC; Single-Ended

5.4



Figure: 750-476

Figure: 750-457



Item Description		2-Channel Analog Input; ±10 VDC; Single-ended; 16 bits			4-Channel Analog Input; ±10 VDC; Single-ended		
Version		Standard	Data format (S5 control)	Pluggable (delivery with- out connector)	Standard	Extended temperature	Pluggable (delivery with- out connector)
Item No.		750-476	750-476/000-200	753-476	750-457	750-457/025-000	753-457
Order Text		2AI; ±10 VDC; SE; 16bits	2AI; ±10 VDC; SE; 16bits; S5	2AI; ±10 VDC; SE; 16bits	4AI; ±10 VDC; SE	4AI; ±10 VDC; SE; T	4AI; ±10 VDC; SE
Technical Data							
Pluggable connector							
Customized data format for S5 control*		●			●		
Number of analog inputs		2			4		
Signal type		±10 V			±10 V		
Signal characteristic		Single-ended			Single-ended		
Resolution		15 bits + sign			12 bits		
Conversion time		80 ms			10 ms		
Internal resistance		130 kΩ			> 100 kΩ		
Input voltage (max.)		24 V			±40 V		
Input filter (analog)		50 Hz	60 Hz	50 Hz			
Measuring error (max.) at 25 °C		±0.1 % of the upper-range value			±0.1 % of the upper-range value		
Temperature error (max.)		±0.01 % of the upper-range value			±0.01 % of the upper-range value		
Supply voltage (field)		24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)			24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)		
Current consumption – system supply (5 V)		75 mA			65 mA		
Data width		2 x 16-bit data; 2 x 8-bit control/status (optional)			4 x 16-bit data; 4 x 8-bit control/status (optional)		
Isolation		500 V (system/field)			500 V (system/field)		
Surrounding air temperature (operation)		0 ... +55 °C			0 ... +55 °C	–20 ... +60 °C	0 ... +55 °C
Dimensions W x H x D		12 x 69.8 x 100 mm			12 x 69.8 x 100 mm		
Approvals		CE; Marine; OrdLoc/HazLoc; ATEX/IECEx			CE; Marine; OrdLoc/HazLoc; ATEX/IECEx		
Data sheet and further information, see:		wago.com/750-476		wago.com/753-476	wago.com/750-457		wago.com/753-457
Accessories		Item No.			Item No.		
Pluggable connector		753-110			753-110		
Coding keys		753-150			753-150		

*The S5 format allows you to import data with the standard S5 FB 250 function block.

„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

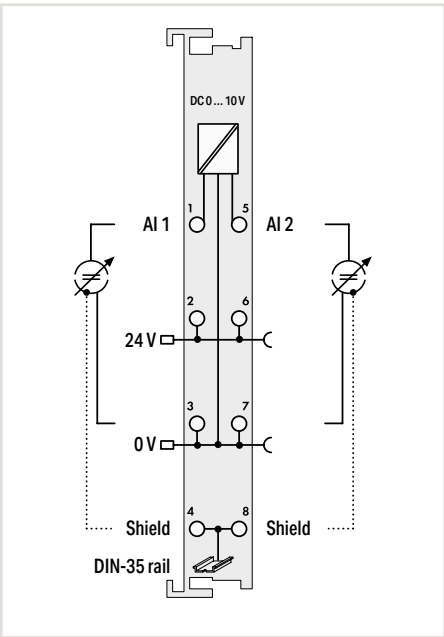
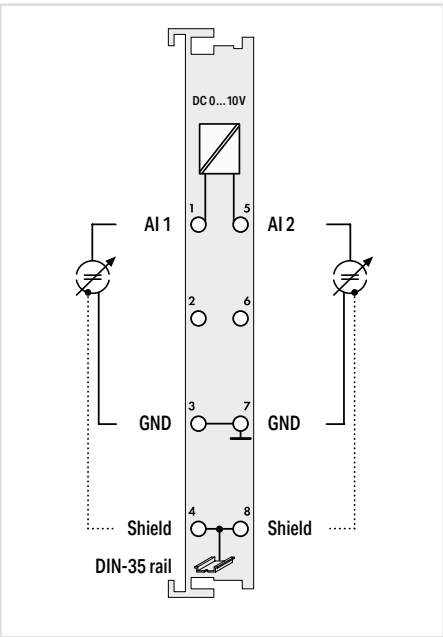
„ Approvals and corresponding ratings, see page 520 or www.wago.com

Analog Input; 0 ... 10 VDC; Single-Ended



Figure: 750-467

Figure: 750-478



Item Description		2-Channel Analog Input; 0 ... 10 VDC; Single-ended		2-Channel Analog Input; 0 ... 10 VDC; Single-ended; 16 bits		
Version		Standard	Pluggable (delivery without connector)	Standard	60 Hz	Pluggable (delivery without connector)
Item No.		750-467	753-467	750-478	750-478/005-000	753-478
Order Text		2AI; 0-10 VDC; SE	2AI; 0-10 VDC; SE	2AI; 0-10 VDC; SE; 16bits	2AI; 0-10 VDC; SE; 16bits; 60Hz	2AI; 0-10 VDC; SE; 16bits
Technical Data						
Pluggable connector			●			●
Number of analog inputs		2		2		
Signal type		0 ... 10 V		0 ... 10 V		
Signal characteristic		Single-ended		Single-ended		
Resolution		12 bits		16 bits		
Conversion time		2 ms		80 ms		
Internal resistance		130 kΩ		130 kΩ		
Input voltage (max.)		35 V		24 V		
Input filter (analog)				50 Hz	60 Hz	50 Hz
Measuring error (max.) at 25 °C		±0.2 % of the upper-range value		±0.1 % of the upper-range value		
Temperature error (max.)		±0.01 % of the upper-range value		±0.01 % of the upper-range value		
Supply voltage (field)				24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)		
Current consumption – system supply (5 V)		60 mA		75 mA		
Data width		2 x 16-bit data; 2 x 8-bit control/status (optional)		2 x 16-bit data; 2 x 8-bit control/status (optional)		
Isolation		500 V (system/field)		500 V (system/field)		
Surrounding air temperature (operation)		0 ... +55 °C		0 ... +55 °C		
Dimensions W x H x D		12 x 69.8 x 100 mm		12 x 69.8 x 100 mm		
Approvals		CE, UL, OrdLoc/HazLoc; ATEX/IECEx		CE, UL, Marine; OrdLoc/HazLoc; ATEX/IECEx		
Data sheet and further information, see:		wago.com/750-467	wago.com/753-467	wago.com/750-478	wago.com/753-478	
Accessories						Item No.
Pluggable connector						753-110
Coding keys						753-150

Analog Input; 0 ... 10 VDC; Single-Ended

5.4



Figure: 750-468

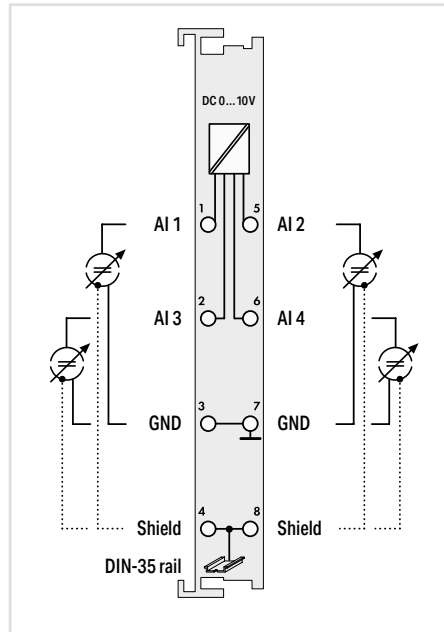
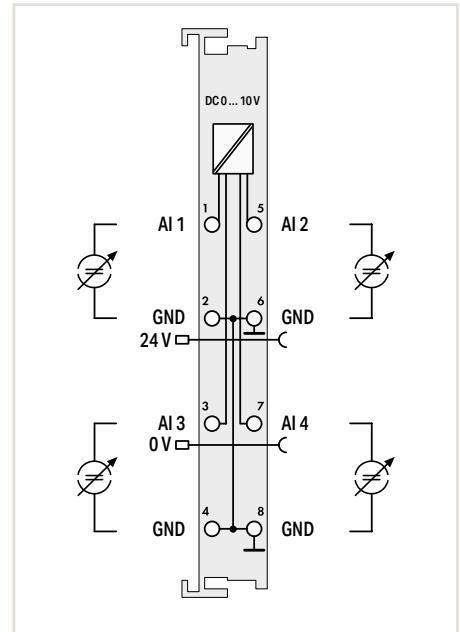


Figure: 750-459

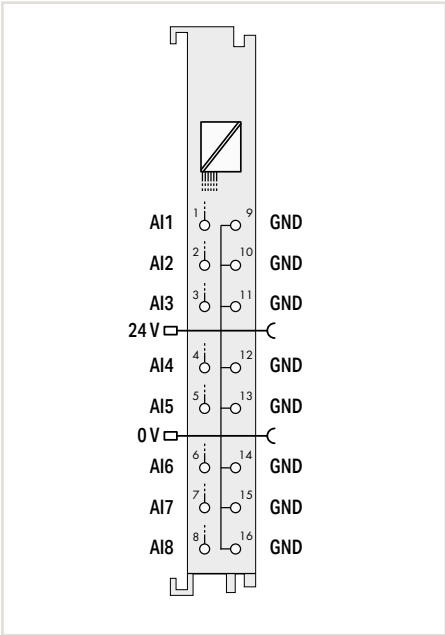


Item Description		4-Channel Analog Input; 0 ... 10 VDC; Single-ended		4-Channel Analog Input; 0 ... 10 VDC; Single-ended	
Version		Standard	Extended temperature	Standard	Pluggable (delivery without connector)
Item No.		750-468	750-468/025-000	750-459	753-459
Order Text		4AI; 0-10 VDC; SE	4AI; 0-10 VDC; SE; T	4AI; 0-10 VDC; SE	4AI; 0-10 VDC; SE
Technical Data					
Pluggable connector					
Number of analog inputs		4		4	
Signal type		0 ... 10 V		0 ... 10 V	
Signal characteristic		Single-ended		Single-ended	
Resolution		12 bits		12 bits	
Conversion time		4 ms		10 ms	
Internal resistance		133 kΩ		> 100 kΩ	
Input voltage (max.)		35 V		±40 V	
Measuring error (max.) at 25 °C		±0.2 % of the upper-range value		±0.1 % of the upper-range value	
Temperature error (max.)		±0.01 % of the upper-range value		±0.01 % of the upper-range value	
Supply voltage (field)				24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)	
Current consumption – system supply (5 V)		60 mA		65 mA	
Data width		4 x 16-bit data; 4 x 8-bit control/status (optional)		4 x 16-bit data; 4 x 8-bit control/status (optional)	
Isolation		500 V (system/field)		500 V (system/field)	
Surrounding air temperature (operation)		0 ... +55 °C		0 ... +55 °C	
Dimensions W x H x D		12 x 69.8 x 100 mm		12 x 69.8 x 100 mm	
Approvals		CE, Marine, OrdLoc/HazLoc; ATEX/IECEX		CE, Marine, OrdLoc/HazLoc; ATEX/IECEX	
Data sheet and further information, see:		wago.com/750-468		wago.com/750-459	wago.com/753-459
Accessories				Item No.	
Pluggable connector				753-110	
Coding keys				753-150	

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 520 or www.wago.com

Analog Input; Configurable ±10 VDC/0 ... 10 V; Single-Ended



Item Description	8-Channel Analog Input; 0 ... 10 VDC/±10 V; Single-ended
Version	Standard
Item No.	750-497
Order Text	8AI; 0-10 V/±10 VDC; SE
Technical Data	
Number of analog inputs	8
Signal type	Configurable: 0 ... 10 V / ±10 V
Resolution	12 bits
Internal resistance	> 100 kΩ
Measuring error (max.) at 25 °C	±0.1 % of the upper-range value
Temperature error (max.)	±0.01 % of the upper-range value
Supply voltage (field)	24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	105 mA
Data width	8 x 16-bit data; 8 x 8-bit control/status (optional)
Isolation	500 V (system/field)
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	12 x 69 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc
Data sheet and further information, see:	wago.com/750-497

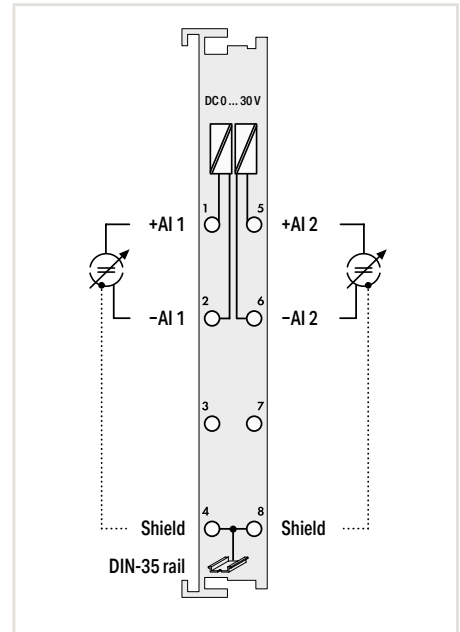
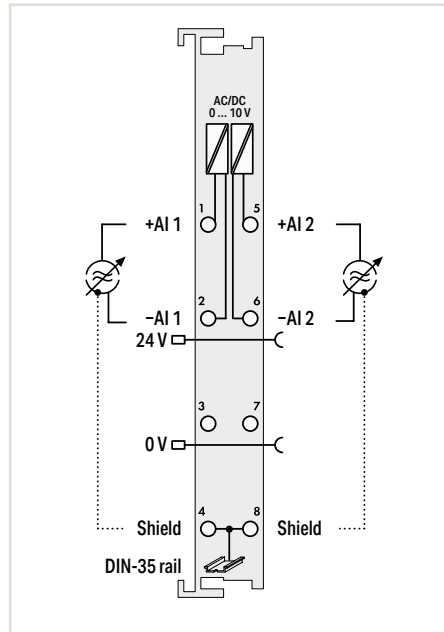
Analog Input; 0 ... 10 VAC/DC or 0 ... 30 VDC; Differential Input

5.4



Figure: 750-477

Figure: 750-483

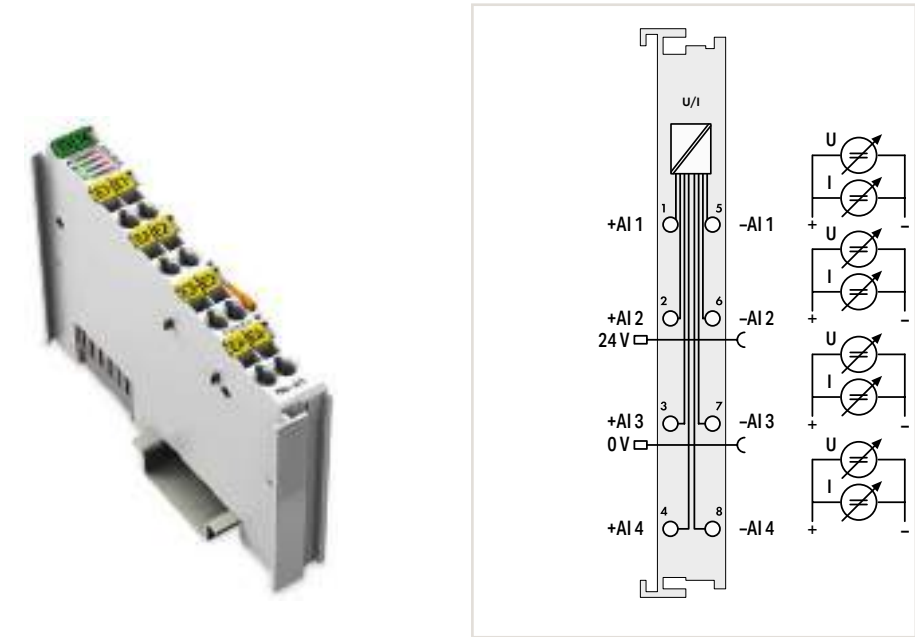


Item Description	2-Channel Analog Input; 0 ... 10 VAC/DC; Differential input		2-Channel Analog Input; 0 ... 30 VDC; Differential input	
Version	Standard	Pluggable (delivery without connector)	Standard	Pluggable (delivery without connector)
Item No.	750-477	753-477	750-483	753-483
Order Text	2AI; 0-10 VAC/VDC; Diff	2AI; 0-10 VAC/VDC; Diff	2AI; 0-30 VDC; Diff	2AI; 0-30 VDC; Diff
Technical Data				
Extended functionality			Time-synchronized measured value acquisition within the module	
Pluggable connector		●		●
Number of analog inputs	2		2	
Signal type	0 ... 10 V rms (peak value 20 V)		0 ... 30 V	
Signal characteristic	Differential		Differential	
Resolution	15 bits		14 bits	
Conversion time	200 ms		1 ms	
Internal resistance	120 kΩ		1 MΩ	
Measuring error (max.) at 25 °C	±0.1 % of the upper-range value		±0.05 % of the upper-range value	
Temperature error (max.)	±110 ppm/K of the upper-range value		±0.01 % of the upper-range value	
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)			
Current consumption – system supply (5 V)	80 mA		80 mA	
Data width	2 x 16-bit data; 2 x 8-bit control/status (optional)		2 x 16-bit data; 2 x 8-bit control/status (optional)	
Isolation	500 V (system/field or channel/channel)		500 V (system/field or channel/channel)	
Surrounding air temperature (operation)	0 ... +55 °C		0 ... +55 °C	
Dimensions W x H x D	12 x 69.8 x 100 mm		12 x 69.8 x 100 mm	
Approvals	CE;  OrdLoc/HazLoc;  ATEX/IECEx		CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx	
Data sheet and further information, see:	wago.com/750-477	wago.com/753-477	wago.com/750-483	wago.com/753-483
Accessories		Item No.		Item No.
Pluggable connector		753-110		753-110
Coding keys		753-150		753-150

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 520 or www.wago.com

Analog Input; Voltage/Current; Differential Input



Item Description	4-Channel Analog Input; Voltage/current; Differential input; 16 bits; Diagnostics
Item No.	750-471
Order Text	4AI; U/I; Diff; Galv
Technical Data	
Number of analog inputs	4 (electrically isolated)
Signal type	Voltages and currents (Configurable channel for channel)
Signal characteristic	Differential
Measurement range	0 ... 20 mA; 4 ... 20 mA; 3.6 ... 21 mA NE43; ±20 mA 0 ... 10 V; ±10 V; ±200 mV
Sensor connection	2-wire
Input impedance	AI (U) >100 kΩ; AI (I) <130 Ω (typ. 113 Ω)
Resolution	16 bits
Conversion time	≤ 5 ms
Measuring error (max.) at 25 °C	±0.1 % of the upper-range value ±0.2 % at ±200 mV
Temperature error (max.)	±0.01 %/K of the upper-range value
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	100 mA
Data width	4 x 16-bit data; 4 x 8-bit control/status (optional)
Isolation	2 kV (channel/channel); 2 kV (system/field)
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	12 x 67.8 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
Data sheet and further information, see:	wago.com/750-471

Analog Input; for Resistance Sensors

5.4



Figure: 750-461

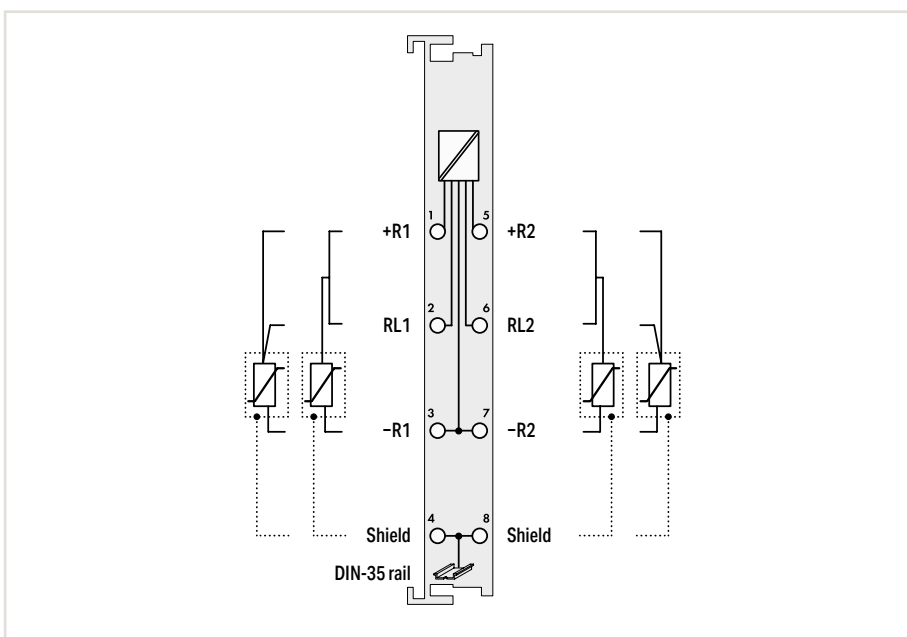


Figure: 753-461

Item Description

Version

Item No.

Order Text

2-Channel Analog Input; for Pt100/RTD resistance sensors

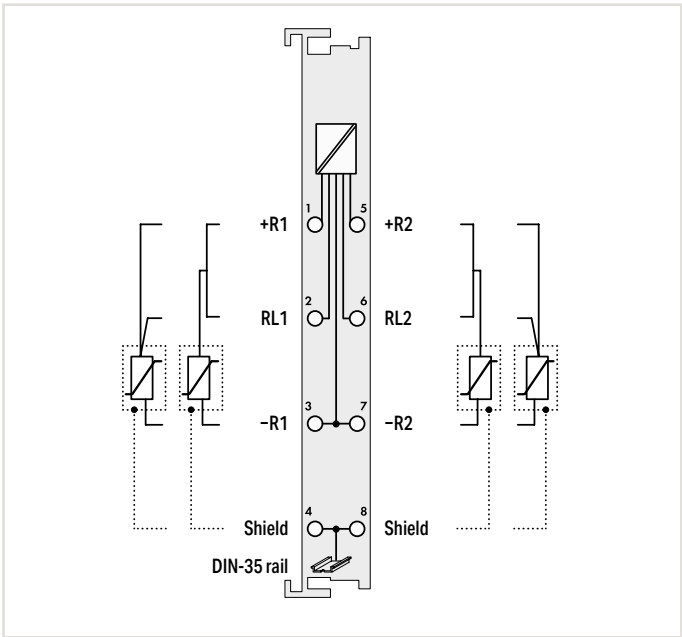
Standard	Pluggable (delivery with- out connector)	Adjustable	Pluggable (delivery with- out connector); Adjustable	Extended temperature	Data format (S5 control)
750-461	753-461	750-461/003-000	753-461/003-000	750-461/025-000	750-461/000-200
2AI; Pt100/RTD	2AI; Pt100/RTD	2AI; Pt100/RTD; Adjust	2AI; Pt100/RTD; Adjust	2AI; Pt100/ RTD; T	2AI; Pt100/ RTD; S5

Technical Data

Pluggable connector	●		●		
Customized data format for S5 control*					●
Number of analog inputs	2				
Signal type	Pt100	Pt100 Configurable: Pt; Ni; Ohm		Pt100	
Sensor connection	2-wire; 3-wire				
Temperature range	-200 ... +850 °C				
Resolution	0.1 °C				
Conversion time	320 ms (per channel)				
Measured current (typ.)	0.5 mA				
Measuring error (max.) at 25 °C	±0.2 % of the upper-range value				
Temperature error (max.)	±0.01 % of the upper-range value				
Current consumption – system supply (5 V)	80 mA				
Data width	2 x 16-bit data; 2 x 8-bit control/status (optional)				
Isolation	500 V (system/field)				
Surrounding air temperature (operation)	0 ... +55 °C			-20 ... +60 °C	0 ... +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm				
Approvals	CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx				
Data sheet and further information, see:	wago.com/750-461	wago.com/753-461	wago.com/750-461	wago.com/753-461	wago.com/750-461
Accessories	Item No.		Item No.		
Pluggable connector	753-110		753-110		
Coding keys	753-150		753-150		

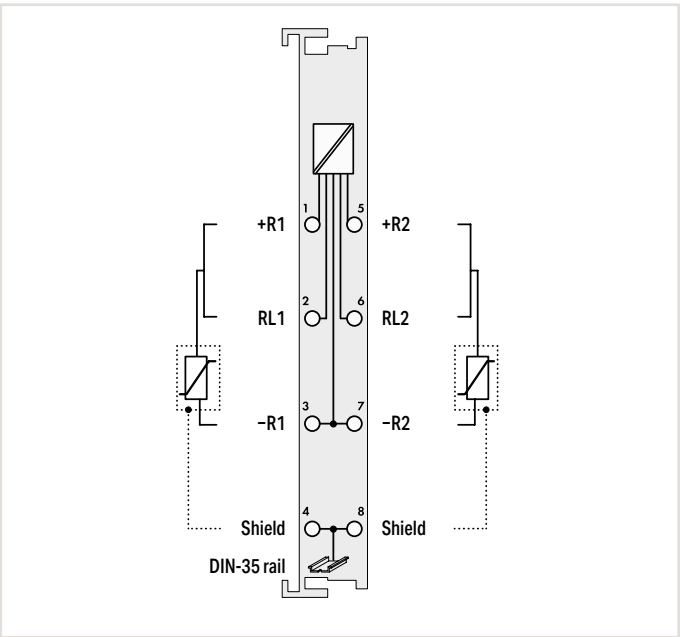
*The S5 format allows you to import data with the standard S5 FB 250 function block.

„ Approvals and corresponding ratings, see page 520 or www.wago.com



2-Channel Analog Input; for resistance sensors		
Pt1000/RTD	Ni1000/ RTD	Ni1000 TK5000
750-461/000-003	750-461/000-005	750-461/000-009
2AI; Pt1000/RTD	2AI; Ni1000/RTD	2AI; Ni1000 TK5000

2		
Pt1000	Ni1000 TK6180	Ni1000 TK5000
2-wire; 3-wire		
-200 ... +850 °C	-60 ... +250 °C	-30 ... +122 °C
0.1 °C		
320 ms (per channel)		
0.5 mA		
±0.2 % of the upper-range value		
±0.01 % of the upper-range value		
80 mA		
2 x 16-bit data; 2 x 8-bit control/status (optional)		
500 V (system/field)		
0 ... +55 °C		
12 x 69.8 x 100 mm		
CE, Marine, OrdLoc/HazLoc, ATEX/IECEx		
wago.com/750-461		



2-Channel Analog Input; for resistance sensors	2-Channel Analog Input; Resistance measurement	
NTC 20k	10 ... 1200 Ohm	10 ... 5000 Ohm
750-461/020-000	750-461/000-002	750-461/000-007
2AI; NTC 20k	2AI; 10R-1k2	2AI; 10R-5k0

2		
NTC 20k	10R ... 1k2	10R ... 5k0
2-wire		
-30 ... +130 °C		
0.1 °C	0.1 Ohm	0.5 Ohm
320 ms (per channel)		
0.05 mA	0.5 mA	
0.5 ... 3 K (temperature-dependent)	±0.2 % of the upper-range value	
±0.002 % of the upper-range value	±0.01 % of the upper-range value	
65 mA	80 mA	
2 x 16-bit data; 2 x 8-bit control/status (optional)		
500 V (system/field)		
0 ... +55 °C		
12 x 69.8 x 100 mm		
CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX		
wago.com/750-461		

Analog Input; for Resistance Sensors

5.4



Figure: 750-464

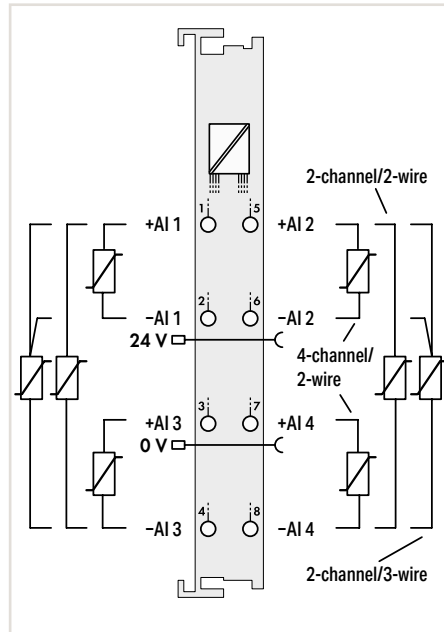
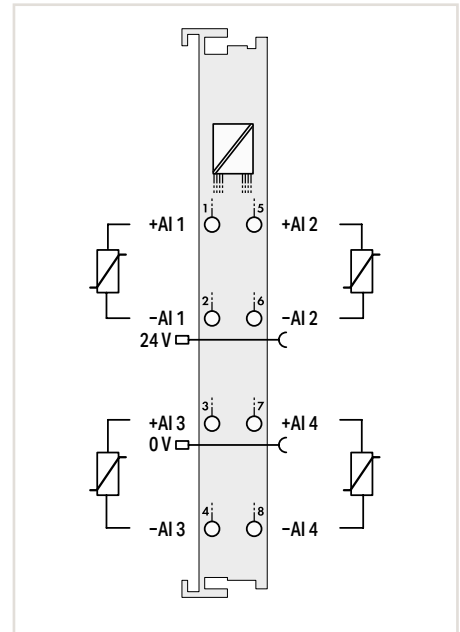


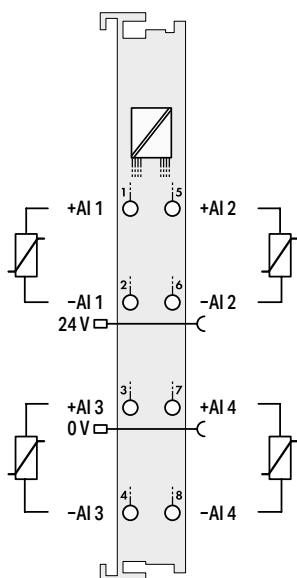
Figure: 750-464



Item Description	2/4-Channel Analog Input; Resistance measurement; Adjustable	4-Channel Analog Input; for resistance sensors; Adjustable
Version	Standard	NTC
Item No.	750-464	750-464/020-000
Order Text	2/4AI; RTD; Adjust	4AI; NTC; Adjust
Technical Data		
Number of analog inputs	2/4	4
Signal type	Pt100; Configurable: Pt200; Pt500; Pt1000; Ni100; Ni120; Ni1000; Potentiometer (2-channel operation only); 10 Ohm ... 1.2 kOhm; 10 Ohm ... 5 kOhm	NTC 10 kOhm; Configurable: NTC 10 kOhm Thermokon; NTC 20 kOhm
Sensor connection	2-wire; 3-wire	2-wire
Temperature range	-200 ... +850 °C (Pt100 ... Pt1000); -60 ... +300 °C (Ni100, Ni1000); -60 ... +250 °C (Ni1000 TK5000); -80 ... +260 °C (Ni120)	-50 ... +150 °C
Resolution	0.1 °C	0.1 °C
Conversion time	320 ms (per channel)	320 ms (per channel)
Measured current (typ.)	≤ 350 µA	≤ 350 µA
Measuring error (max.) at 25 °C	1 K over entire temperature range; 0.5 K over limited temperature range (-30 ... +120 °C; Pt1000)	2 K within the entire temperature range
Temperature error (max.)	20 ppm/K	20 ppm/K
Supply voltage (field)	24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)	24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	50 mA	50 mA
Data width	4 (2) x 16-bit data; 4 (2) x 8-bit control/status (optional)	4 x 16-bit data; 4 x 8-bit control/status (optional)
Isolation	500 V (system/field)	500 V (system/field)
Surrounding air temperature (operation)	0 ... +55 °C	0 ... +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm	12 x 69.8 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-464	wago.com/750-464/020-000

„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ Approvals and corresponding ratings, see page 520 or www.wago.com

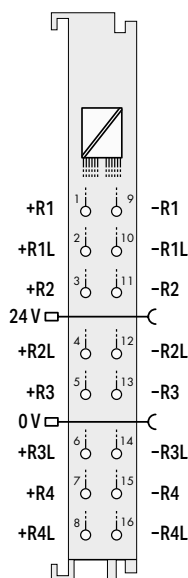


4-Channel Analog Input; Resistance measurement

Measurement range: $-30^{\circ}\text{C} \dots +150^{\circ}\text{C}$

750-463

4AI; RTD; $-30^{\circ}\text{C} \dots +150^{\circ}\text{C}$

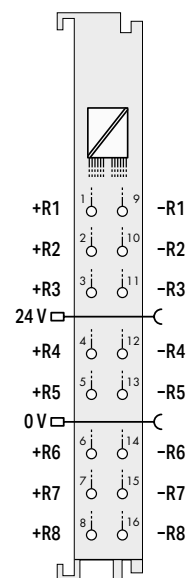


4-Channel Analog Input; Resistance measurement; Adjustable

Standard

750-450

4AI; RTD; Adjust



8-Channel Analog Input; Resistance measurement; Adjustable

Standard

750-451

8AI; RTD; Adjust

Extended temperature

750-451/025-000

8AI; RTD; Adjust; T

4
Pt1000; Configurable: Ni1000; KTY 81
2-wire
$-30 \dots +150^{\circ}\text{C}$
0.1 $^{\circ}\text{C}$
$\leq 350 \mu\text{A}$
0.5 K in temperature range: $-30 \dots +150^{\circ}\text{C}$
20 ppm/K
24 VDC ($-25 \dots +30\%$); via power jumper contacts (power supply via blade contact; transmission via spring contact)
50 mA
4 x 16-bit data; 4 x 8-bit control/status (optional)
500 V (system/field)
0 $\dots +55^{\circ}\text{C}$
12 x 69.8 x 100 mm
CE, RoHS, ATEX/IECEx
wago.com/750-463

4
Pt100; Configurable: Pt200; Pt500; Pt1000; Ni100; Ni120; Ni1000 (TK6180 + TK5000); Potentiometer 0 Ohm $\dots$ 1.2 kOhm; 0 Ohm $\dots$ 5 kOhm
2-wire; 3-wire; 4-wire
$-200 \dots +850^{\circ}\text{C}$ (Pt100, Pt200, Pt500, Pt1000); $-60 \dots +250^{\circ}\text{C}$ (Ni100, Ni1000); $-80 \dots +260^{\circ}\text{C}$ (Ni120)
0.1 $^{\circ}\text{C}$
Per channel: ≤ 100 ms (2-/4-wire connection), ≤ 200 ms (3-wire connection)
$\leq 350 \mu\text{A}$
± 0.6 K (Pt100, Pt200, Pt500, Ni100, Ni120); ± 0.2 K (Pt1000, Ni1000); $\pm 0.3 \dots 0.7 \Omega$ at resistance measurement
± 5 ppm/K
24 VDC ($-25 \dots +30\%$); via power jumper contacts (power supply via blade contact; transmission via spring contact)
85 mA
4 x 16-bit data; 4 x 8-bit control/status (optional)
500 V (system/field)
0 $\dots +55^{\circ}\text{C}$
12 x 69.8 x 100 mm
CE, RoHS, Marine; ATEX/IECEx
wago.com/750-450

8
Pt100; Configurable: Pt200; Pt500; Pt1000; Ni100; Ni120; Ni1000 (TK6180 + TK5000); Potentiometer 0 Ohm $\dots$ 1.2 kOhm; 0 Ohm $\dots$ 5 kOhm
2-wire
$-200 \dots +850^{\circ}\text{C}$ (Pt100, Pt200, Pt500, Pt1000); $-60 \dots +250^{\circ}\text{C}$ (Ni100, Ni1000); $-80 \dots +260^{\circ}\text{C}$ (Ni120)
0.1 $^{\circ}\text{C}$
Per channel: ≤ 100 ms
$\leq 350 \mu\text{A}$
± 0.6 K (Pt100, Pt200, Pt500, Ni100, Ni120); ± 0.2 K (Pt1000, Ni1000); $\pm 0.3 \Omega$ at resistance measurement
± 5 ppm/K
24 VDC ($-25 \dots +30\%$); via power jumper contacts (power supply via blade contact; transmission via spring contact)
110 mA
8 x 16-bit data; 8 x 8-bit control/status (optional)
500 V (system/field)
0 $\dots +55^{\circ}\text{C}$
$-20 \dots +60^{\circ}\text{C}$
12 x 69.8 x 100 mm
CE, RoHS, Marine; ATEX/IECEx
wago.com/750-451

Analog Input; for Thermocouples

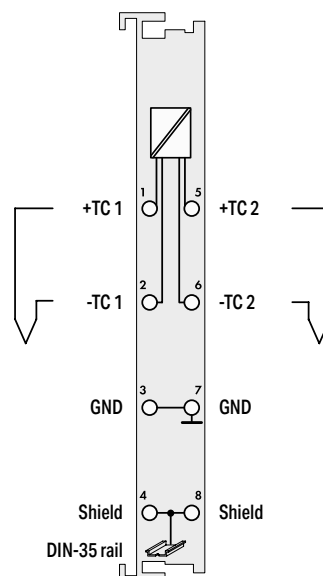
5.4



Figure: 750-469



Figure: 750-458



Item Description

Version

Item No.

Order Text

Technical Data

Pluggable connector

Customized data format for S5 control*

Number of analog inputs

Signal type

Temperature range

Resolution

Conversion time

Measuring error (max.) at 25 °C

Temperature error (max.)

Cold junction compensation

Supply voltage (field)

Current consumption – system supply (5 V)

Data width

Isolation

Surrounding air temperature (operation)

Dimensions W x H x D

Approvals

Data sheet and further information, see:

Accessories

Pluggable connector

Coding keys

2-Channel Analog Input; Thermocouple K; Diagnostics

Standard

Pluggable
(delivery without
connector)

Adjustable

Pluggable
(delivery without
connector);
Adjustable

753-469/003-000

Data format (S5
control)

750-469/000-200

750-469

2AI; TC K; Diagn

753-469

2AI; TC K; Diagn

750-469/003-000

2AI; TC K; Diagn

Adjust

753-469/003-000

2AI; TC K; Diagn

Adjust

750-469/000-200

2AI; TC K; Diagn;

S5

2

Thermocouple K

Thermocouple K; Configurable: L; J; E; T;
N; U; B; R; S; mV

Thermocouple K

-100 ... +1370 °C

Sensor-specific

-100 ... +1370 °C

0.1 °C

320 ms

±6 K (voltage input: ±2 K; cold junction compensation: ±4 K)

±0.2 K/K

Integrated or external

65 mA

2 x 16-bit data; 2 x 8-bit control/status (optional)

500 V (system/field)

0 ... +55 °C

12 x 69.8 x 100 mm

CE; Marine; OrdLoc/HazLoc; ATEX/IECEx

wago.com/750-469wago.com/753-469wago.com/750-469wago.com/753-469wago.com/750-469

Item No.

753-110

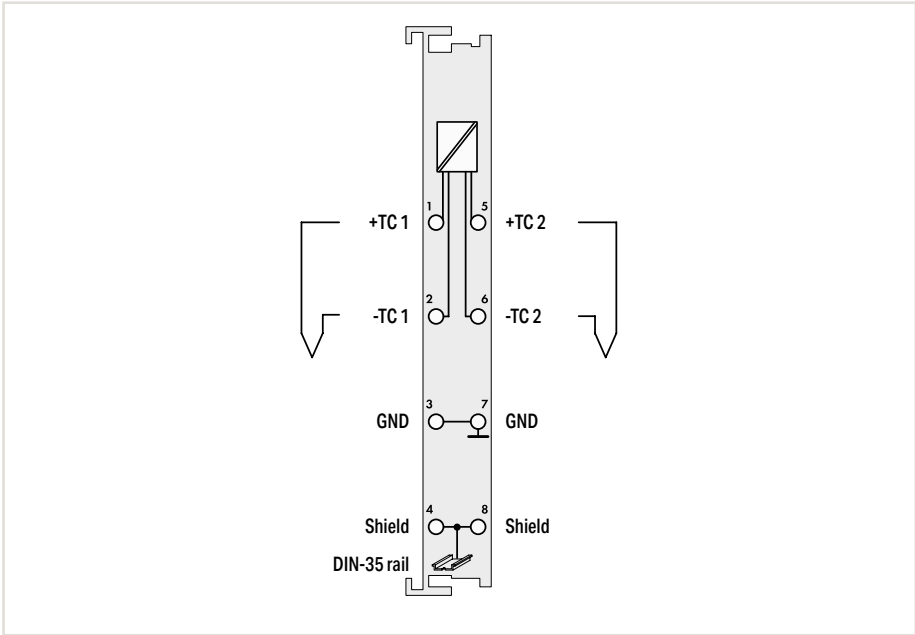
753-150

Item No.

753-110

753-150

*The S5 format allows you to import data with the standard S5 FB 250 function block.



2-Channel Analog Input; Thermocouple; Diagnostics					
Thermocouple S	Thermocouple T	Thermocouple J	Thermocouple E	Thermocouple L	Thermocouple ±120 mV;
750-469/000-001	750-469/000-002	750-469/000-006	750-469/000-008	750-469/000-012	750-469/000-003
2AI; TC S; Diagn	2AI; TC T; Diagn	2AI; TC J; Diagn	2AI; TC E; Diagn	2AI; TC L; Diagn	2AI; TC ±120mV; Diagn

2					
Thermocouple S	Thermocouple T	Thermocouple J	Thermocouple E	Thermocouple L	±120 mV
-50 ... +1700 °C	-100 ... +400 °C	-100 ... +1200 °C	-100 ... +1000 °C	-100 ... +900 °C	

0.1 °C
320 ms
±6 K (voltage input: ±2 K; cold junction compensation: ±4 K)

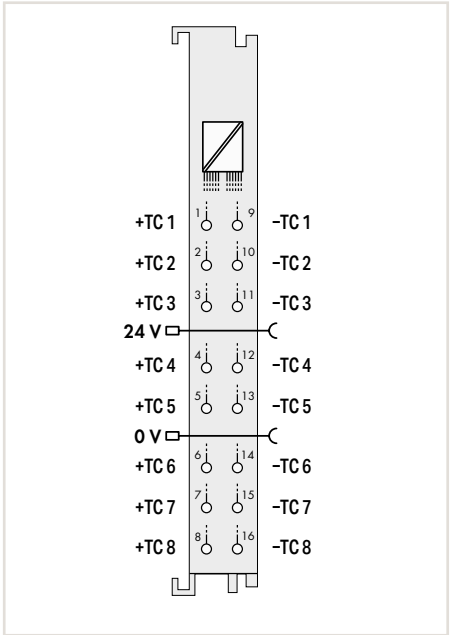
±0.2 K/K
Integrated or external

65 mA
2 x 16-bit data; 2 x 8-bit control/status (optional)
500 V (system/field)
0 ... +55 °C

12 x 69.8 x 100 mm

CE; Marine; OrdLoc/HazLoc; ATEX/IECEX

wago.com/750-469



8-Channel Analog Input; Thermocouple; Adjustable
Standard
750-458
8AI; TC; Adjust

8
Thermocouple K; Configurable: J; B; E; N; R; S; T; U; C; Voltage measurement: -30 ... +30 mV; -60 ... +60 mV; -120 ... +120 mV; -240 ... +240 mV
Sensor-specific

0.1 °C
Per channel: ≤ 100 ms

Without cold junction compensation: ±1 K (type E, N, K, T, J, C); ±2 K (type S, R); ±3 K (type B); Cold-junction compensation measurement error: ±4 K

±0.05 K/K
Integrated or external

24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)

100 mA
8 x 16-bit data; 8 x 8-bit control/status (optional)
500 V (system/field)
0 ... +55 °C

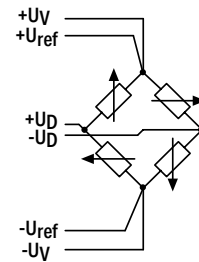
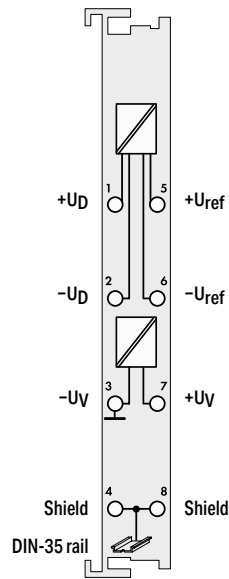
12 x 69.8 x 100 mm

CE; Marine; OrdLoc/HazLoc; ATEX/IECEX

wago.com/750-458

Analog Input; for Resistor Bridges (Strain Gauge)

5.4

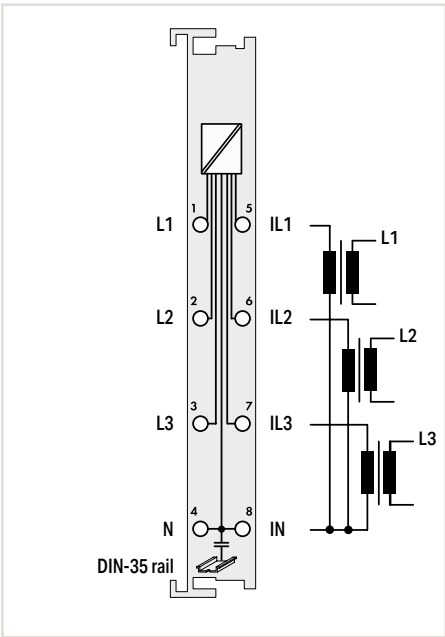


Item Description	
Version	
Item No.	750-491
Order Text	1AI; DMS
Technical Data	
Number of analog inputs	1
Signal type	Resistor bridge (strain gauge)
Signal voltage U_D	-15 ... +15 mV
Signal voltage U_{ref}	+2 ... +6 V
Internal resistance	> 200 k Ω (U_{ref}); > 1 M Ω (U_D)
Supply voltage U_V	5 VDC; 20 mA
Resolution	16 bits
Conversion time	500 ms 125 ms
Measuring error	U_D : $\pm 30 \mu\text{V}$; U_{ref} : $\pm 10 \text{ mV}$
Filter	50 Hz 200 Hz
Current consumption – system supply (5 V)	65 mA
Data width	2 x 16-bit data; 2 x 8-bit control/status (optional)
Isolation	500 V (system/field)
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm
Approvals	CE, RoHS, OrdLoc/HazLoc
Data sheet and further information, see:	wago.com/750-491

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 520 or www.wago.com

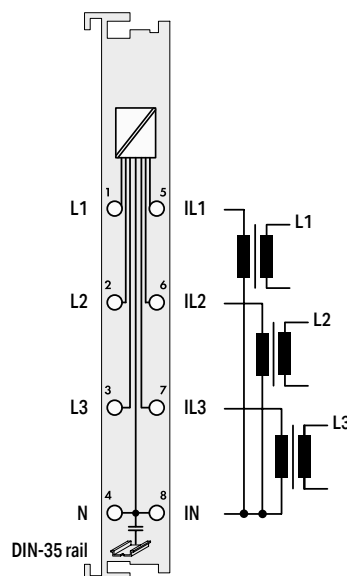
Analog Input; for 3-Phase Power Measurement



Item Description	3-Phase Power Measurement; 480 VAC 1 A		
Version	Standard	Extended temperature	480 VAC, 5 A
Item No.	750-493	750-493/025-000	750-493/000-001
Order Text	3-PHASE POM; 480VAC 1A	3-PHASE POM; 480VAC 1A; T	3-PHASE POM; 480VAC 5A
Technical Data			
Signal type	3-phase power measurement		
Measured variables	Voltage; Current; Effective power; Reactive power; Apparent power; Power consumption; Frequency; Cos phi		
Number of measurement inputs	6 (3 voltage measurement inputs; 3 current measurement inputs)		
Rated voltage	ULN = 277 VAC/VDC; ULL = 480 VAC		
Input resistance (voltage path) typ.	1071 kΩ		
Measuring current (max.)	1 A	5 A	
Input resistance (current path) typ.	22 mΩ	5 mΩ	
Resolution	16 bits		
Measuring error (max.) at 25 °C	AC current/voltage:		
	±0.5 % of the upper-range value	±0.6 % of the upper-range value	±0.5 % of the upper-range value
Frequency range (mains frequency)	45 ... 65 Hz		
Limit frequency	7.2 kHz		
Current consumption – system supply (5 V)	100 mA		
Data width	2 x 48-bit data; 2 x 24-bit control/status (optional)		
Isolation	4 kV (system/field)		
Surrounding air temperature (operation)	0 ... +55 °C	-20 ... +60 °C	0 ... +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm		
Approvals	CE,  ,  OrdLoc/HazLoc;  ATEX/IECEx		
Data sheet and further information, see:	wago.com/750-493		
Accessories	Item No.		
Split-core and plug-in current transformers	See Full Line Catalog, Volume 4		

Analog Input; for 3-Phase Power Measurement

5.4



Item Description

Version

Item No.

Order Text

3-Phase Power Measurement; 480 VAC 1 A

Standard

Extended temperature

480 VAC, 5 A

480 VAC 5 A; Extended temperature

750-494

750-494/025-000

750-494/000-001

750-494/025-001

3-PHASE POM; 480VAC 1A

3-PHASE POM; 480VAC 1A; T

3-PHASE POM; 480VAC 5A

3-PHASE POM; 480VAC 5A; T

Technical Data

Signal type

Measured variables

Number of measurement inputs

Rated voltage

Input resistance (voltage path) typ.

Measuring current (max.)

Input resistance (current path) typ.

Resolution

Measuring error (max.) at 25 °C

Frequency range (mains frequency)

Frequency range (harmonics analysis)

Limit frequency

Current consumption – system supply (5 V)

Data width

Isolation

Surrounding air temperature (operation)

Dimensions W x H x D

Approvals

Data sheet and further information, see:

Accessories

Split-core and plug-in current transformers

3-phase power measurement

Voltage; Current; Effective power; Reactive power; Apparent power;
Power consumption; Frequency; Cos phi;
Harmonics (up to the 41st harmonic); THD and more

6 (3 voltage measurement inputs; 3 current measurement inputs)

ULN = 277 VAC/VDC; ULL = 480 VAC

1072 kΩ

1 A

5 A

22 mΩ

5 mΩ

24 bits

AC current/voltage: ±0.5 % the upper-range value

45 ... 65 Hz

0 ... 3300 Hz

15.9 kHz

100 mA

2 x 128-bit data; 2 x 64-bit control/status

4 kV (system/field)

0 ... +55 °C

-20 ... +60 °C

0 ... +55 °C

-20 ... +60 °C

12 x 69.8 x 100 mm

CE; Marine; OrdLoc/HazLoc; ATEX/IECEX

wago.com/750-494

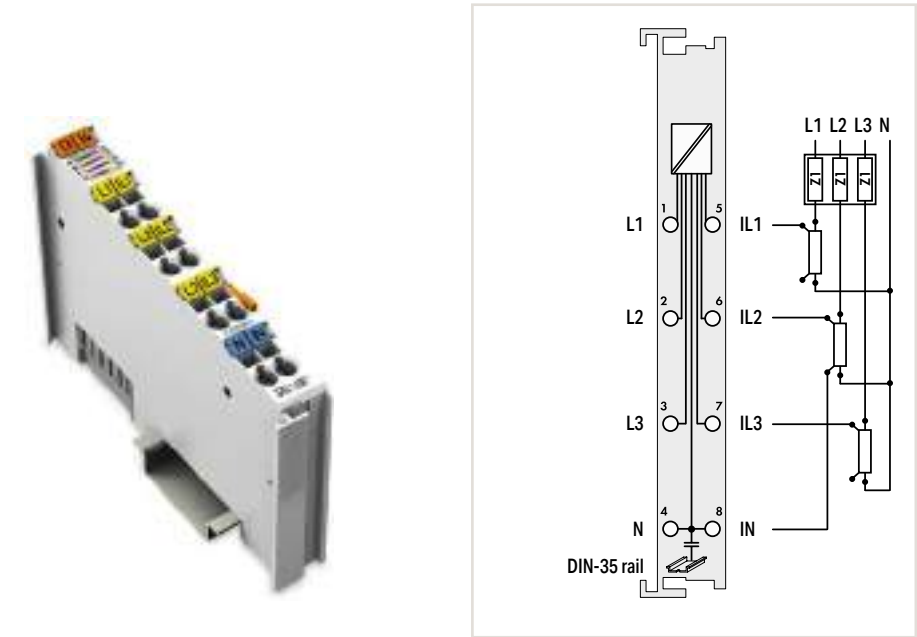
Item No.

See Full Line Catalog, Volume 4

„ Mini-WSB marker card and mounting accessories,
see Section "Accessories and Tools"

„ Approvals and corresponding ratings,
see page 520 or www.wago.com

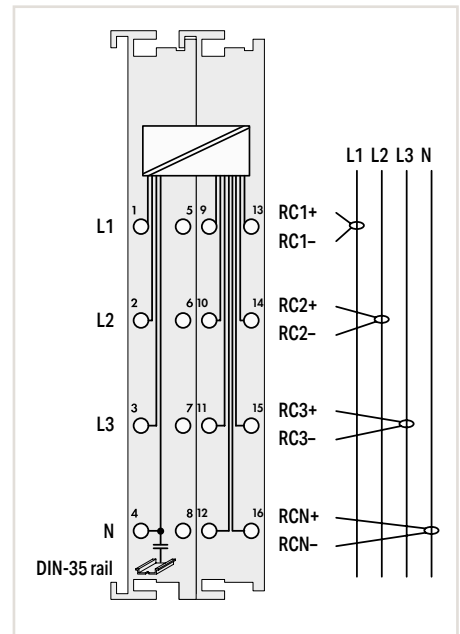
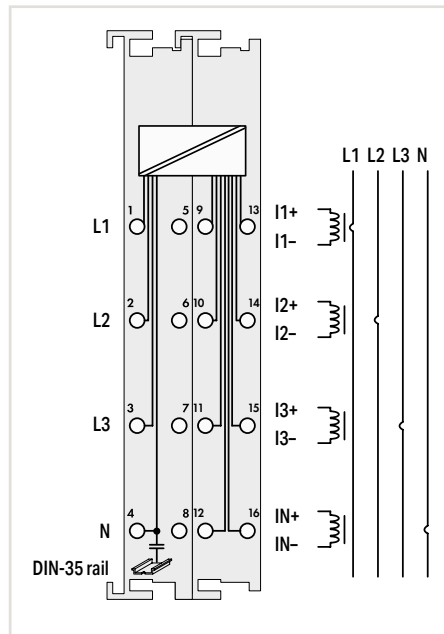
Analog Input; for Power Measurement



Item Description	Power Measurement
Version	277 VAC/DC; External shunts
Item No.	750-494/000-005
Order Text	Power Measurement; 277 VAC/DC; External shunts
Technical Data	
Signal type	Power Measurement
Measured variables	Line-to-line voltage; Power output; Energy; Power factors; Mains frequency; Harmonic analysis (up to the 41st harmonic); THD
Number of measurement inputs	6 (3 voltage measurement inputs*; 3 current measurement inputs*); *Only 2 voltage/current measurement inputs can be used for DC measurement!
Rated voltage	ULN = 277 VAC/VDC; ULL = 480 VAC
Input resistance (voltage path) typ.	1072 kΩ
Measuring current (max.)	1 ... 20,000 A via ext. shunts (DIN 43703, DIN EN 60051 [50 ... 300 mV])
Input resistance (current path) typ.	Approx. 15 kΩ
Resolution	24 bits
Measuring error for current and voltage	AC: 0.5 % (max.); DC: 1.0 % (of the upper-range value)
Frequency range (mains frequency)	45 ... 65 Hz
Frequency range (harmonics analysis)	0 ... 3300 Hz
Limit frequency	15.9 kHz
Current consumption – system supply (5 V)	100 mA
Data width	2 x 128-bit data; 2 x 64-bit control/status
Isolation	4 kV (system/field)
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	12 x 67.8 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-494/000-005

Analog Input; for 3-Phase Power Measurement

5.4



Item Description	3-Phase Power Measurement; 690 VAC 1 A	
Version	Standard	690 VAC 5 A
Item No.	750-495	750-495/000-001
Order Text	3-PHASE POM; 690VAC 1A	3-PHASE POM; 690VAC 5A

Technical Data

Signal type	3-phase power measurement	
Measured variables	Voltage; Current; Effective power; Reactive power; Apparent power; Power consumption; Frequency; Cos phi; Harmonics (up to the 41st harmonic); THD; Current measurement in N-conductor; and more	
Number of measurement inputs	7 (3 voltage measurement inputs; 4 differential current measurement inputs)	
Rated voltage	$U_{LN} = 400 \text{ VAC}$; $U_{LL} = 690 \text{ VAC}$	
Input resistance (voltage path) typ.	1429 k Ω	
Measuring current (max.)	1 A	5 A
Input resistance (current path) typ.	22 m Ω	5 m Ω
Resolution	24 bits	
Measuring error (max.) at 25 °C	AC current/voltage: $\pm 0.5 \%$ of the upper-range value	
Frequency range (mains frequency)	45 ... 65 Hz	
Frequency range (harmonics analysis)	0 ... 3300 Hz	
Limit frequency	15.9 kHz	
Current consumption – system supply (5 V)	100 mA	
Data width	2 x 128-bit data; 2 x 64-bit control/status	
Isolation	6 kV (system/field)	
Surrounding air temperature (operation)	0 ... +55 °C	
Dimensions W x H x D	24 x 69.8 x 100 mm	
Approvals	CE; Marine	
Data sheet and further information, see:	wago.com/750-495	

Accessories

Split-core and plug-in current transformers
Rogowski coils

Item No.
See Full Line Catalog, Volume 4

3-phase power measurement
690 VAC Rogowski coils
750-495/000-002
3-PHASE POM; 690VAC R.C.

Signal type	3-phase power measurement
Measured variables	Voltage; Current; Effective power; Reactive power; Apparent power; Power consumption; Frequency; Cos phi; Harmonics (up to the 41st harmonic); THD; Current measurement in N-conductor; and more
Number of measurement inputs	7 (3 voltage measurement inputs; 4 differential current measurement inputs)
Rated voltage	$U_{LN} = 277 \text{ VAC}$; $U_{LL} = 480 \text{ VAC}$
Input resistance (voltage path) typ.	1429 k Ω
Measuring current (max.)	Rogowski coils
Input resistance (current path) typ.	44 k Ω
Resolution	24 bits
Measuring error (max.) at 25 °C	AC current/voltage: $\pm 0.5 \%$ of the upper-range value
Frequency range (mains frequency)	45 ... 65 Hz
Frequency range (harmonics analysis)	0 ... 3300 Hz
Limit frequency	15.9 kHz
Current consumption – system supply (5 V)	100 mA
Data width	2 x 128-bit data; 2 x 64-bit control/status
Isolation	6 kV (system/field)
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	24 x 69.8 x 100 mm
Approvals	CE; Marine
Data sheet and further information, see:	wago.com/750-495/000-002

Item No.
See Full Line Catalog, Volume 4

„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ Approvals and corresponding ratings, see page 520 or www.wago.com

Analog Output Modules

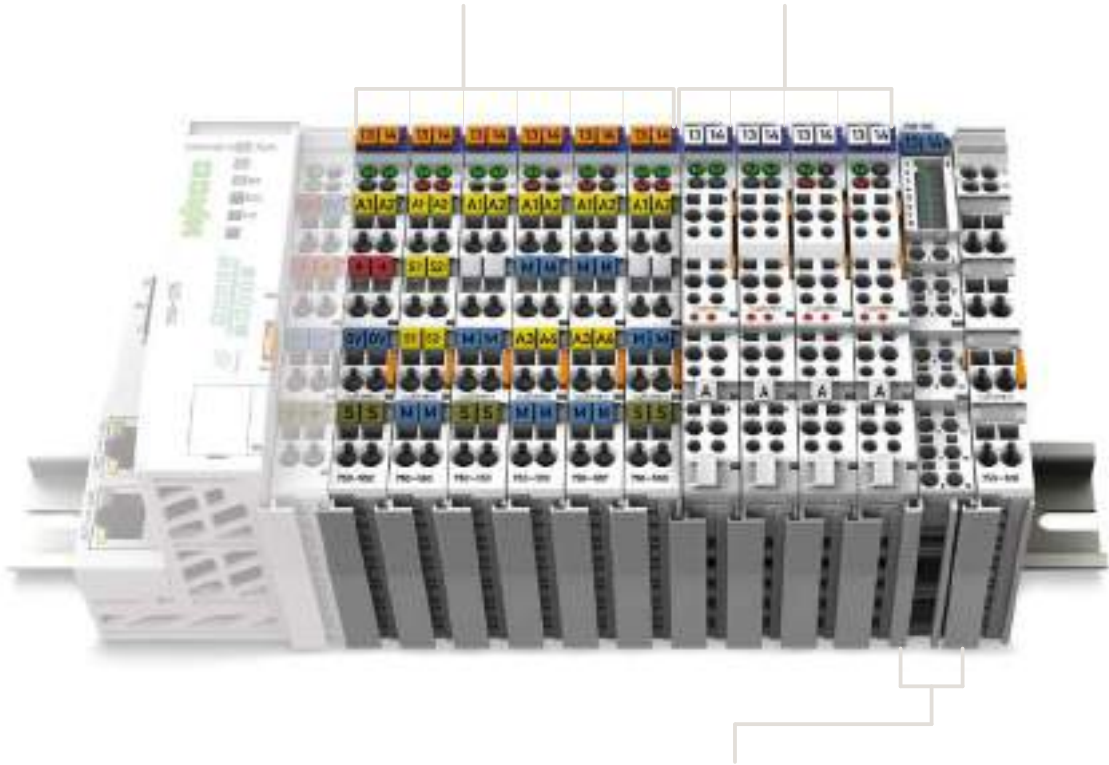


Housing design (750 Series)

Dimensions W x H x D	12 x 69.8 x 100 mm
Height from upper-edge of DIN-rail	62.6 mm
Connection technology	CAGE CLAMP®
Conductor range	0.08 ... 2.5 mm² / 28 ... 14 AWG
Strip length	8 ... 9 mm / 0.33 inch

Housing design (753 Series)

Dimensions W x H x D	12 x 69.8 x 100 mm
Height from upper-edge of DIN-rail	62.6 mm
Connection technology	CAGE CLAMP®
Conductor range	0.08 ... 2.5 mm² / 28 ... 14 AWG
Strip length	9 ... 10 mm / 0.37 inch



Housing design (750 Series), with Push-in CAGE CLAMP® connections (up to 16 connection points)

Dimensions W x H x D	12 x 69 x 100 mm
Height from upper-edge of DIN-rail	61.8 mm
Connection technology	Push-in CAGE CLAMP®
Conductor range	Solid: 0.08 ... 1.5 mm² / 28 ... 16 AWG Fine-stranded: 0.25–1.5 mm² / 22–16 AWG;
Strip length	8 ... 9 mm / 0.33 inch



I/O System –
750 XTR Series



I/O System – 750 and 753 Series; Analog Output Modules

Contents

Function	2-Channel AO	4-Channel AO	8-Channel AO	Description	Item Number				Page
					Standard	/S5 Customized Data Format	Extended Temperature	Pluggable	
0 ... 20 mA				2-Channel Analog Output; 0 ... 20 mA	750-552	750-552/000-200	750-552/025-000	753-552	248
				4-Channel Analog Output; 0 ... 20 mA	750-553			753-553	249
4 ... 20 mA				2-Channel Analog Output; 4 ... 20 mA	750-554	750-554/000-200	750-554/025-000	753-554	250
				4-Channel Analog Output; 4 ... 20 mA	750-555			753-555	251
0/4 ... 20 mA				2-Channel Analog Output; 0/4 ... 20 mA; 16 bits; 6 ... 18 VDC	750-563*				251
0 ... 10 V				2-Channel Analog Output; 0 ... 10 VDC	750-550	750-550/000-200		753-550	252
				2-Channel Analog Output; 0 ... 10 VDC; 10 bits; 100 mW/24 V	750-560				252
				4-Channel Analog Output; 0 ... 10 VDC	750-559*		750-559/025-000	753-559	253
±10 V				2-Channel Analog Output; ±10 VDC	750-556	750-556/000-200		753-556	254
				4-Channel Analog Output; ±10 VDC	750-557*			753-557	254
0 ... 10 V/±10 V				2-Channel Analog Output; 0 ... 10 VDC/±10 V; 16 bits	750-562				255
				8-Channel Analog Output; 0 ... 10 VDC/±10 V	750-597				255
Ex i					See Section 5.9				
*This module is also available as a 750 XTR Series variant.					See Section 6				

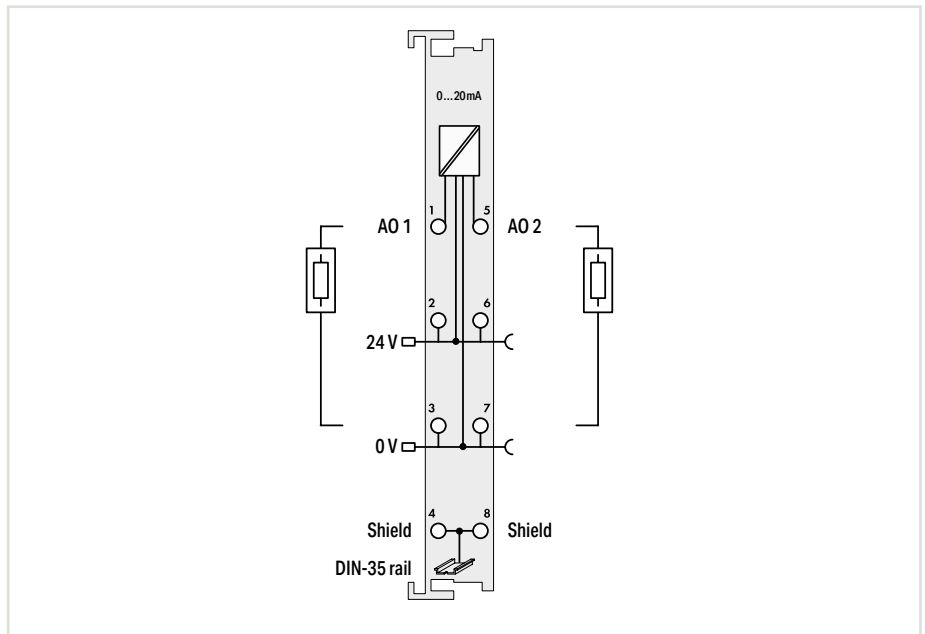
Analog Output; 0 ... 20 mA



Figure: 750-552



Figure: 753-552



Item Description		2-Channel Analog Output; 0 ... 20 mA			
Version		Standard	Extended temperature	Pluggable (delivery without connector)	Data Format (S5 Control)
Item No.		750-552	750-552/025-000	753-552	750-552/000-200
Order Text		2AO; 0-20mA	2AO; 0-20mA; T	2AO; 0-20mA	2AO; 0-20mA; S5
Technical Data					
Pluggable connector				●	
Customized data format for S5 control*					●
Number of analog outputs		2			
Signal type		0 ... 20 mA			
Actuator connection		2-wire			
Load impedance		< 600 Ω			
Resolution		12 bits			
Conversion time		Approx. 2 ms			
Output error (max.) at 25 °C		±0.1 % of the upper-range value			
Temperature error (max.)		±0.01 % of the upper-range value			
Supply voltage (field)		24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)			
Current consumption – system supply (5 V)		70 mA			
Data width		2 x 16-bit data; 2 x 8-bit control/status (optional)			
Isolation		500 V (system/field)			
Surrounding air temperature (operation)		0 ... +55 °C	–20 ... +60 °C	0 ... +55 °C	
Dimensions W x H x D		12 x 69.8 x 100 mm			
Approvals		CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX			
Data sheet and further information, see:		wago.com/750-552		wago.com/753-552	wago.com/750-552
Accessories				Item No.	
Pluggable connector				753-110	
Coding keys				753-150	

*The S5 format allows you to import data with the standard S5 FB 250 function block.

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 521 or www.wago.com

Analog Output; 0 ... 20 mA



Figure: 750-553

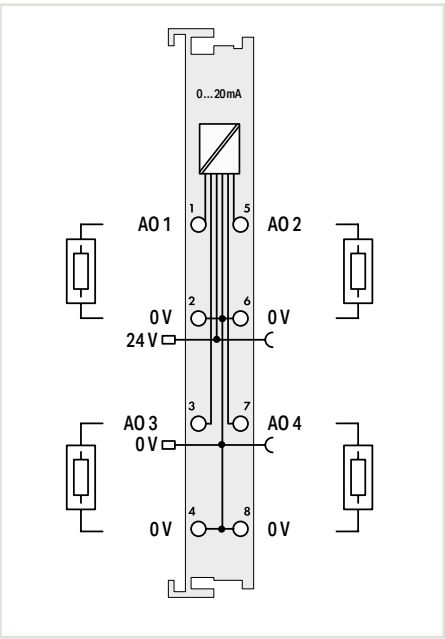


Figure: 753-553

Item Description		4-Channel Analog Output; 0 ... 20 mA	
Version		Standard	Pluggable (delivery without connector)
Item No.		750-553	753-553
Order Text		4AO; 0-20mA	4AO; 0-20mA
Technical Data			
Pluggable connector			
Number of analog outputs		4	
Signal type		0 ... 20 mA	
Actuator connection		2-wire	
Load impedance		Either 0 ... 300 Ω or 300 ... 600 Ω (same resistance for all load impedances)	
Resolution		12 bits	
Conversion time		10 ms	
Output error (max.) at 25 °C		±0.1 % of the upper-range value	
Temperature error (max.)		±0.01 % of the upper-range value	
Supply voltage (field)		24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)	
Current consumption – system supply (5 V)		60 mA	
Data width		4 x 16-bit data; 4 x 8-bit control/status (optional)	
Isolation		500 V (system/field)	
Surrounding air temperature (operation)		0 ... +55 °C	
Dimensions W x H x D		12 x 69.8 x 100 mm	
Approvals		CE; Marine; OrdLoc/HazLoc; ATEX/IECEX	
Data sheet and further information, see:		wago.com/750-553	wago.com/753-553
Accessories		Item No.	
Pluggable connector		753-110	
Coding keys		753-150	

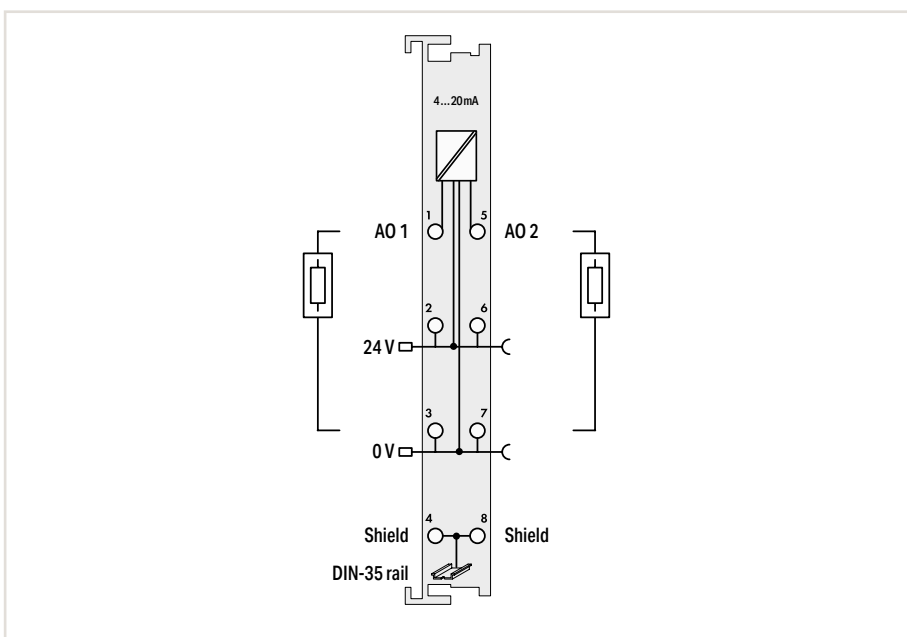
Analog Output; 4 ... 20 mA



Figure: 750-554



Figure: 753-554



2-Channel Analog Output; 4 ... 20 mA				
Item Description	Standard	Extended temperature	Pluggable (delivery without connector)	Data format (S5 control)
Version	750-554	750-554/025-000	753-554	750-554/000-200
Item No.	2AO; 4-20mA	2AO; 4-20mA; T	2AO; 4-20mA	2AO; 4-20mA; S5
Order Text				

Technical Data

Pluggable connector			
Customized data format for S5 control*			
Number of analog outputs	2		
Signal type	4 ... 20 mA		
Actuator connection	2-wire		
Load impedance	< 600 Ω		
Resolution	12 bits		
Conversion time	Approx. 2 ms		
Output error (max.) at 25 °C	±0.1 % of the upper-range value		
Temperature error (max.)	±0.015 %/K of the upper-range value		
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)		
Current consumption – system supply (5 V)	70 mA		
Data width	2 x 16-bit data; 2 x 8-bit control/status (optional)		
Isolation	500 V (system/field)		
Surrounding air temperature (operation)	0 ... +55 °C	–20 ... +60 °C	0 ... +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm		
Approvals	CE, Marine, OrdLoc/HazLoc, ATEX/IECEx		
Data sheet and further information, see:	wago.com/750-554	wago.com/753-554	wago.com/750-554
Accessories	Item No.		
Pluggable connector	753-110		
Coding keys	753-150		

*The S5 format allows you to import data with the standard S5 FB 250 function block.

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 521 or www.wago.com

Analog Output; 4 ... 20 mA or Configurable 0/4 ... 20 mA; 6 ... 18 VDC



Figure: 750-555

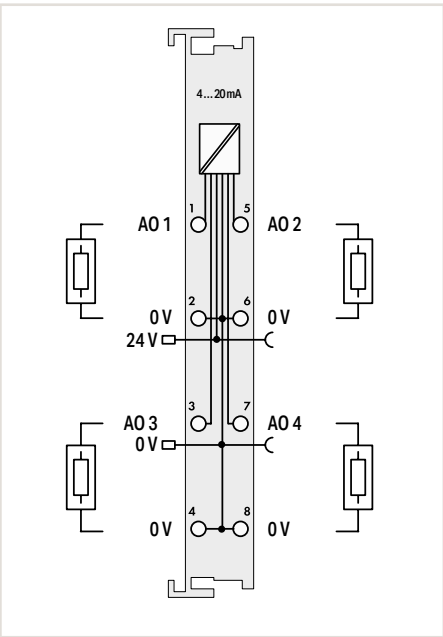
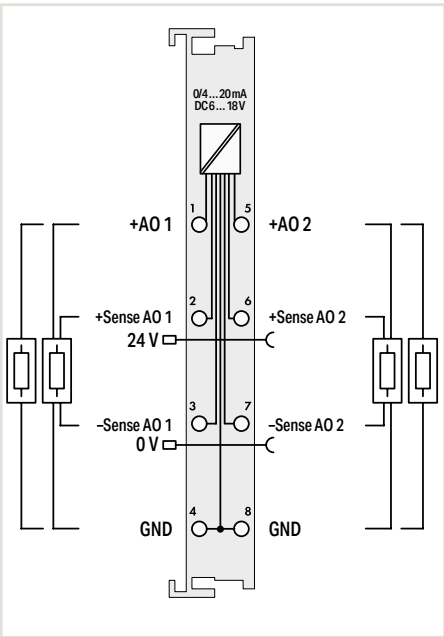


Figure: 753-555



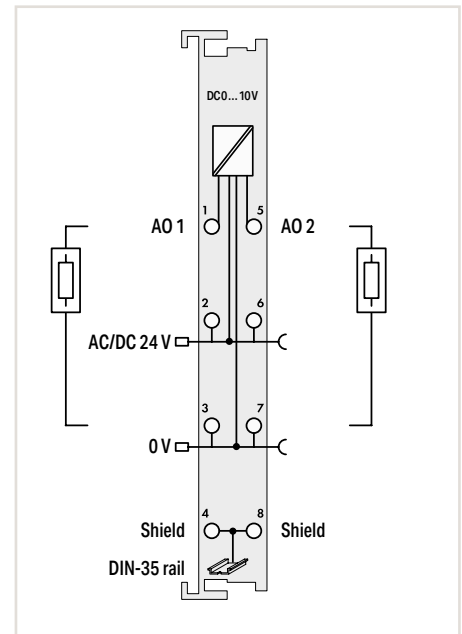
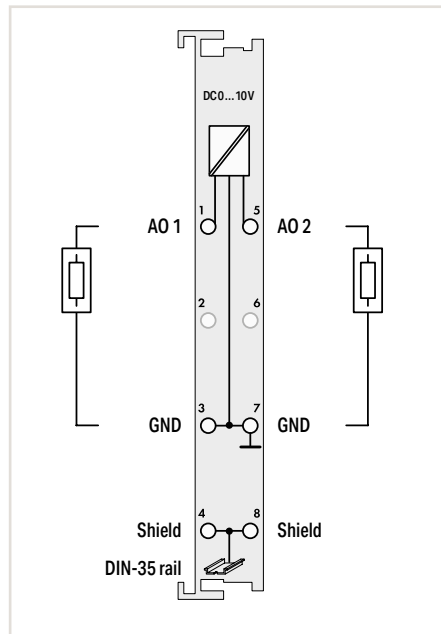
Item Description		4-Channel Analog Output; 4 ... 20 mA		2-Channel Analog Output; 0/4 ... 20 mA; 16 bits; 6 ... 18 VDC	
Version		Standard	Pluggable (delivery without connector)	Standard	
Item No.		750-555	753-555	750-563	
Order Text		4AO; 4-20mA	4AO; 4-20mA	2AO; 0/4-20mA; 16bits; 6-18 VDC	
Technical Data					
Pluggable connector					
Number of analog outputs		4		2	
Signal type		4 ... 20 mA		0 ... 20 mA; 4 ... 20 mA; 6 ... 18 V	
Actuator connection		2-wire		2-wire; 4-wire	
Load impedance		Either 0 ... 300 Ω or 300 ... 600 Ω (same resistance for all load impedances)		> 1.8 kΩ (voltage output); < 500 Ω (current output)	
Resolution		12 bits		16 bits	
Conversion time		10 ms		5 ms	
Output error (max.) at 25 °C		±0.1 % of the upper-range value		±0.05 % of the upper-range value	
Temperature error (max.)		±0.01 % of the upper-range value		±100 ppm	
Supply voltage (field)		24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)		24 VDC (–15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)	
Current consumption – system supply (5 V)		60 mA		80 ... 110 mA	
Data width		4 x 16-bit data; 4 x 8-bit control/status (optional)		2 x 16-bit data; 2 x 8-bit control/status (optional)	
Isolation		500 V (system/field)		500 V (system/field)	
Surrounding air temperature (operation)		0 ... +55 °C		0 ... +55 °C	
Dimensions W x H x D		12 x 69.8 x 100 mm		12 x 69.8 x 100 mm	
Approvals		CE; Marine; OrdLoc/HazLoc; ATEX/IECEX		CE; Marine; OrdLoc/HazLoc; ATEX/IECEX	
Data sheet and further information, see:		wago.com/750-555		wago.com/753-555	
Accessories					
Pluggable connector				Item No.	
				753-110	
Coding keys				753-150	

Analog Output; 0 ... 10 VDC



Figure: 750-550

Figure: 753-550



Item Description	2-Channel Analog Output; 0 ... 10 VDC			2-Channel Analog Output; 0 ... 10 VDC; 10 bits; 100 mW/24 V
Version	Standard	Data format (S5 control)	Pluggable (delivery without connector)	Standard
Item No.	750-550	750-550/000-200	753-550	750-560
Order Text	2AO; 0-10 VDC	2AO; 0-10 VDC; S5	2AO; 0-10 VDC	2AO; 0-10 VDC; 10Bit; 100mW/ 24V
Technical Data				
Pluggable connector			●	
Customized data format for S5 control*		●		
Number of analog outputs	2			2
Signal type	0 ... 10 V			0 ... 10 V
Actuator connection	2-wire			2-wire
Load impedance	> 5 kΩ			≥ 1 kΩ
Resolution	12 bits			10 bits
Conversion time	Approx. 2 ms			Approx. 10 ms
Output error (max.) at 25 °C	±0.1 % of the upper-range value			±0.2 % of the upper-range value
Temperature error (max.)	±0.01 % of the upper-range value			±0.02 % of the upper-range value
Supply voltage (field)				24 V AC/DC; via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	65 mA			16 mA
Data width	2 x 16-bit data; 2 x 8-bit control/status (optional)			2 x 16-bit data; 2 x 8-bit control/status (optional)
Isolation	500 V (system/field)			500 V (system/field)
Surrounding air temperature (operation)	0 ... +55 °C			0 ... +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm			12 x 69.8 x 100 mm
Approvals	CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx			CE;   OrdLoc/HazLoc;  ATEX/IECEx
Data sheet and further information, see:	wago.com/750-550		wago.com/753-550	wago.com/750-560
Accessories	Item No.			
Pluggable connector	753-110			
Coding keys	753-150			

*The S5 format allows you to import data with the standard S5 FB 250 function block.

„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ Approvals and corresponding ratings, see page 521 or www.wago.com

Analog Output; 0 ... 10 VDC



Figure: 750-559

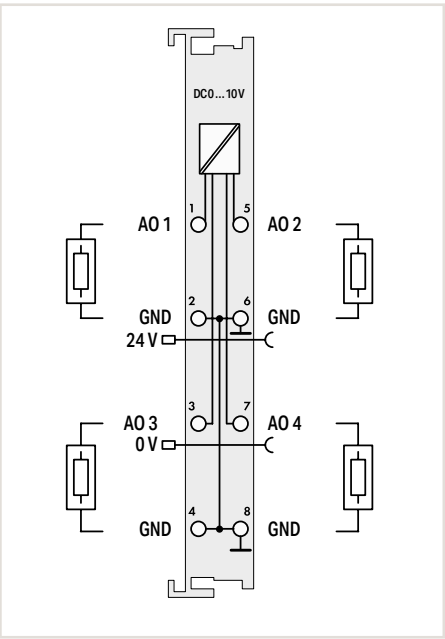


Figure: 753-559

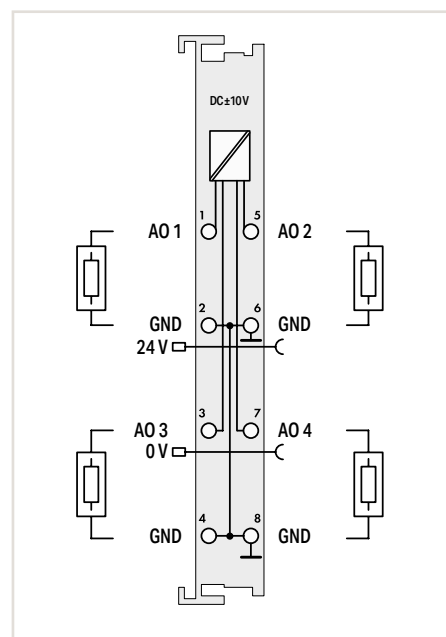
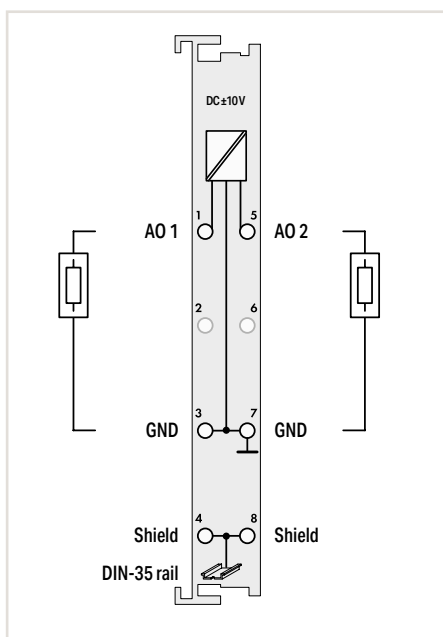
Item Description	
Version	
Item No.	
Order Text	
Technical Data	
Pluggable connector	
Number of analog outputs	4
Signal type	0 ... 10 V
Actuator connection	2-wire
Load impedance	> 5 kΩ
Resolution	12 bits
Conversion time	10 ms
Output error (max.) at 25 °C	±0.1 % of the upper-range value
Temperature error (max.)	±0.01 % of the upper-range value
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	125 mA
Data width	4 x 16-bit data; 4 x 8-bit control/status (optional)
Isolation	500 V (system/field)
Surrounding air temperature (operation)	0 ... +55 °C –20 ... +60 °C 0 ... +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
Data sheet and further information, see:	
Accessories	
Pluggable connector	Item No. 753-110
Coding keys	753-150

Analog Output; ± 10 VDC



Figure: 750-556

Figure: 753-556



Item Description		2-Channel Analog Output; ±10 VDC		4-Channel Analog Output; ±10 VDC	
Version		Standard	Data format (S5 control)	Pluggable (delivery without connector)	
Item No.		750-556	750-556/000-200	753-556	
Order Text		2AO; ±10 VDC	2AO; ±10 VDC; S5	2AO; ±10 VDC	
Technical Data					
Pluggable connector				•	
Customized data format for S5 control*			•		
Number of analog outputs		2		4	
Signal type		±10 V		±10 V	
Actuator connection		2-wire		2-wire	
Load impedance		> 5 kΩ		> 5 kΩ	
Resolution		12 bits		12 bits	
Conversion time		Approx. 2 ms		10 ms	
Output error (max.) at 25 °C		±0.1 % of the upper-range value		±0.1 % of the upper-range value	
Temperature error (max.)		±0.01 % of the upper-range value		±0.01 % of the upper-range value	
Supply voltage (field)				24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)	
Current consumption – system supply (5 V)		65 mA		125 mA	
Data width		2 x 16-bit data; 2 x 8-bit control/status (optional)		4 x 16-bit data; 4 x 8-bit control/status (optional)	
Isolation		500 V (system/field)		500 V (system/field)	
Surrounding air temperature (operation)		0 ... +55 °C		0 ... +55 °C	
Dimensions W x H x D		12 x 69.8 x 100 mm		12 x 69.8 x 100 mm	
Approvals		CE; Marine; OrdLoc/HazLoc; ATEX/IECEx		CE; Marine; OrdLoc/HazLoc; ATEX/IECEx	
Data sheet and further information, see:		wago.com/750-556		wago.com/753-556	
Accessories				Item No.	
Pluggable connector				753-110	
Coding keys				753-150	

*The S5 format allows you to import data with the standard S5 FB 250 function block.

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 521 or www.wago.com

Analog Output; Configurable 0 ... 10 VDC; ± 10 V



Figure: 750-562

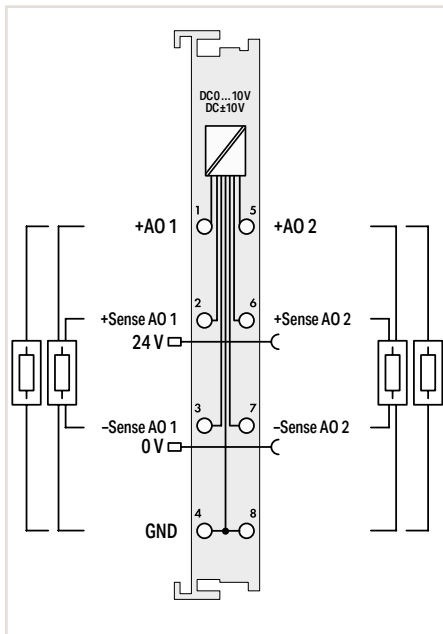
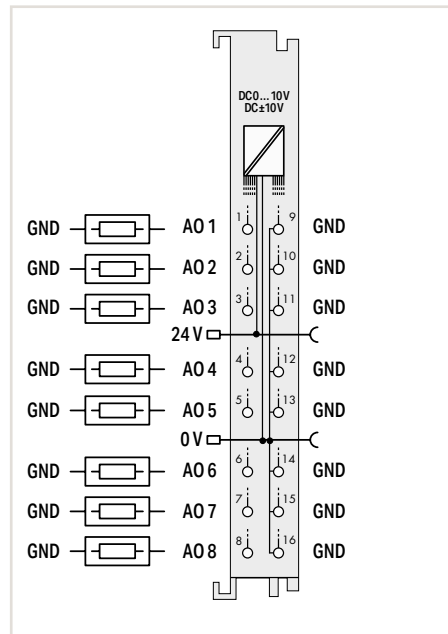
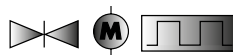


Figure: 750-597



Item Description	2-Channel Analog Output; 0 ... 10 VDC/ ± 10 V; 16 bits	8-Channel Analog Output; 0 ... 10 VDC/ ± 10 V
Version	Standard	Standard with 16 connectors
Item No.	750-562	750-597
Order Text	2AO; 0-10 V/ ± 10 VDC; 16bits	8AO; 0-10 V/ ± 10 VDC
Technical Data		
Number of analog outputs	2	8
Signal type	0 ... 10 V; ± 10 V	0 ... 10 V; ± 10 V
Actuator connection	2-wire; 4-wire	2-wire
Load impedance	> 5 k Ω	≥ 2 k Ω
Resolution	16 bits	12 bits
Conversion time	5 ms	13 ms
Output error (max.) at 25 °C	± 0.05 % of the upper-range value	± 0.1 % of the upper-range value
Temperature error (max.)	± 100 ppm	± 10 ppm/K of the upper-range value
Supply voltage (field)	24 VDC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)	24 VDC (-15 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	80 ... 170 mA	61 mA
Data width	2 x 16-bit data; 2 x 8-bit control/status (optional)	8 x 16-bit data; 8 x 8-bit control/status (optional)
Isolation	500 V (system/field)	500 V (system/field)
Surrounding air temperature (operation)	0 ... +55 °C	0 ... +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm	12 x 69 x 100 mm
Approvals	CE, OrdLoc/HazLoc; ATEX/IECEX	CE,
Data sheet and further information, see:	wago.com/750-562	wago.com/750-597



Housing design (750 Series)

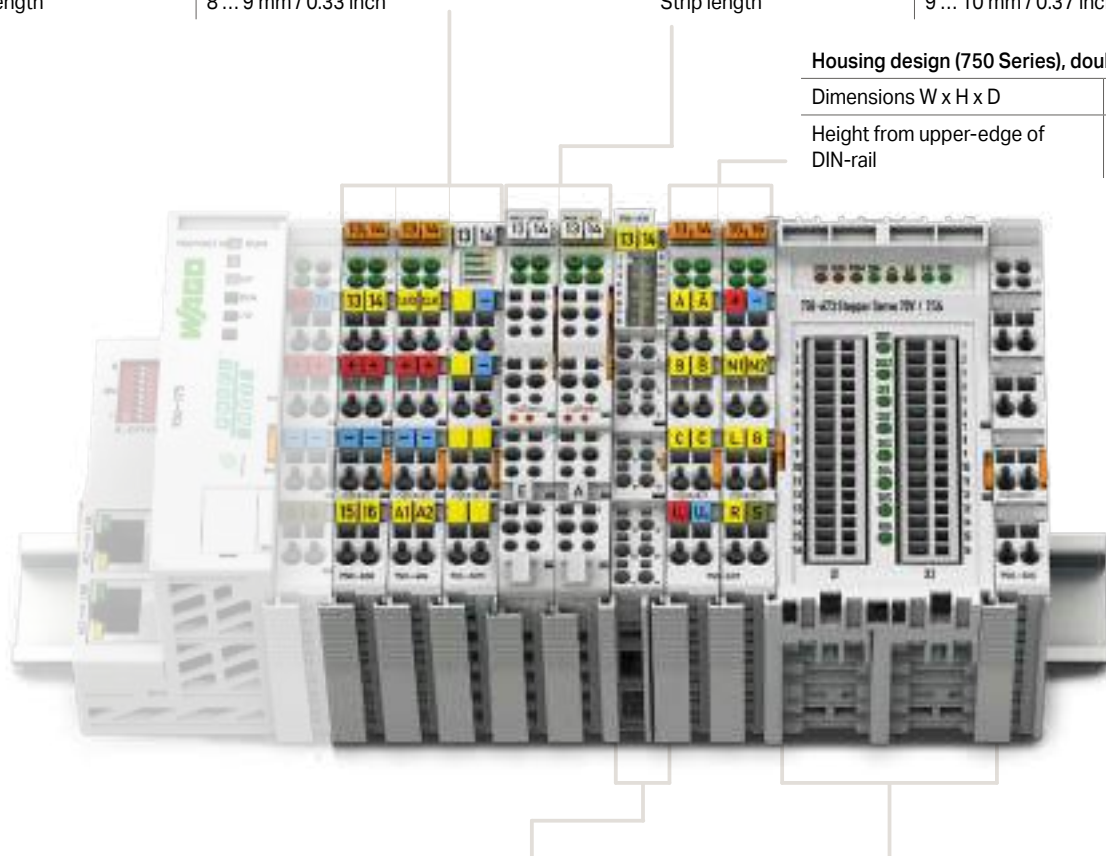
Dimensions W x H x D	Housing with 4 LEDs: 12 x 69.8 x 100 mm Housing with 8 LEDs: 12 x 67.8 x 100 mm
Height from upper-edge of DIN-rail	Housing with 4 LEDs: 62.6 mm Housing with 8 LEDs: 60.6 mm
Connection technology	CAGE CLAMP®
Conductor cross section	0.08 ... 2.5 mm² / 28 ... 14 AWG
Strip length	8 ... 9 mm / 0.33 inch

Housing design (753 Series)

Dimensions W x H x D	Housing with 4 LEDs: 12 x 69.8 x 100 mm Housing with 8 LEDs: 12 x 69 x 100 mm
Height from upper-edge of DIN-rail	Housing with 4 LEDs: 62.6 mm Housing with 8 LEDs: 61.8 mm
Connection technology	CAGE CLAMP®
Conductor cross section	0.08 ... 2.5 mm² / 28 ... 14 AWG
Strip length	9 ... 10 mm / 0.37 inch

Housing design (750 Series), double width

Dimensions W x H x D	24 x 69.8 x 100 mm
Height from upper-edge of DIN-rail	62.6 mm



Housing design (750 Series), with Push-in CAGE CLAMP® connections (up to 16 connection points)

Dimensions W x H x D	12 x 69 x 100 mm
Height from upper-edge of DIN-rail	61.8 mm
Connection technology	Push-in CAGE CLAMP®
Conductor cross section	Solid: 0.08 ... 1.5 mm² / 28 ... 16 AWG Fine-stranded: 0.25–1.5 mm² / 22–16 AWG;
Strip length	8 ... 9 mm / 0.33 inch

Specialty housing

Dimensions W x H x D	51 x 69.8 x 100 mm
Height from upper-edge of DIN-rail	62.6 mm
Connection technology	CAGE CLAMP®
Conductor cross section	0.08 ... 1.5 mm² / 28 ... 14 AWG
Strip length	5 ... 6 mm / 0.22 in



I/O System –
750 XTR Series



I/O System – 750 and 753 Series; Function/Technology Modules

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Ex i		See Section 5.9			
*This module is also available as a 750 XTR Series variant.		See Section 6			

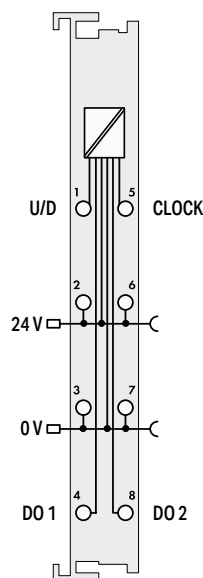
Up/Down Counter; 100 kHz



Figure: 750-404



Figure: 753-404



Item Description

Version

Item No.

Order Text

Up/Down Counter

Standard

Switch output

Pluggable (delivery without connector)

Up counter; Release input

Peak-time counter

750-404

750-404/000-004

753-404

750-404/000-001

750-404/000-002

Up/Down Counter

Up/Down Counter; Switch Output

Up/Down Counter

Up Counter; Release Input

Peak Time Counter

Technical Data

Pluggable connector

Number of outputs

Number of counters

Voltage range for signal (0)

Voltage range for signal (1)

Output current

Switching frequency (max.)

Pulse width (min.)

Input current (typ.)

Counter depth

Supply voltage (field)

Current consumption – system supply (5 V)

Data width (internal)

Isolation

Surrounding air temperature (operation)

Dimensions W x H x D

Approvals

Data sheet and further information, see:

wago.com/750-404
wago.com/753-404
wago.com/750-404

Accessories

Pluggable connector

Coding keys

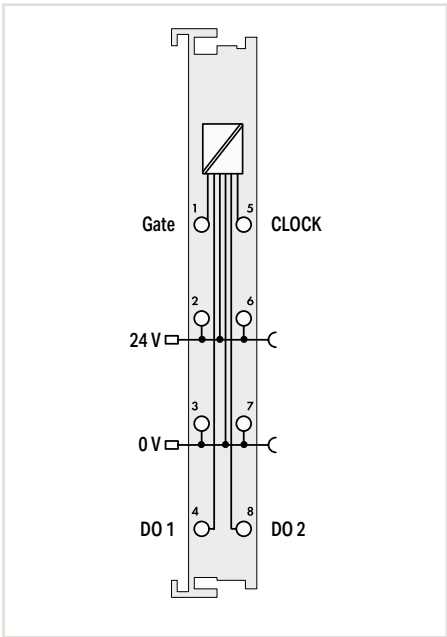
„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 522 or www.wago.com

Up/down counter: When the U/D input is switched with +24 V, the counting direction is upward. When an input is not switched or is 0 V, the counting direction is downward.

Up counter: The counting is locked when the GATE input is open or 0 V is present. Counting is enabled with +24 V at the GATE input.

Peak-time counter: The count pulses at the CLOCK input are recorded over a pre-set period of 10 seconds.

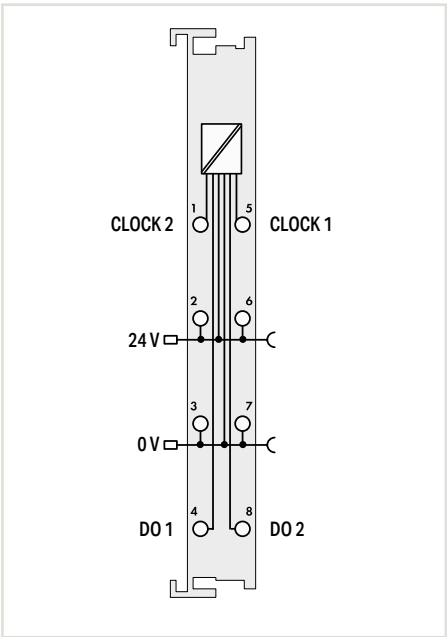


Frequency Counter	
Standard	Pluggable (delivery without connector)
750-404/000-003	753-404/000-003
Frequency Counter; 100kHz	Frequency Counter; 100kHz

	•
2	
1	
-3 ... +5 VDC	
15 ... 30 VDC	
0.5 A; short-circuit-protected	
100 kHz	
10 µs	
5 mA	
32 bits	
5 ... 14 VDC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)	
70 mA	
32-bit data; 8-bit control/status	
500 V (system/field)	
0 ... +55 °C	
12 x 69.8 x 100 mm	
CE; Marine; OrdLoc/HazLoc; ATEX/IECEX	
wago.com/ 750-404/000-003	wago.com/ 753-404/000-003

	Item No.
	753-110
	753-150

The frequency counter measures the 24 V signal pulse period at the CLOCK input and converts it to a frequency value. The measurement is enabled when the GATE input is open or 0 V is present. Measurement is disabled when 24 V are present at the GATE input.



2 Up Counters; 16 bits	
Standard	Pluggable (delivery without connector)
750-404/000-005	753-404/000-005
2Up Counter; 16bits	2Up Counter; 16bits

	•
2	
2	
-3 ... +5 VDC	
15 ... 30 VDC	
0.5 A; short-circuit-protected	
5 kHz (pulse width > 100 µs)	
5 mA	
2 x 16-bit data	
5 ... 14 VDC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)	
70 mA	
32-bit data; 8-bit control/status	
500 V (system/field)	
0 ... +55 °C	
12 x 69.8 x 100 mm	
CE; Marine; OrdLoc/HazLoc; ATEX/IECEX	
wago.com/ 750-404/000-005	wago.com/ 753-404/000-005

	Item No.
	753-110
	753-150

This module is equipped with two 16-bit up counters. The count pulses are recorded at the CLOCK 1 and CLOCK 2 inputs.

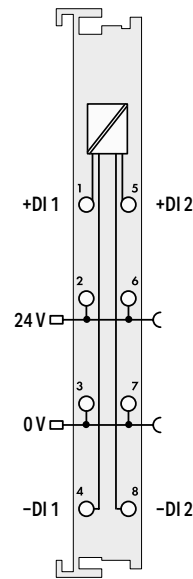
2 Up/Down Counters; 16 bits; 500 Hz



Figure: 750-638



Figure: 753-638



Item Description		2 Up/Down Counters; 16 bits; 500 Hz		
Version		Standard	Extended temperature	Pluggable (delivery without connector)
Item No.		750-638	750-638/025-000	753-638
Order Text		2Up/Down Counter; 16bits; 500Hz	2Up/Down Counter; 16bits; 500Hz; T	2Up/Down Counter; 16bits; 500Hz
Technical Data				
Pluggable connector		•		
Number of outputs		2		
Number of counters		2		
Voltage range for signal (0)		-3 ... +5 VDC		
Voltage range for signal (1)		15 ... 30 VDC		
Switching frequency (max.)		500 Hz		
Pulse width (min.)		1 ms		
Counter depth		16 bits		
Supply voltage (field)		5 ... 14 VDC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)		
Current consumption – system supply (5 V)		10 mA		
Data width (internal)		2 x 16-bit data; 2 x 8-bit control/status		
Isolation		500 V (system/field)		
Surrounding air temperature (operation)		0 ... +55 °C	-20 ... +60 °C	0 ... +55 °C
Dimensions W x H x D		12 x 69.8 x 100 mm		
Approvals		CE, OrdLoc/HazLoc; ATEX/IECEx		
Data sheet and further information, see:		wago.com/750-638		wago.com/753-638
Accessories		Item No.		
Pluggable connector		753-110		
Coding keys		753-150		

„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

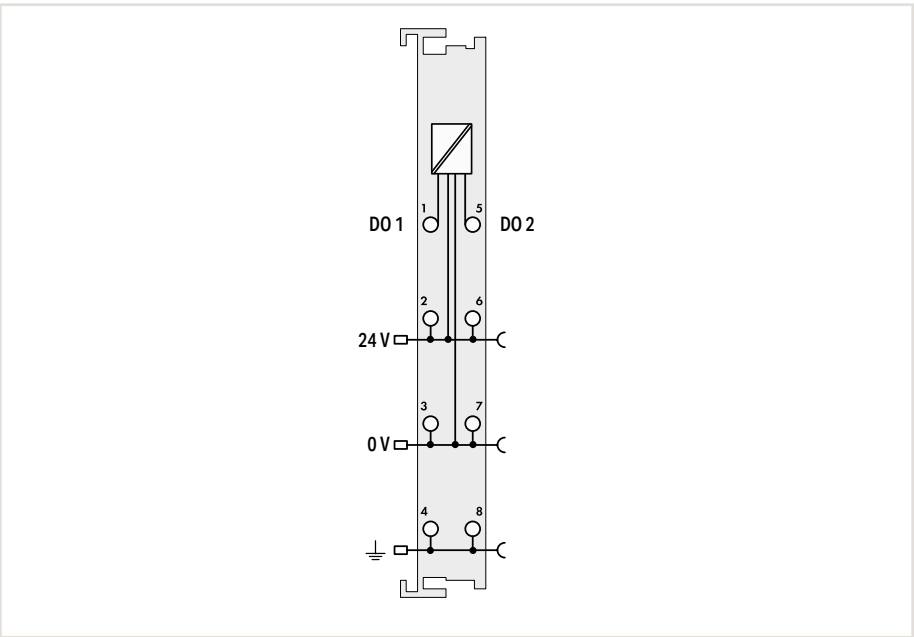
„ Approvals and corresponding ratings, see page 522 or www.wago.com

Pulse Width Output



Figure: 750-511

Figure: 753-511

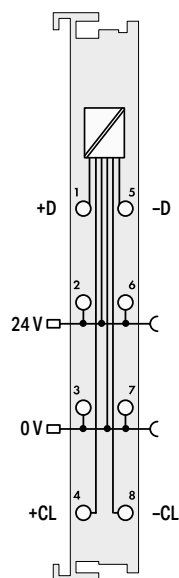


Item Description	2 Pulse Width Outputs; 24 VDC; 0.1 A; 250 Hz			
Version	Standard	Pluggable (delivery without connector)	2 kHz; Frequency counter	100 Hz
Item No.	750-511	753-511	750-511/000-001	750-511/000-002
Order Text	2PWM; 24 VDC; 0.1A; 250Hz	2PWM; 24 VDC; 0.1A; 250Hz	2PWM; 24 VDC; 0.1A; 2kHz; Frequency Counter	2PWM; 24 VDC; 0.1A; 100Hz
Technical Data				
Pluggable connector		●		
Number of outputs	2			
Load type	Resistive; inductive			
Pulse frequency	250 Hz		2 Hz ... 2 kHz	100 Hz
Duty cycle	0 ... 100 %		50 %	0 ... 100 %
Output current	0.1 A; short-circuit-protected			
Resolution	10 bits			
Supply voltage (field)	5 ... 14 VDC (–15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)			
Current consumption – system supply (5 V)	70 mA			
Data width (internal)	2 x 16-bit data; 2 x 8-bit control/status			
Isolation	500 V (system/field)			
Surrounding air temperature (operation)	0 ... +55 °C			
Dimensions W x H x D	12 x 69.8 x 100 mm			
Approvals	CE,  OrdLoc/HazLoc;  ATEX/IECEx			
Data sheet and further information, see:	wago.com/750-511	wago.com/753-511	wago.com/750-511/000-001	wago.com/750-511/000-002
Accessories		Item No.		
Pluggable connector		753-110		
Coding keys		753-150		

SSI Transmitter Interface



Figure: 750-630



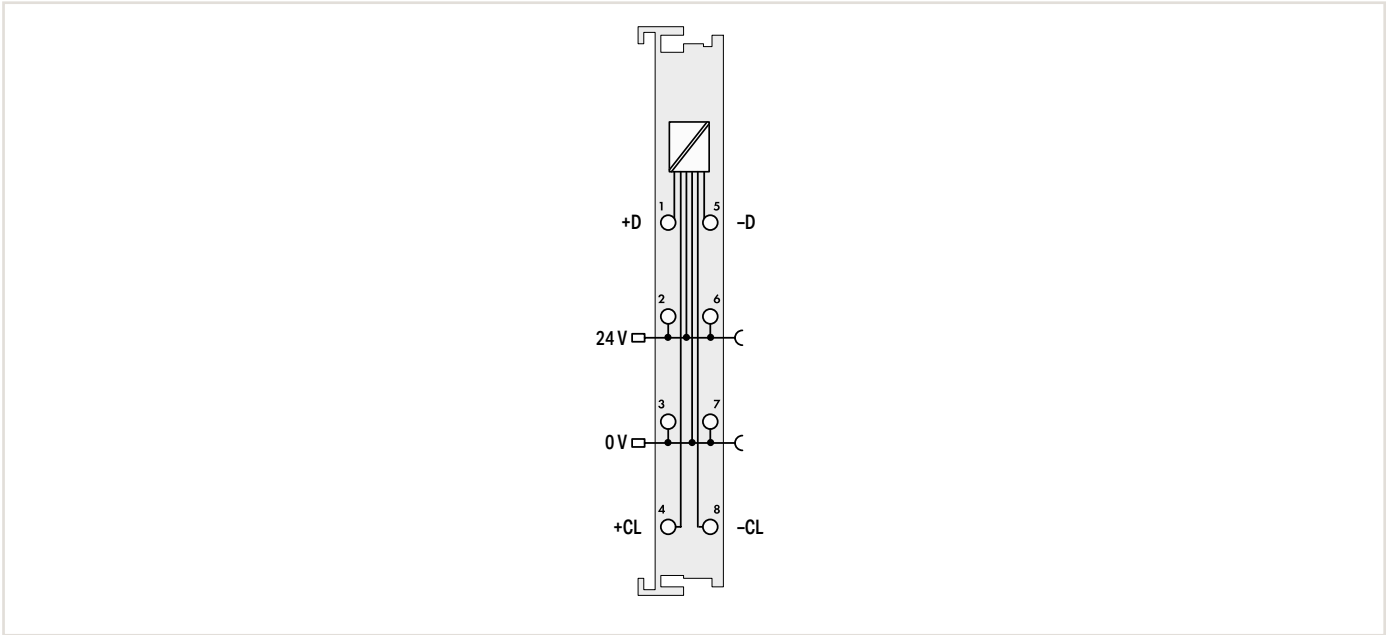
Item Description	SSI Transmitter Interface			
Version	Adjustable	24 Bits; 125 kHz; Gray Code	24 Bits; 125 kHz; Gray Code; Status Byte	15 Bits; 125 kHz; Gray Code; Status Byte
Item No.	750-630/003-000	750-630	750-630/000-004	750-630/000-005
Order Text	SSI Interface; adjust	SSI Interface; 24bits; 125kHz; Gray	SSI Interface; 24bits; 125kHz; Gray; Status	SSI Interface; 15bits; 125kHz; Gray; Status

Technical Data

Encoder connection	On + D; - D; Off + Cl; - Cl		
Encoder supply	24 VDC; via power jumper contacts		
Transmission rate	62.5 ... 250 kHz	125 kHz	
Serial input	Data width: 1 ... 32 bits	Data width: 24 bits	Data width: 15 bits
Signal output	Differential signal (RS-422)		
Signal input	Differential signal (RS-422)		
Code	Gray code/binary code	Gray code	
Supply voltage (field)	5 ... 14 VDC (–15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)		
Current consumption – system supply (5 V)	20 mA		
Data width (internal)	1 x 32 bits	1 x 32-bit; 1 x 8-bit control/status (optional)	
Isolation	500 V (system/field)		
Surrounding air temperature (operation)	0 ... +55 °C		
Dimensions W x H x D	12 x 69.8 x 100 mm		
Approvals	CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx		
Data sheet and further information, see:	wago.com/750-630		

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 522 or www.wago.com

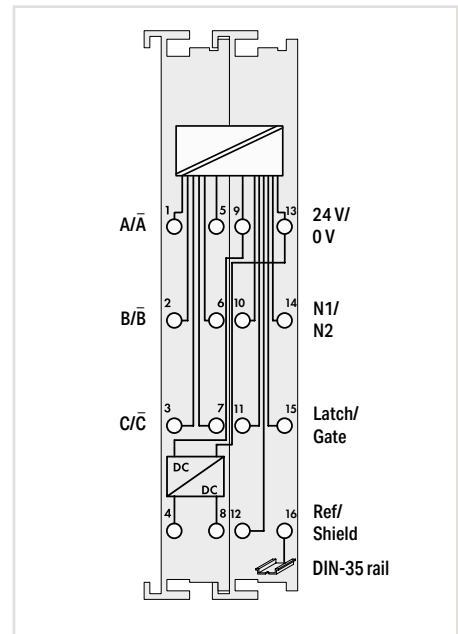
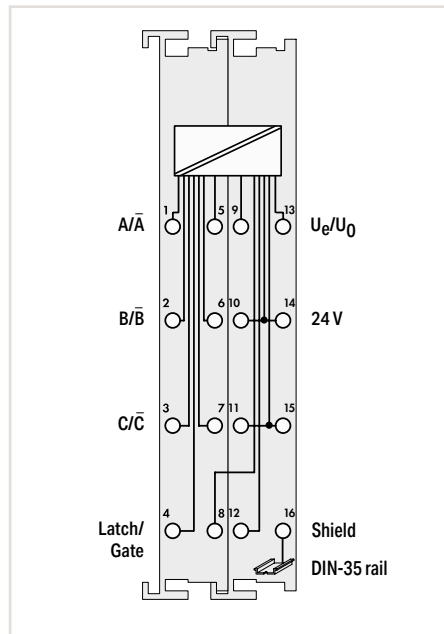


SSI Transmitter Interface							
24 Bits; 250 kHz; Gray Code	25 Bits; 125 kHz; Gray Code	13 Bits; 125 kHz; Gray Code	24 Bits; 125 kHz; Bin. Code	25 Bits; 125 kHz; Bin. Code	29 Bits; 125 kHz; Bin. Code	24 Bits; 250 kHz; Bin. Code	13 Bits; 250 kHz; Bin. Code
750-630/000-006	750-630/000-008	750-630/000-012	750-630/000-001	750-630/000-011	750-630/000-013	750-630/000-002	750-630/000-009
SSI Interface; 24bits; 250kHz; Gray	SSI Interface; 25bits; 125kHz; Gray	SSI Interface; 13bits; 125kHz; Gray	SSI Interface; 24bits; 125kHz; Bin	SSI Interface; 25bits; 125kHz; Bin	SSI Interface; 29bits; 125kHz; Bin	SSI Interface; 24bits; 250kHz; Bin	SSI Interface; 13bits; 250kHz; Bin
On + D; - D; Off + Cl; - Cl							
24 VDC; via power jumper contacts							
250 kHz	125 kHz					250 kHz	
Data width: 24 bits	Data width: 25 bits	Data width: 13 bits	Data width: 24 bits	Data width: 25 bits	Data width: 29 bits	Data width: 24 bits	Data width: 13 bits
Differential signal (RS-422)							
Differential signal (RS-422)							
Gray code			Binary code				
5 ... 14 VDC (–15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)							
20 mA							
1 x 32 bits							
500 V (system/field)							
0 ... +55 °C							
12 x 69.8 x 100 mm							
CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx							
wago.com/750-630							

Incremental Encoder Interface



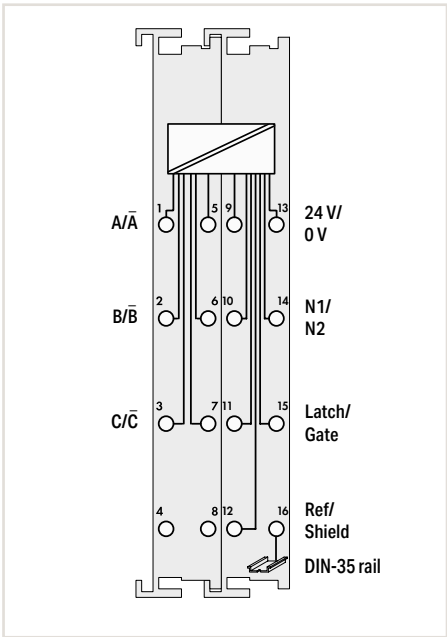
Figure: 750-631/000-004



Item Description	Incremental Encoder Interface; RS-422; 16 bits	Incremental Encoder Interface; RS-422; 32 bits	
Version	Standard	Standard	Single evaluation
Item No.	750-631/000-004	750-637	750-637/000-003
Order Text	Inc. Encoder; RS422; 16bits	Inc. Encoder; RS422; 32bits	Inc. Encoder; RS422; 32bits
Technical Data			
Encoder connection	A; /A; B; /B; C; /C (RS-422 inputs)	A; /A; B; /B; C; /C (RS-422 inputs)	
Counter Modules	16 bits (binary)	32 bits (binary)	
Limit frequency	1000 kHz	250 kHz	
Quadrature decoder	4x evaluation	4x evaluation	1x evaluation
Zero impulse latch	16 bits	32 bits	
Commands	Reading; setting; activating	Reading; setting; activating	
Current consumption (typ.)	10 mA; without encoder	35 mA; without encoder	
Encoder operating voltage	5 VDC	5 VDC	
Encoder output current (max.)	200 mA	300 mA	
Output voltage		24 VDC	
Output current (max.)		0.5 A; short-circuit-protected	
Voltage range for signal (0)	U _{ABC} = 0 V; U _{ABC/} = 5 V; Latch, gate ≤ 5.0 V; External error U ≥ 5.0 V or open input	U _{ABC} = RS-422; Latch, Gate, Ref.: -3 ... +5 VDC	
Voltage range for signal (1)	U _{ABC} = 5 V; U _{ABC/} = 0 V; Latch, gate ≥ 15.0 V; External error U < 0.5 V	U _{ABC} = RS-422; Latch, Gate, Ref.: 15 ... 30 VDC	
Input current (typ.)		Latch 5 mA; Gate 7 mA; Ref. 7 mA	
Current consumption – system supply (5 V)	50 mA	110 mA	
Data width (internal)	2-byte output; 5-byte input 2x 8-bit control/status (optional) 3 additional output bytes (reserved)	1 x 32-bit data; 2 x 8-bit control/status	
Isolation	500 V (system/field)	500 V (system/field)	
Surrounding air temperature (operation)	0 ... +55 °C	0 ... +55 °C	
Dimensions W x H x D	24 x 69.8 x 100 mm	24 x 69.8 x 100 mm	
Approvals	CE;   OrdLoc/HazLoc	CE;   Marine;  OrdLoc/HazLoc;  ATEX/IECEx	
Data sheet and further information, see:	wago.com/750-631/000-004	wago.com/750-637	

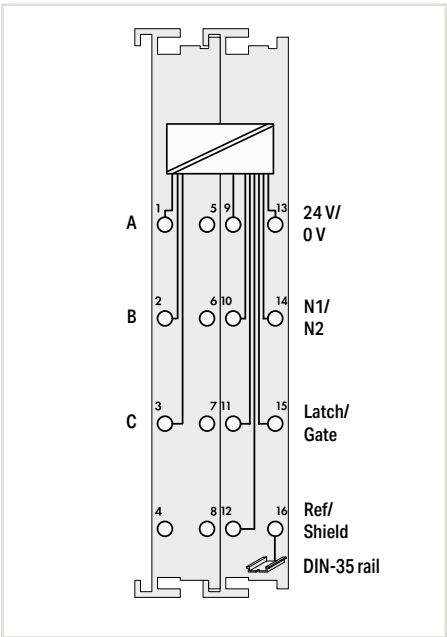
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ Approvals and corresponding ratings, see page 522 or www.wago.com



Incremental Encoder Interface; 24 VDC; Differential input; 32 bits	
Standard	
750-637/000-001	
Inc. Encoder; 24 VDC; Diff; 32bits	

A; /A; B; /B; C; /C (differential inputs)
32 bits (binary)
250 kHz
4x evaluation
32 bits
Reading; setting; activating
35 mA; without encoder
24 VDC
300 mA
24 VDC
0.5 A; short-circuit-protected
(U _{ABC} - U _{ABC/}): -30 ... +15 VDC; Latch, Gate, Ref.: -3 ... +5 VDC
(U _{ABC} - U _{ABC/}): 15 ... 30 VDC; Latch, Gate, Ref.: 15 ... 30 VDC
Latch 5 mA; Gate 7 mA; Ref. 7 mA
110 mA
1 x 32-bit data; 2 x 8-bit control/status
500 V (system/field)
0 ... +55 °C
24 x 69.8 x 100 mm
CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
wago.com/750-637



Incremental Encoder Interface; 24 VDC; Single-ended; 32 bits	
Standard	Cam output
750-637/000-002	750-637/000-004
Inc. Encoder; 24 VDC; SE; 32bits	Inc. Encoder; 24 VDC; SE; 32bits; Cam

A; B; C (single-ended inputs)
32 bits (binary)
250 kHz
4x evaluation
32 bits
Reading; setting; activating
35 mA; without encoder
24 VDC
300 mA
24 VDC
0.5 A; short-circuit-protected
-3 ... +5 VDC
15 ... 30 VDC
Latch 5 mA; Gate 7 mA; Ref. 7 mA
110 mA
1 x 32-bit data; 2 x 8-bit control/status
500 V (system/field)
0 ... +55 °C
24 x 69.8 x 100 mm
CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
wago.com/750-637

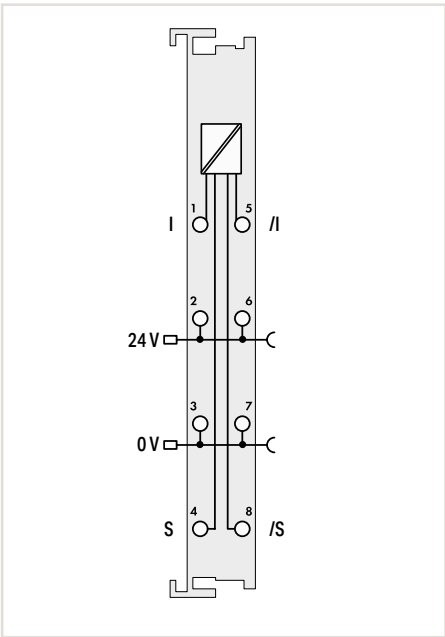
Digital Impulse Interface

5.6



Figure: 750-635

Figure: 753-635



Item Description	
Version	
Item No.	
Order Text	
Technical Data	
Pluggable connector	
Encoder connection	
Number of inputs	1
Data transmission	RS-422
Signal output	Differential signal (RS-422)
Signal input	Differential signal (RS-422)
Resolution	1 µm
Update time	2 ms
Position sensor length	≤ 4 m
Line length (max.)	500 m
Supply voltage (field)	24 VDC (–15 % ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	45 mA
Data width (internal)	1 x 24-bit data; 1 x 8-bit control/status
Isolation	500 V (system/field)
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm
Approvals	CE; UL; OrdLoc/HazLoc; ATEX/IECEX
Data sheet and further information, see:	wago.com/750-635 wago.com/753-635
Accessories	
Pluggable connector	Item No. 753-110
Coding keys	753-150

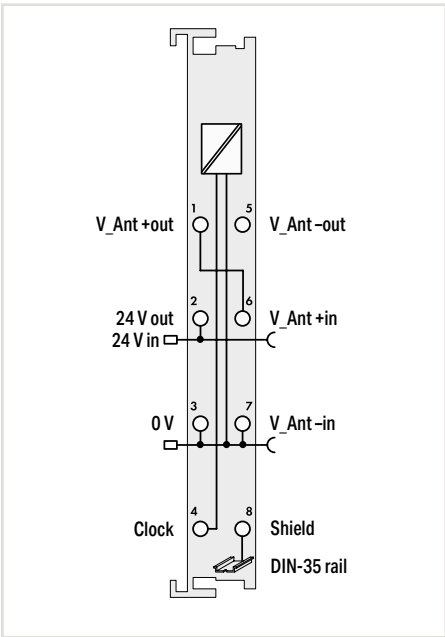
This digital impulse interface connects position sensors equipped with a start/stop interface. After receiving a read pulse, these sensors deliver a time-delayed reply impulse. The time delay is proportional to the sensor distance. Each sensor may have up to four position transmitters (permanent magnets). Their position data can be accessed serially by the control and are stored in the process image of the fieldbus coupler as a 24-bit value. Position sensors, from manufacturers such as Balluff, with the following features can be used:

- Start/stop interface with RS-422 differential signals
- 24 V sensor supply

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 522 or www.wago.com

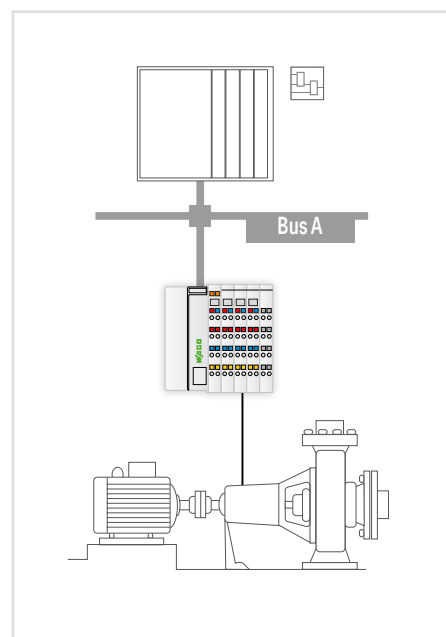
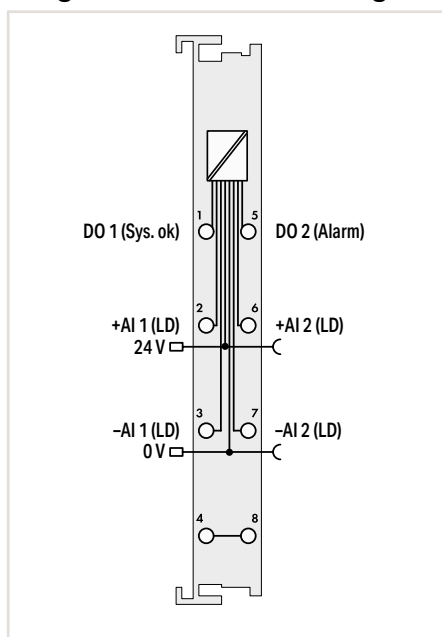
Real-Time Clock Module



Item Description	Real-Time Clock Module
Version	Standard
Item No.	750-640
Order Text	RTC Module
Technical Data	
Drift (clock)	< 2 min./year
Buffer length	> 6 days
Timer	32 channels and switch points (32 x on/off)
Voltage range for signal (0)	-24 ... +1 V
Voltage range for signal (1)	3 ... 24 V
Input filter	10 ms
Supply voltage (field)	5 ... 14 VDC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	20 mA
Data width (internal)	1 x 40-bit data (input/output); (5-byte user data); 1 x 8-bit control/status (optional)
Isolation	500 V (system/field)
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm
Approvals	CE, UL, OrdLoc/HazLoc, ATEX/IECEx
Data sheet and further information, see:	wago.com/750-640

This RTC module provides higher-level control systems with the actual time. The time is buffered and continues to run in the event of a power failure. When an external receiver is connected, the clock can be set using the time signal from DCF77, WWVB, or MSF. By default, the module is set to receive DCF77 signals. The receiver can be supplied directly via the module. Connecting an external receiver to operate the RTC module is not absolutely necessary.

2-Channel Vibration Velocity/Bearing Condition Monitoring VIB I/O Module



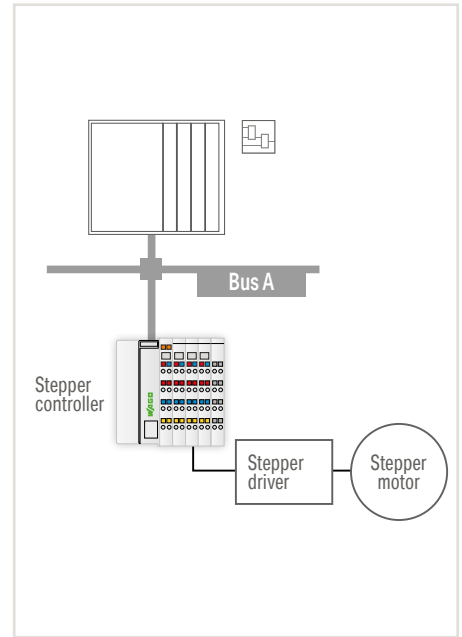
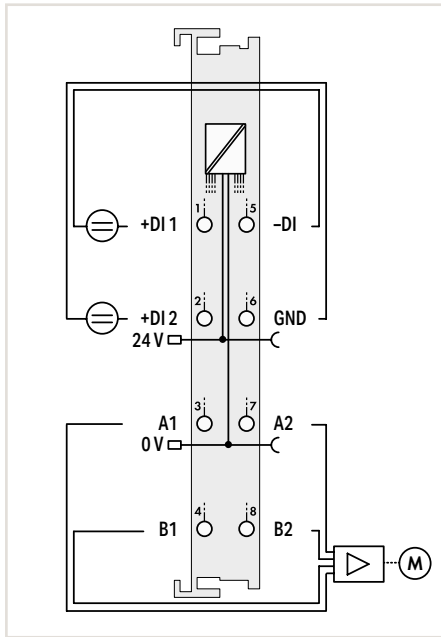
Item Description	2-Channel Vibration Velocity/Bearing Condition Monitoring VIB I/O Module
Version	Standard
Item No.	750-645
Order Text	2VIB VRMS/SPM Multi
Technical Data	
Encoder inputs	+AI1; -AI1; +AI2; -AI2
Number of inputs	2
Oscillating velocity (RMS)	0 ... 100 mm/s
Shock impulse (SPM)	-10 ... +80 dbSV
Number of outputs	2 (alarm and system OK)
Configuration	Both alarm and warning threshold can be set via process image and engineering software.
Outputs	24 VDC; 0.5 A; short-circuit protected
Supply voltage (field)	24 VDC (-15 % ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	30 mA
Isolation	500 V (system/field)
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	12 x 67.8 x 100 mm
Approvals	CE; OrdLoc/HazLoc; ATEX/IECEX
Data sheet and further information, see:	wago.com/750-645
Accessories	
Tandem-piezo acceleration sensor	Item No. 750-925

This module is used for online monitoring of machine vibration levels. It records the two key parameters required for condition monitoring: vibration velocity and bearing condition. Vibration velocity is a measurement for machines' energy and therefore, a suitable indicator for the vibration forces acting on the machine. Bearing condition is evaluated on the basis of high-frequency shock impulse signals. Shock impulses are momentary impulses arising from mechanical damage to roller bearings or the bearing surfaces. By recording the measurement results and evaluation in a trend curve, bearing damage can be detected at an early stage. A special Tandem-Piezo® acceleration sensor serves as encoder to facilitate simultaneous measurement of machine vibrations and high-frequency shock impulse signals.

„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ Approvals and corresponding ratings, see page 522 or www.wago.com

Stepper Controller



5.6

Item Description	Stepper Controller; RS-422/24 VDC; 20 mA
Version	Standard
Item No.	750-670
Order Text	Stepper Controller; RS422/24 VDC; 20mA
Technical Data	
Number of outputs	1 channel (2 differential outputs A1; A2; B1; B2)
Signal voltage	5 VDC (internal); 5 ... 24 VDC (external)
Load type	RS-422; TTL; Optocoupler
Output current (max.)	30 mA; short-circuit-protected
Output frequency	200 µHz ... 500 kHz
Number of inputs	2 x 24 VDC
Voltage range for signal (0)	–3 ... +5 VDC
Voltage range for signal (1)	15 ... 30 VDC
Input filter	100 µs; software filter can be connected
Resolution	Path: 23 bits + sign bit; Speed: 15 bits + 16-bit prescaler; Acceleration: 15 bits + 16-bit- prescaler
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	98 mA
Data width (internal)	12-byte input/output
Isolation	500 V (system/field)
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	12 x 67.8 x 100 mm
Approvals	CE, UL, OrdLoc/HazLoc, ATEX/IECEX
Data sheet and further information, see:	wago.com/750-670

This stepper controller is used to control different drive power sections with pulse/direction interface or incremental encoder input.

The 64-fold microstepping prevents step losses due to resonance in the acceleration phases and reduces wear on the mechanical parts. Adjustable current limits for stop, acceleration and constant speed help minimize motor power dissipation. Two configurable inputs for Start/Stop, limit switches, reference cams, Jog/Tip, etc., are evaluated directly and without any further delay by the internal software.

Versatile functions, such as positioning with different acceleration slopes, command tables, camshaft controller, auto referencing and other event-dependent properties provide this controller with a wide spectrum of possible uses.

Operating modes:

- Step positioning
- Reference motion
- Jog
- Tip
- Command table
- Cam switch

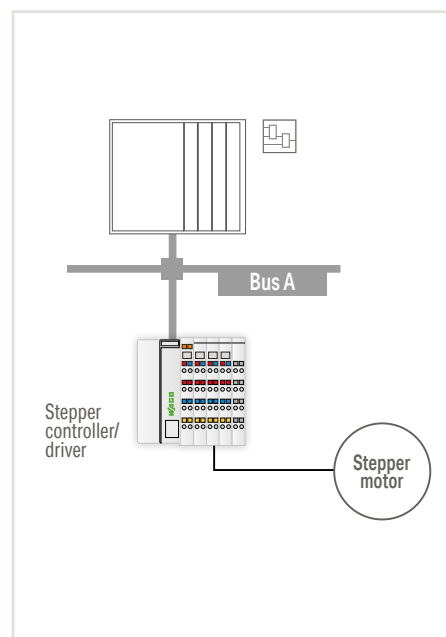
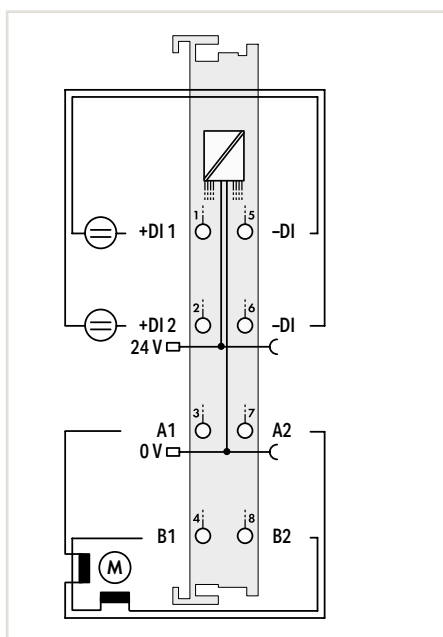
Functions include:

- Absolute/relative positioning
- Setpoint change on the fly
- Rotary axis

Additional operating modes:

- Pulse width modulation
- Frequency generator
- Single-shot mode

Stepper Controller



Item Description	Stepper Controller; 24 VDC; 1.5 A
Version	Standard
Item No.	750-671
Order Text	Stepper Controller; 24 VDC; 1.5A
Technical Data	
Number of outputs	1 stepper motor (2-phase/bipolar)
Output current (max.)	Up to 2 x 1.5 A peak value; 1 A rms
Output frequency	7812 Hz
Number of inputs	2 x 24 VDC
Voltage range for signal (0)	-3 ... +5 VDC
Voltage range for signal (1)	15 ... 30 VDC
Input filter	100 µs; software filter can be connected
Resolution	Path: 23 bits + sign bit; Speed: 15 bits + 16-bit prescaler; Acceleration: 15 bits + 16-bit-prescaler
Supply voltage (field)	24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	85 mA
Data width (internal)	12-byte input/output
Isolation	500 V (system/field)
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	12 x 67.8 x 100 mm
Approvals	CE, ATEX/IECEX
Data sheet and further information, see:	wago.com/750-671

This stepper controller has an on-board power driver designed to control 2-phase stepper motors up to 24 V/1.5 A.

The 64-fold microstepping prevents step losses due to resonance in the acceleration phases and reduces wear on the mechanical parts. Adjustable current limits for stop, acceleration and constant speed help minimize motor power dissipation. Two configurable inputs for Start/Stop, limit switches, reference cams, Jog/Tip, etc., are evaluated directly and without any further delay by the internal software.

Versatile functions, such as positioning with different acceleration slopes, command tables, camshaft controller, auto referencing and other event-dependent properties provide this controller with a wide spectrum of possible uses.

Operating modes:

- Step positioning
- Reference motion
- Jog
- Tip
- Command table
- Cam switch

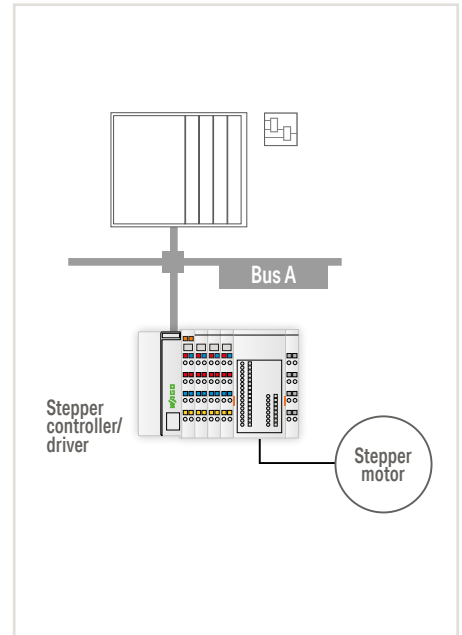
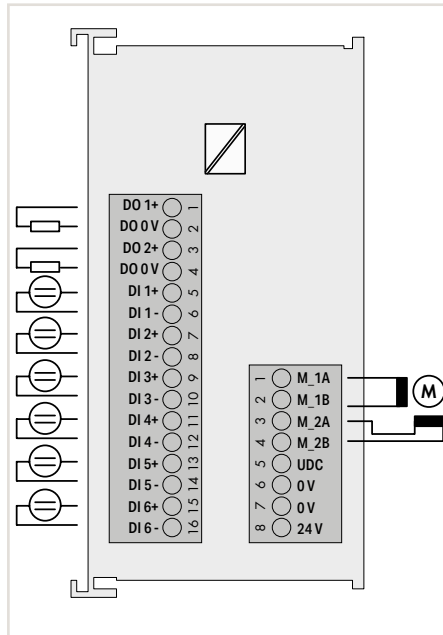
Functions include:

- Absolute/relative positioning
- Setpoint change on the fly
- Rotary axis

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 522 or www.wago.com

Stepper Controller



Item Description	Stepper Controller; 70 VDC; 7.5 A
Item No.	750-672
Order Text	Stepper Controller; 70 VDC; 7.5 A
Technical Data	
Number of motor outputs	1 stepper motor (2 phases)
Supply voltage (motor)	55 VDC; Absolute upper limit: 71.5 V; Absolute lower limit: 18 V
Max. output current (motor)	2 x 5.0 A (2 x 7.5 A transient)
Stepper frequency	7812 Hz
Resolution	Path: 23 bits + sign bit; Speed: 15 bits + 16-bit prescaler; Acceleration: 15 bits + 16 bit- prescaler
Number of digital outputs	2
Control voltage	24 VDC (-25 ... +30 %)
Max. output current (digital outputs)	0.5 A; short-circuit-protected
Output frequency	5 Hz
Number of digital inputs	2 x 24 VDC
Input filter	100 µs; software filter can be connected
Current consumption – system supply (5 V)	70 mA
Data width (internal)	12-byte input/output
Isolation	500 V (system/field)
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	48 x 69.8 x 100 mm
Approvals	CE, UL
Data sheet and further information, see:	wago.com/750-672

This stepper controller has an on-board power driver designed to control 2-phase stepper motors.

The 64-fold microstepping prevents step losses due to resonance in the acceleration phases and reduces wear on the mechanical parts. Adjustable current limits for stop, acceleration and constant speed help minimize motor power dissipation.

Six configurable inputs are directly processed by the internal software without delay. Two outputs can be linked with internal functions or freely allocated. Versatile functions enable a wide application range.

Inputs:

- Start/stop
- Limit switch (positive and negative direction)
- Reference cam
- Jog/tip (positive and negative direction)

Outputs (default setting):

- Target reached
- Error

Operating modes:

- Single positioning with different acceleration ramps
- Reference motion
- Jog
- Tip
- Command table
- Cam switch

Functions include:

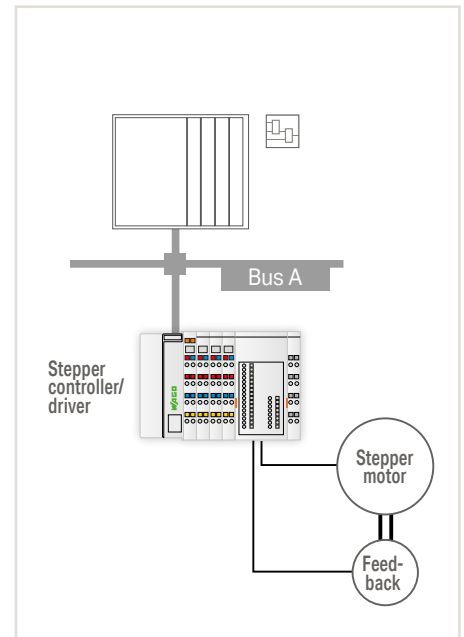
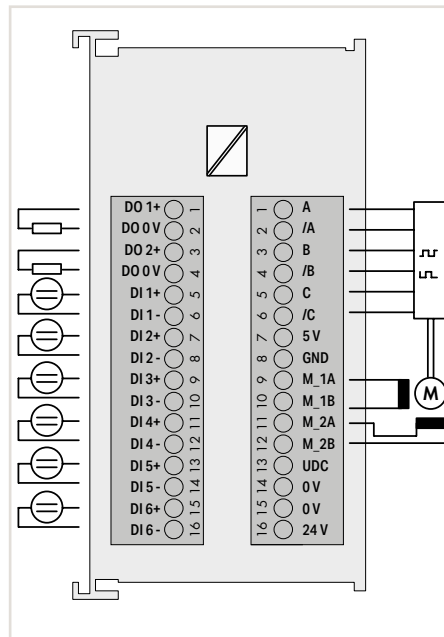
- Absolute/relative positioning
- Setpoint change on the fly
- Rotary axis

Protection:

- Short circuit monitoring of motor connections: Winding short circuit and short circuit to 0 V and 24 V
- 24 V supply: Reverse voltage protection
- Motor supply: Reverse voltage protection via external fuse

Servo Stepper Controller

5.6



Item Description	Servo Stepper Controller; 55 VDC; 7.5 A
Item No.	750-673
Order Text	Servo Stepper Controller; 55 VDC; 7.5A
Technical Data	
Number of motor outputs	1 stepper motor (2 phases)
Supply voltage (motor)	55 VDC; Absolute upper limit: 71.5 V; Absolute lower limit: 18 V
Max. output current (motor)	2 x 5.0 A (2 x 7.5 A transient)
Stepper frequency	7812 Hz
Resolution	Path: 23 bits + sign bit; Speed: 15 bits + 16-bit prescaler; Acceleration: 15 bits + 16 bit- prescaler
Number of digital outputs	2
Control voltage	24 VDC (–25 ... +30 %)
Max. output current (digital outputs)	0.5 A; short-circuit-protected
Output frequency	5 Hz
Number of digital inputs	2 x 24 VDC
Input filter	100 µs; software filter can be connected
Signal voltage (encoder)	RS-485/422 compatible
Encoder frequency	1 MHz
Sensor supply	5 VDC; 300 mA; short-circuit-protected
Quadrature decoder	4x evaluation
Counter Modules	32 bits; binary
Current consumption – system supply (5 V)	70 mA
Data width (internal)	12-byte input/output
Isolation	500 V (system/field)
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	48 x 69.8 x 100 mm
Approvals	CE, RoHS
Data sheet and further information, see:	wago.com/750-673

This servo stepper controller has an on-board power driver and an incremental encoder evaluation for controlling 2-phase stepper motors.

The 64-fold microstepping prevents step losses due to resonance in the acceleration phases and reduces wear on the mechanical parts. Together with the incremental encoder, the integrated vector control contributes to efficient, dynamic rotation speed characteristics.

Six configurable inputs are directly processed by the internal software without delay. Two outputs can be linked with internal functions or freely allocated. Versatile functions enable a wide application range.

Inputs:

- Start/stop
- Limit switch (positive and negative direction)
- Reference cam
- Jog/tip (positive and negative direction)

Outputs (default setting):

- Target reached
- Error

Operating modes:

- Single positioning with different acceleration ramps
- Reference motion
- Jog
- Tip
- Command table
- Cam switch

Functions include:

- Absolute/relative positioning
- Setpoint change on the fly
- Rotary axis

Protection:

- Short circuit monitoring of motor connections: Winding short circuit and short circuit to 0 V and 24 V
- 24 V supply: Reverse voltage protection
- Motor supply: Reverse voltage protection via external fuse

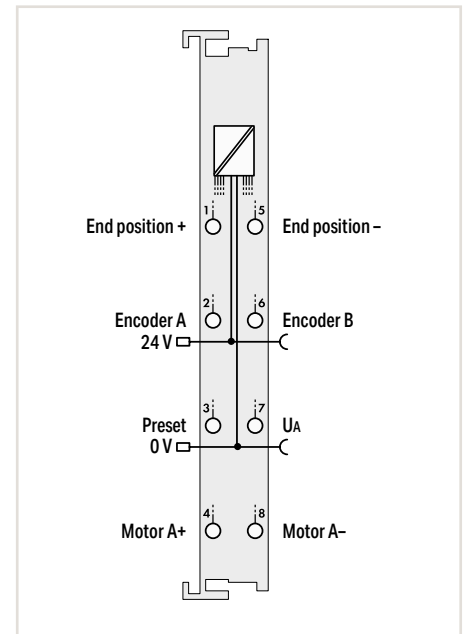
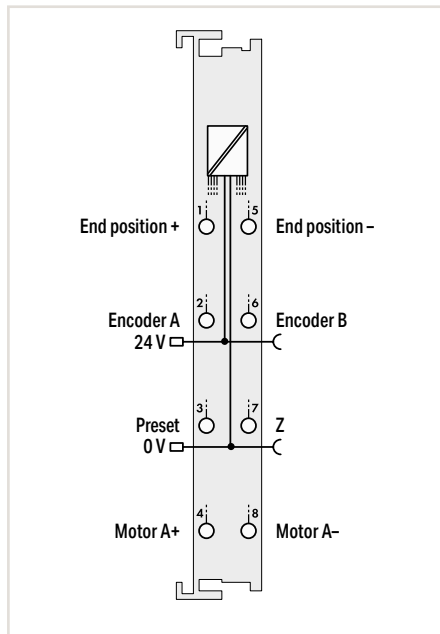
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ Approvals and corresponding ratings, see page 522 or www.wago.com

DC Drive Controller



Figure: 750-636



Item Description	DC Drive Controller; 24 VDC; 5 A		DC Drive Controller; 24 VDC; 5 A	
Version	Standard	Extended temperature	Separate motor power supply	Interference-free
Item No.	750-636	750-636/025-000	750-636/000-700	750-636/000-800
Order Text	DC-Drive Controller; 24 VDC; 5A	DC-Drive Controller; 24 VDC; 5A; T	DC-Drive Controller; 24 VDC; 5A; UA	DC-Drive Controller; 24 VDC; 5A; IF
Technical Data				
Interference-free			●	
Number of outputs	1 (A+; A-; H-bridge output)		1 (A+; A-; H-bridge output)	
Motor voltage	24 VDC (–20 ... +15 %)		24 VDC (–20 ... +15 %)	
Separate motor voltage			24 VDC (–20 ... +30 %)	
Output current (max.)	5 A (15 A/500 ms); short-circuit-protected		5 A (15 A/500 ms); short-circuit-protected	
PWM frequency (typ.)	20 kHz		20 kHz	
Number of digital inputs	3; Type 1; high-side switching		3; Type 1; high-side switching	
Signal voltage (0)	–3 ... +1.5 VDC		–3 ... +1.5 VDC	
Signal voltage (1)	2.4 ... 30 VDC		2.4 ... 30 VDC	
Encoder connection	A; B; Zero low-side switching		A; B; Zero low-side switching	
Signal voltage	5 ... 24 VDC; Open collector		5 ... 24 VDC; Open collector	
Limit frequency	50 kHz		50 kHz	
Quadrature decoder	1x, 2x, 4x evaluation		1x, 2x, 4x evaluation	
Supply voltage (field)	5 ... 14 VDC (–15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)		5 ... 14 VDC (–15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)	
Current consumption – system supply (5 V)	55 mA		55 mA	
Data width (internal)	32-bit set/actual value; 16-bit control or status		32-bit set/actual value; 16-bit control or status	
Isolation	500 V (system/field)		500 V (system/field)	
Surrounding air temperature (operation)	0 ... +55 °C –20 ... +60 °C		0 ... +55 °C	
Dimensions W x H x D	12 x 67.8 x 100 mm		12 x 67.8 x 100 mm	
Approvals	CE,		CE,	
Data sheet and further information, see:	wago.com/750-636		wago.com/750-636	

This DC drive controller is a single-channel, intelligent positioning controller for 24 VDC motors up to 5 A with incremental position feedback.

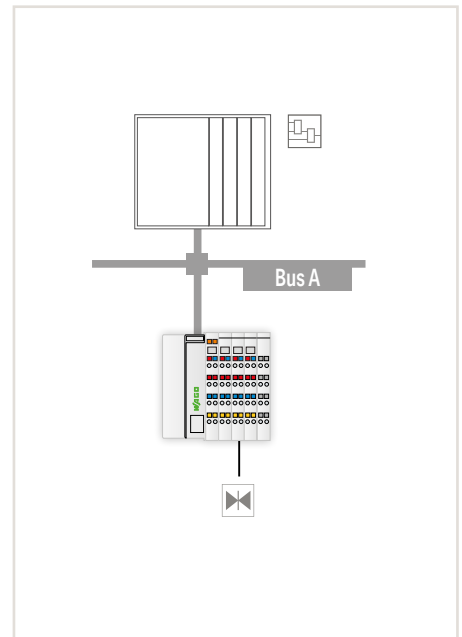
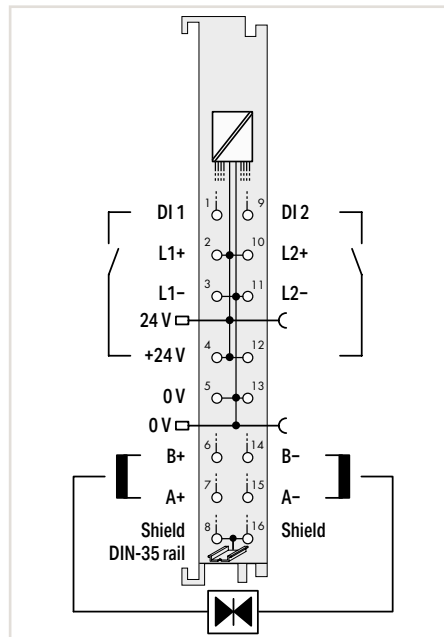
Three 24 V inputs record the limit switches and a preset signal.

An incremental encoder interface evaluates signals from the position sensor and determines actual value.

Current reduction is possible via pulse width modulation (PWM).

As an option, the motor voltage can be supplied separately.

Proportional Valve Module



Item Description	Proportional valve controller
Version	Standard with 16 connectors
Item No.	750-632
Order Text	Proportional Valve Module
Technical Data	
Number of outputs	2 bipolar outputs (A+; A- and B+; B-)
Output current (max.)	1-channel operation: 2 A; 2-channel operation: 1.6 A per channel
Output type	H-bridge output with current-regulated PWM output (short-circuit-proof and thermal over-load-proof for each channel)
Dither frequency	250 Hz; 125 Hz; 62.5 ... 1 Hz (parameterizable)
PWM frequency (typ.)	50 kHz
Nominal output voltage	24 VDC (-25 ... +30 %)
Load type	Operating range: inductive (1 mH ... 600 mH); Internal load resistance (> 8 Ohm)
Number of digital inputs	2; Type 1; high-side switching
Supply voltage (field)	24 VDC (-25 % ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	125 mA
Data width (internal)	6 bytes (single-channel operating mode), 12 bytes (dual-channel operating mode)
Isolation	500 V (system/field)
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	12 x 69 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-632

This proportional valve module controls two single-coil valves or one valve. The module features two current-controlled PWM outputs with adjustable dither. Both unipolar and bipolar valve control are possible. Additionally, operation of a valve with two unipolar coils is also provided. The module is single-channel in this operating mode! Characteristic curve adaptations, such as zero offset, dual gain compensation or range limitations, can be adjusted via parameters. The module functions can be internally triggered via digital outputs without any detours.

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 522 or www.wago.com

Communication Modules

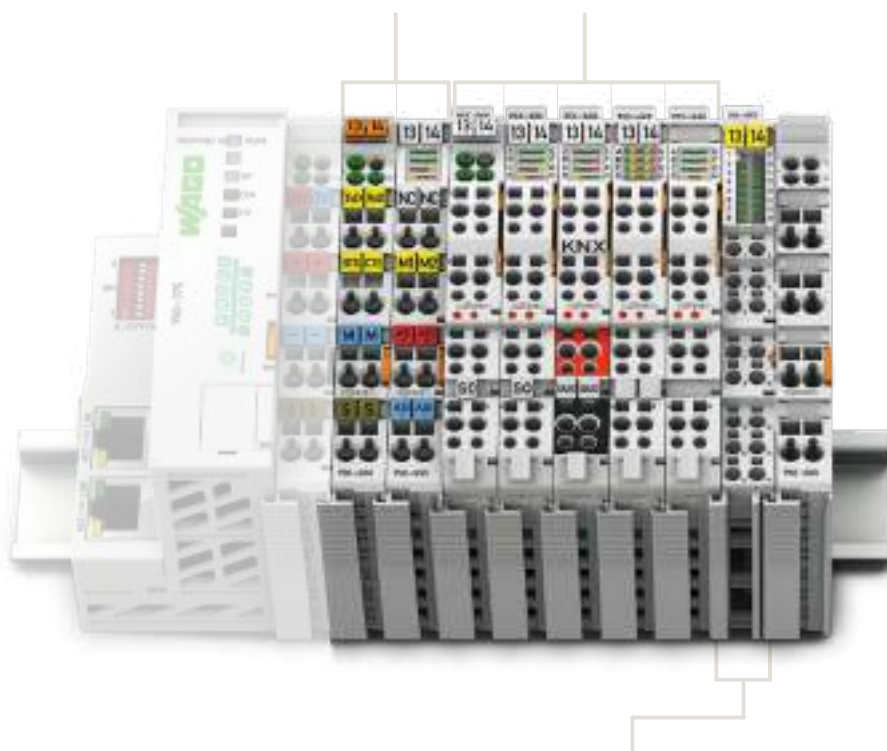


Housing design (750 Series)

Dimensions W x H x D	Housing with 4 LEDs: 12 x 69.8 x 100 mm Housing with 8 LEDs: 12 x 67.8 x 100 mm
Height from upper-edge of DIN-rail	Housing with 4 LEDs: 62.6 mm Housing with 8 LEDs: 60.6 mm
Connection technology	CAGE CLAMP®
Conductor cross section	0.08 ... 2.5 mm² / 28 ... 14 AWG
Strip length	8 ... 9 mm / 0.33 inch

Housing design (753 Series)

Dimensions W x H x D	Housing with 4 LEDs: 12 x 69.8 x 100 mm Housing with 8 LEDs: 12 x 69 x 100 mm
Height from upper-edge of DIN-rail	Housing with 4 LEDs: 62.6 mm Housing with 8 LEDs: 61.8 mm
Connection technology	CAGE CLAMP®
Conductor cross section	0.08 ... 2.5 mm² / 28 ... 14 AWG
Strip length	9 ... 10 mm / 0.37 inch



Housing design (750 Series), with Push-in CAGE CLAMP® connections (up to 16 connection points)

Dimensions W x H x D	12 x 69 x 100 mm
Height from upper-edge of DIN-rail	61.8 mm
Connection technology	Push-in CAGE CLAMP®
Conductor cross section	Solid: 0.08 ... 1.5 mm² / 28 ... 16 AWG Fine-stranded: 0.25 ... 1.5 mm² / 22 ... 16 AWG
Strip length	8 ... 9 mm / 0.33 inch



I/O System –
750 XTR Series

I/O-System – 750 and 753 Series, Communication Modules

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	Serial Interface RS-232 C; 9600 baud; Even; 8/1 bits	750-650/000-006			278	
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*This module is also available as a 750 XTR Series variant.		See Section 6				

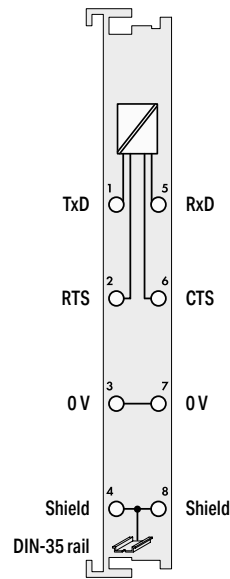
Serial Interface RS-232 C



Figure: 750-650



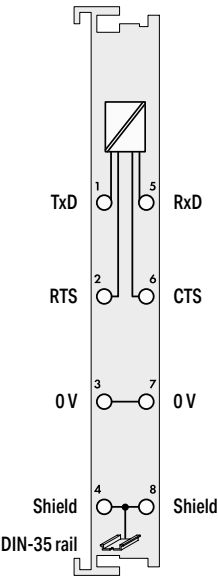
Figure: 753-650



Item Description		Serial Interface RS-232 C				
Version		9600 baud	9600 baud; Pluggable (delivery without connector)	9600 baud; 5 bytes	9600 baud; Even; 7/2 bits	9600 baud; Even; 8/1 bits
Item No.		750-650	753-650	750-650/000-001	750-650/000-002	750-650/000-006
Order Text		RS232 C Interface; 9600Bd	RS232 C Interface; 9600Bd	RS232 C Interface; 9600Bd; 5byte	RS232 C Interface; 9600Bd; E; 7/2	RS232 C Interface; 9600Bd; E; 8/1
Technical Data						
Pluggable connector		●				
Signal type		RS-232				
Transmission channels		1 Tx/D / 1 Rx/D; full-duplex				
Baud rate		9600 Bd				
Parity		None			Even	
Number of data bits		8			7	8
Number of stop bits		1			2	1
Buffer		120-byte input / 16-byte output				
Supply voltage (system)		5 VDC; via data contacts				
Current consumption – system supply (5 V)		55 mA				
Data width (internal)		1 x 24-bit input/output (3-byte user data); 1 x 8-bit control/status		1 x 24-bit input/ output (5-byte user data); 1 x 8-bit control/ status	1 x 24-bit input/output (3-byte user data); 1 x 8-bit control/status	
Isolation		500 V (system/field)				
Surrounding air temperature (operation)		0 ... +55 °C				
Dimensions W x H x D		12 x 69.8 x 100 mm				
Approvals		CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx				
Data sheet and further information, see:		wago.com/750-650	wago.com/753-650	wago.com/750-650		
Accessories		Item No.				
Pluggable connector		753-110				
Coding keys		753-150				

„ Mini-WSB marker card and mounting accessories,
see Section "Accessories and Tools"

„ Approvals and corresponding ratings,
see page 522 or www.wago.com



Serial Interface RS-232 C					
4800 baud; Even; 8/1 bits; 5 bytes	2400 baud; None; 8/1 bits	19,200 baud; None; 8/1 bits	19,200 baud; Even; 8/1 bits	Adjustable	Adjustable; Pluggable (delivery without connector);
750-650/000-015	750-650/000-012	750-650/000-010	750-650/000-011	750-650/003-000	753-650/003-000
RS232 C Interface; 4800Bd; E; 8/1	RS232 C Interface; 2400Bd; N; 8/1	RS232 C Interface; 19200Bd; N; 8/1	RS232 C Interface; 19200Bd; E; 8/1	RS232 C Interface; adjust	RS232 C Interface; adjust

RS-232				●
1 TxD / 1 RxD; full-duplex				
4800 Bd	2400 Bd	19,200 Bd		1200 ... 57,600 Bd
Even	None		Even	None/even; adjustable
8			7/8; adjustable	
1			1/2; adjustable	
120-byte input / 16-byte output				
5 VDC; via data contacts				
55 mA				
1 x 24-bit input/output (5-byte user data); 1 x 8-bit control/status	1 x 24-bit input/output (3-byte user data); 1 x 8-bit control/status		1 x 24-bit input/output (3-byte user data); 1 x 40-bit input/output (5-byte user data); 1 x 8-bit control/status	
500 V (system/field)				
0 ... +55 °C				
12 x 69.8 x 100 mm				
CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx				
wago.com/750-650			wago.com/ 750-650/003-000	wago.com/ 753-650/003-000

	Item No.
	753-110
	753-150

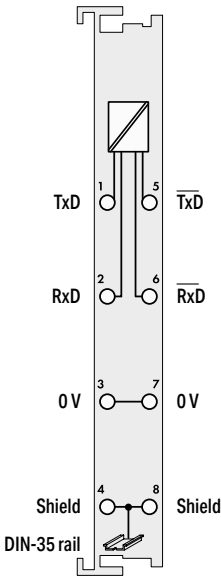
Serial Interface RS-485



Figure: 750-653



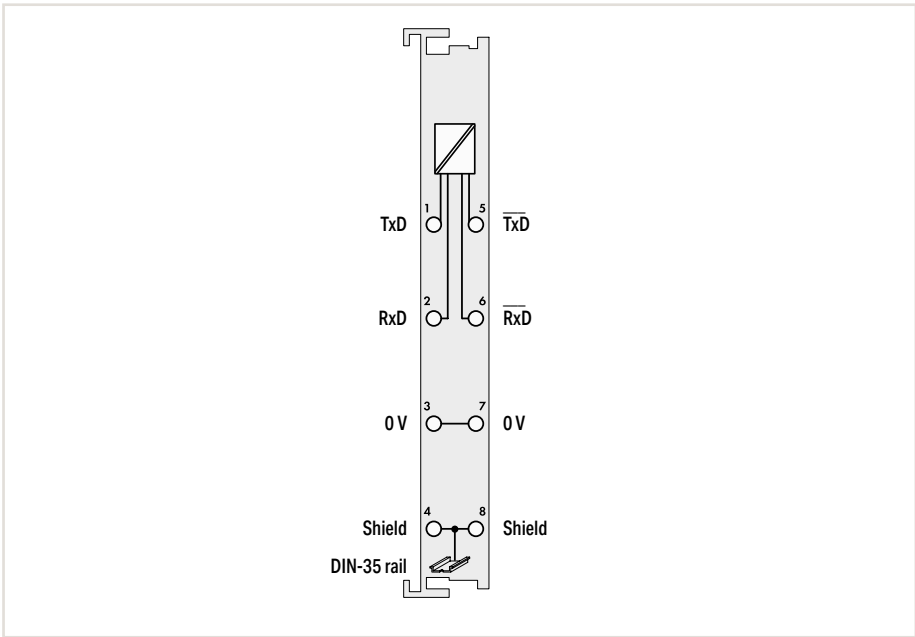
Figure: 753-653



Item Description		Serial Interface RS-485				
Version		Standard	Pluggable (delivery without connector)	9600 baud; Even; 7/2 bits	9600 baud; Even; 8/1 bits	9600 baud; None; 8/1 bits; Extended temperature
Item No.		750-653	753-653	750-653/000-001	750-653/000-002	750-653/025-018
Order Text		RS485 Interface	RS485 Interface	RS485 Interface; 9600Bd; E; 7/2	RS485 Interface; 9600Bd; E; 8/1	RS485 Interface; 9600Bd; N; 8/1
Technical Data						
Pluggable connector			●			
Signal type		RS-422/-485				
Transmission channels		1 TxD / 1 RxD; full-duplex				
Baud rate		9600 Bd				
Parity		None		Even		None
Number of data bits		8		7	8	
Number of stop bits		1		2	1	
Buffer		120-byte input / 16-byte output				
Supply voltage (system)		5 VDC; via data contacts				
Current consumption – system supply (5 V)		65 mA				
Data width (internal)		1 x 24-bit input/output (3-byte user data); 1 x 8-bit control/status				1 x 40-bit input/ output (5-byte user data); 1 x 8-bit control/ status
Isolation		500 V (system/field)				
Surrounding air temperature (operation)		0 ... +55 °C				–20 ... +60 °C
Dimensions W x H x D		12 x 69.8 x 100 mm				
Approvals		CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx				
Data sheet and further information, see:		wago.com/750-653	wago.com/753-653	wago.com/750-653		
Accessories			Item No.			
Pluggable connector			753-110			
Coding keys			753-150			

„ Mini-WSB marker card and mounting accessories,
see Section "Accessories and Tools"

„ Approvals and corresponding ratings,
see page 522 or www.wago.com



Serial Interface RS-485				
19,200 baud; None; 8/1 bits	2400 baud; None; 8/1 bits	Adjustable	Adjustable; Extended temperature	Adjustable; Pluggable (delivery without connector)
750-653/000-006	750-653/000-007	750-653/003-000	750-653/025-000	753-653/003-000
RS485 Interface; 19200Bd; N; 8/1	RS485 Interface; 2400Bd; N; 8/1	RS485 Interface; adjust	RS485 Interface; adjust; T	RS485 Interface; adjust

RS-422/-485		
1 TxD / 1 RxD; full-duplex		
19,200 Bd	2400 Bd	1200 ... 19,200 Bd
None		None/even; adjustable
8		7/8; adjustable
1		1/2; adjustable
120-byte input / 16-byte output		
5 VDC; via data contacts		
65 mA		
1 x 40-bit input/ output (5-byte user data); 1 x 8-bit control/ status	1 x 24-bit input/ output (3-byte user data); 1 x 8-bit control/ status	1 x 40-bit input/output (3/5-byte user data); 1 x 8-bit control/status
500 V (system/field)		
0 ... +55 °C		-20 ... +60 °C 0 ... +55 °C
12 x 69.8 x 100 mm		
CE; Marine; OrdLoc/HazLoc; ATEX/IECEx		
wago.com/750-653		 wago.com/ 753-653

Item No.
753-110
753-150

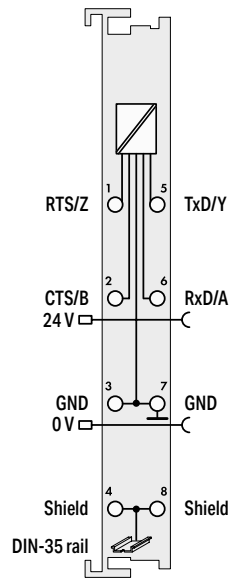
Serial Interface RS-232/485



Figure: 750-652



Figure: 753-652



Item Description

Version

Item No.

Order Text

Technical Data

Pluggable connector

Signal type

Transmission channels

Baud rate

Parity

Number of data bits

Number of stop bits

Buffer

Supply voltage (field)

Supply voltage (system)

Current consumption – system supply (5 V)

Data width (internal)

Isolation

Surrounding air temperature (operation)

Dimensions W x H x D

Approvals

Data sheet and further information, see:

Accessories

Pluggable connector

Coding keys

Serial Interface RS-232/485

Standard

Extended temperature

Pluggable (delivery without connector)

750-652

RS232/485

Interface

750-652/025-000

RS232/485

Interface; T

753-652

RS232/485

Interface

		●
RS-232 / RS-422 / RS-485		
1 TxD / 1 RxD; full-duplex; half-duplex		
9600 Bd (default setting); 300 ... 11,5200 Bd		
None/Odd/Even		
7/8; adjustable		
1/2; adjustable		
2560 bytes for reception / 512 bytes for transmission		
24 VDC; via power jumper contacts (power supply via blade contact; transmission via spring contact)		
5 VDC; via data contacts		
85 mA		
8, 24 or 48 bytes (parameterizable)		
500 V (system/field)		
0 ... +55 °C		
12 x 67.8 x 100 mm	12 x 69 x 100 mm	
CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx		
wago.com/750-652		wago.com/753-652

Accessories

Pluggable connector

Coding keys

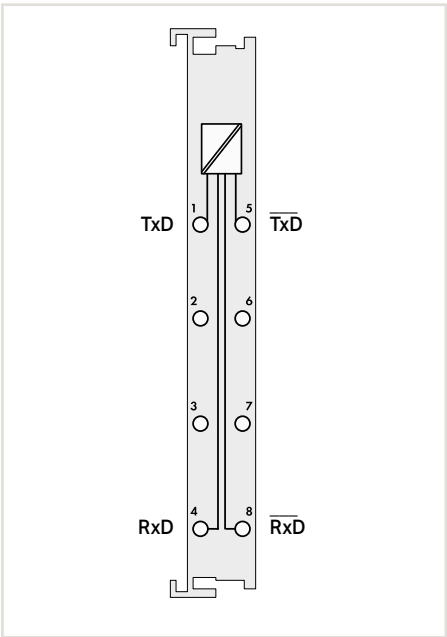
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ Approvals and corresponding ratings, see page 522 or www.wago.com

Serial TTY Interface

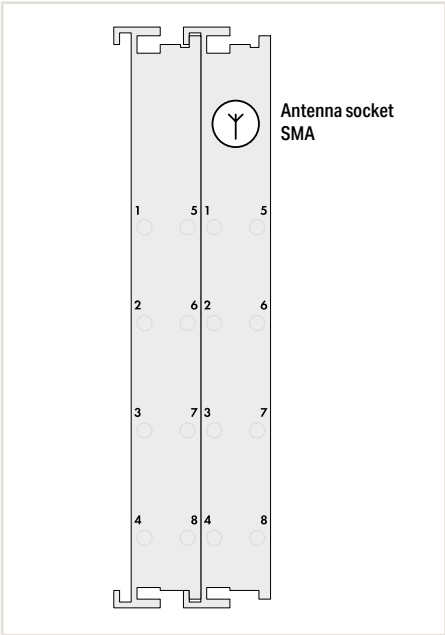


Figure: 750-651



Item Description		Serial TTY Interface	
Version		9600 baud; None; 8/1 bits	9600 baud; Even; 8/1 bits
Item No.		750-651	750-651/000-002
Order Text		TTY Interface; 9600Bd; N; 8/1	TTY Interface; 9600Bd; E; 8/1
Technical Data		TTY; 20 mA	
Signal type		1 TxD / 1 RxD; full-duplex	
Transmission channels		9600 Bd	
Baud rate		< 500 Ω	
Load impedance		None	Even
Parity		8	
Number of data bits		1	
Number of stop bits		128-byte input / 16-byte output	
Buffer		5 VDC; via data contacts	
Supply voltage (system)		55 mA	
Current consumption – system supply (5 V)		1 x 24-bit input/output (3-byte user data); 1 x 8-bit control/status	
Data width (internal)		500 V (system/field)	
Isolation		0 ... +55 °C	
Surrounding air temperature (operation)		12 x 69.8 x 100 mm	
Dimensions W x H x D		CE; Marine; OrdLoc/HazLoc	
Approvals		wago.com/750-651	
Data sheet and further information, see:			

Radio Receiver EnOcean



Item Description
Version
Item No.
Order Text

Radio Receiver EnOcean
Standard
750-642
Radio Receiver EnOcean

Technical Data
Antenna
Frequency band
Transmission range
Transmission protocol (radio telegram)
Supply voltage (system)
Current consumption – system supply (5 V)
Data width (internal)
Surrounding air temperature (operation)
Dimensions W x H x D
Approvals
Data sheet and further information, see:

External via SMA socket
868.3 MHz
Up to 300 m in open field (30 m typical in buildings, see manual)*
EnOcean
5 VDC; via data contacts
80 mA
1 x 24-bit input/output (3-byte user data); 1 x 8-bit control/status
0 ... +55 °C
24 x 72 x 100 mm
CE, OrdLoc/HazLoc, ATEX/IECEX
wago.com/750-642

Accessories
External antenna

Item No.	Page
758-910	424

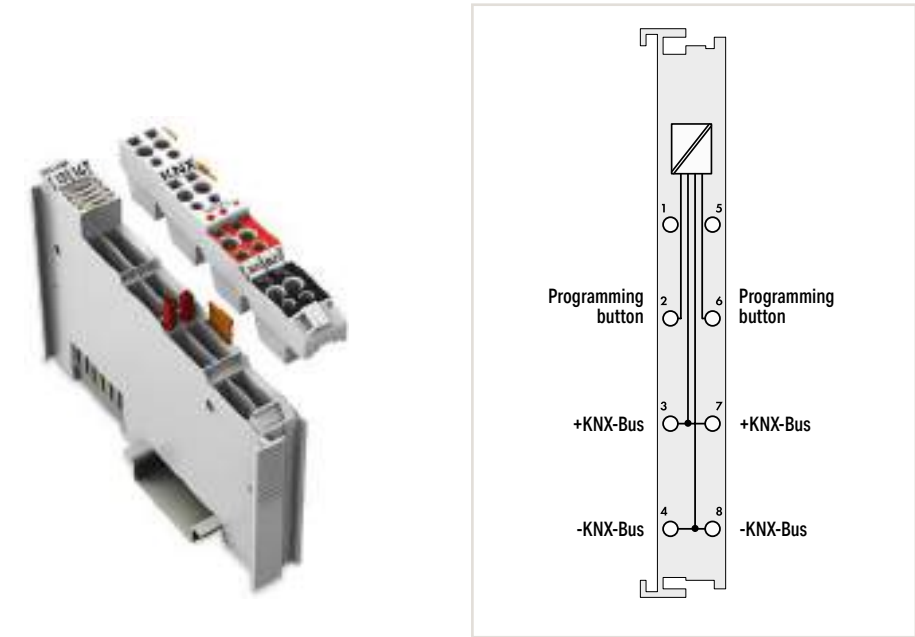
*The maximum range in the field decreases with use in buildings and changes depending on the building materials used and the spatial geometry. Therefore, range specifications within buildings can only represent typical values which can normally be achieved. More detailed information is available in the manual.

This radio receiver obtains radio telegrams from maintenance-free, self-powered and wireless switches/sensors based on EnOcean radio technology. The energy required for switch or sensor operation is produced by converting one type of energy (heat, solar or mechanical energy) into usable electrical energy. The LED (RSSI) indicates a sufficient input level. Preprogrammed function blocks for WAGO Controllers make integration easy.

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 522 or www.wago.com

KNX/EIB/TP1 Interface



Item Description	KNX/EIB/TP1 Interface
Version	Pluggable
Item No.	753-646
Order Text	KNX/EIB/TP1 Interface
Technical Data	
Pluggable connector	•
Specification	KNX/TP1 bus: 1.0
Number of communication objects	253
Number of group addresses	254
Number of associations	254
Baud rate	9.6 kBd
Additional connections	Programming button
Applicability	On controllers
Current consumption – system supply (5 V)	25 mA
Data width (internal)	24 bytes
Isolation	2500 V rms
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	12 x 69 x 100 mm
Approvals	CE; Marine; OrdLoc
Data sheet and further information, see:	wago.com/753-646
Accessories	Item No.
Pluggable connector	Included
Coding keys	Included

The KNX/EIB/TP1 Module connects to a KNX/ EIB/TP1 network. This module supports two different functions:

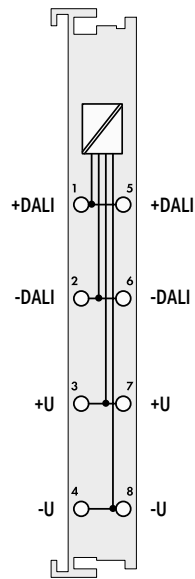
1. Device mode:
With this module, all programmable fieldbus controllers relevant for building automation can be connected to a KNX/TP1 network. The module is a standard KNX device and is linked via ETS3/4 Professional Commissioning Tool.

An ETS3/4 plug-in is required so that data from the application program can be allocated to group addresses for the programming software.

2. Router mode:
When connected to a KNX/IP Controller (e.g., 750-889), the combination becomes a KNXnet/ IP router. The module is switched to the router mode automatically. An application program is not required for operation in router mode. Additional modules that are connected to a KNX IP Controller are addressed in device mode by the application.

The bus connections are internally bridged inside the plug, so the bus is not interrupted when the plug is pulled from the module. The plug is included with delivery.

DALI Multi-Master



Item Description	DALI Multi-Master
Version	Pluggable
Item No.	753-647
Order Text	DALI Multi-Master

Technical Data

Pluggable connector	•
Number of participants	64 control gears (EVG) + 16 multi-sensors (max. 64 addresses for control devices (sensors))
Baud rate	1200 bit/s
Bus length (max.)	300 m
Bus topology	Star/line/combination
Supply voltage (DALI)	18 V (external)
Number of groups	16 (+ 16 virtual groups)
Number of scenes	16
Applicability	On programmable fieldbus controllers
Current consumption – system supply (5 V)	85 mA
Data width (internal)	24 bytes
Isolation	1500 V DALI bus/local bus
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	12 x 69 x 100 mm
Approvals	CE, Marine, OrdLoc
Data sheet and further information, see:	wago.com/753-647

Accessories	Item No.	Page
DALI Multi-Master DC/DC Converter (for supplying a single module)	753-620	330
Switched-Mode Power Supply; for DALI Multi-Master (753-647); 1-phase; Output volt- age: 18 VDC; Output current: 1.1 A	787-1007	493
Pluggable connector	Included	
Coding keys	Included	

This manufacturer-independent DALI standard ensures interoperability of DALI devices in lighting applications. This standard is substitute for the 1–10 V dimmer interface.

In addition to 64 DALI actuators (ECGs), a DALI Multi-Master Module supports up to 16 multi-sensors (max. 64 sensor addresses). Each DALI ECG can be assigned to 16 groups and 16 scenes. The DALI Multi-Master Module also offers 16 additional virtual groups on the DALI bus.

DALI control devices can be seamlessly integrated with all other building systems. Several DALI masters can be connected to a single fieldbus node. The maximum number of modules that can be connected to a controller depends on the memory required by the application. Function blocks prepared for DALI are available for programming fieldbus nodes.

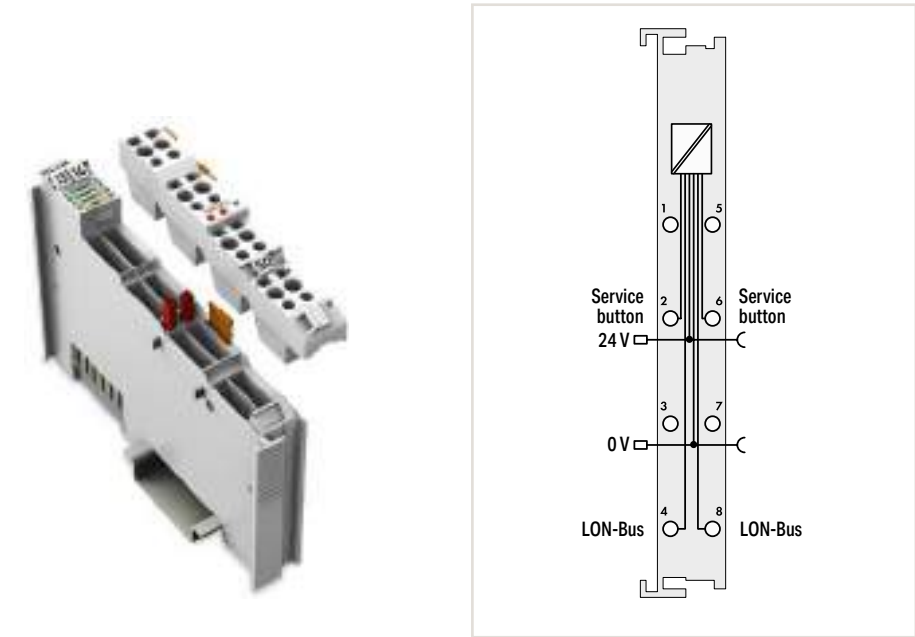
Alternatively, an "EASY Mode" allows lighting functions to be readily controlled without any PLC programming.

The DALI Configurator (Section "Software"/ Page 39) simplifies commissioning of the DALI network. It provides the following functions: easy commissioning, configuration, service, support and maintenance of the DALI network.

„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ Approvals and corresponding ratings, see page 522 or www.wago.com

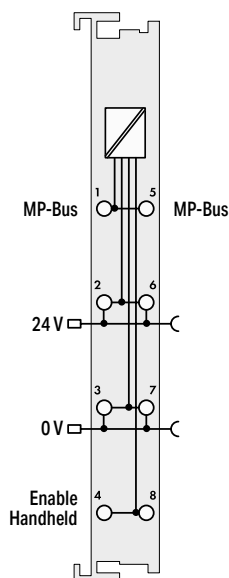
LON® FTT Interface



Item Description	LON® FTT Interface
Version	Pluggable
Item No.	753-648
Order Text	LON FTT Interface
Technical Data	
Pluggable connector	●
Number of network variables	249
Number of aliases	127
Baud rate	78 kbit/s
Bus length (max.)	500 m (free topology) / 2700 m (bus)
Transmission medium	Twisted Pair – FTT
Additional connections	Service button
Applicability	On controllers; max. 2 per controller
Supply voltage (field)	24 VDC; via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	30 mA
Data width (internal)	24 bytes
Isolation	500 V (system/field)
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm
Approvals	CE; UL; OrdLoc/HazLoc
Data sheet and further information, see:	wago.com/753-648
Accessories	Item No.
Pluggable connector	Included
Coding keys	Included

The LON® FTT Interface is a full-fledged and flexible LON® device within LonWorks® FT or LP network. The module's network variable interface defines 249 network variables of any type and supports both LonMark® objects and configuration properties.

MP-Bus Master



Item Description

MP-Bus Master

Version

Standard

Item No.

750-643

Order Text

MP-Bus Master

Technical Data

Number of participants	Max. 8 slaves
Supply voltage (MP-Bus)	24 VDC; via power jumper contacts
Bus length (max.)	800 m
Applicability	On controllers
Supply voltage (field)	24 VDC; via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	15 mA
Data width (internal)	8 bytes
Isolation	500 V (system/field)
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm
Approvals	CE; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-643

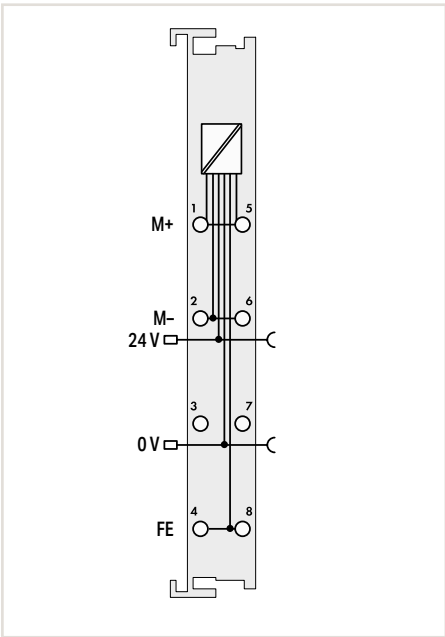
This module acts as a master for the MP bus (Multi-Point bus from Belimo/Switzerland) and allows the bus to be integrated into a higher level bus network. The MP-Bus controls HVAC actuators for dampers, regulator valves or VAV air volume controls.

The actuators have connections for active and passive sensors (temperature, humidity, ON/OFF switch), which may also be accessed via MP-Bus. An MP-Bus master can manage up to 8 slaves (actuators) + 8 sensors (1 sensor per slave) via a common bus line, which considerably reduces actuator and sensor wiring.

„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ Approvals and corresponding ratings, see page 522 or www.wago.com

M-Bus Master

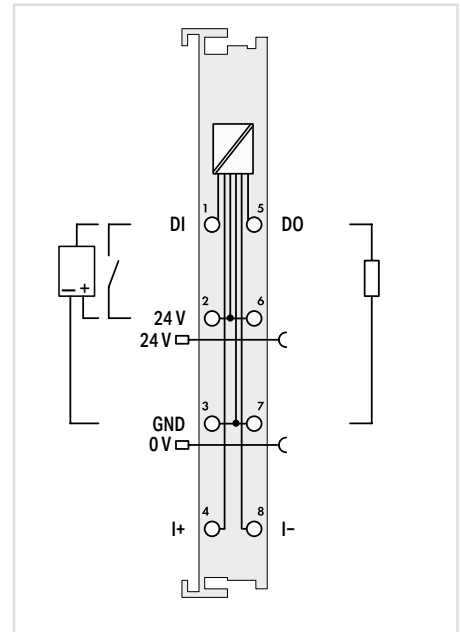
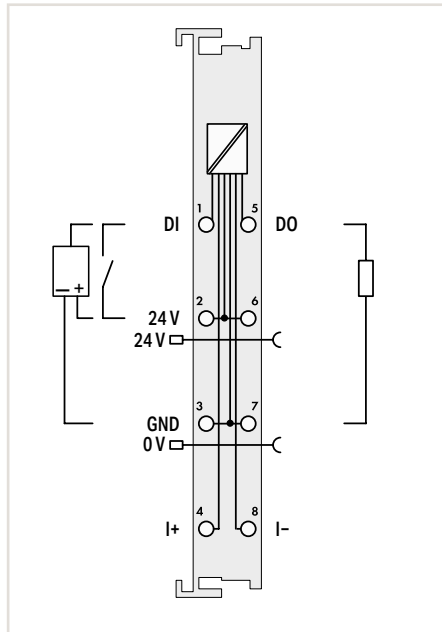


Item Description	M-Bus Master
Version	Pluggable
Item No.	753-649
Order Text	M-Bus Master
Technical Data	
Pluggable connector	
Transmission channels	1; bidirectional
Baud rate	up to 1000 m at 9600 baud; up to 2000 m at 2400 baud; up to 6000 m at 300 baud
M-Bus loads (max.)	40 (1.5 mA each)
Topology	Star, tree and line topology
Supply voltage (field)	24 VDC (–2.5 ... +5 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption, field supply (module with no external load)	130 mA
Supply voltage (system)	5 VDC; via data contacts
Current consumption – system supply (5 V)	29 mA
Isolation	500 V (system/field)
Cable type	2-line; shielded or unshielded
Data width	24 bytes (mailbox 2.0 with 22-byte length)
Startup and configuration	WAGO-I/O-PRO V2.3; e!COCKPIT
Approvals	CE;
Data sheet and further information, see:	wago.com/753-649
Accessories	Item No.
Pluggable connector	Included
Coding keys	Included

SMI Master Module



Figure: 753-1630



Item Description	SMI Master; 230 VAC	SMI Master LoVo; 24 VDC
Version	Pluggable	Pluggable
Item No.	753-1630	753-1631
Order Text	SMI Master; 230 VAC	SMI Master LoVo; 24 VDC
Technical Data		
Number of channels	1 x SMI (1 ... 16 SMI slaves per channel)	1 x SMI (1 ... 16 SMI slaves per channel)
Interface specification	SMI Master interface per SMI specification	SMI Master interface per SMI specification
Number of digital inputs	1	1
Input characteristic	Type 1	Type 1
Input voltage (max.)	31.2 VDC	31.2 VDC
Number of digital outputs	1	1
Output current per channel	0.5 ADC; short-circuit protected	0.5 ADC; short-circuit protected
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)	24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption, field supply (module with no external load)	11.8 mA	11.8 mA
Supply voltage (system)	5 VDC; via data contacts	5 VDC; via data contacts
Current consumption – system supply (5 V)	33 ... 42 mA	33 ... 42 mA
Isolation	3 kVAC RMS; 4 kV surge (system/SMI); 1.5 kVAC RMS; 2.5 kV surge (system/field)	3 kVAC RMS; 4 kV surge (system/SMI); 1.5 kVAC RMS; 2.5 kV surge (system/field)
Cable type	2-line; unshielded	2-line; unshielded
Cable length	350 m	350 m
Data width	12-byte data	12-byte data
Startup and configuration	Via WAGO SMI Configurator or IEC libraries	Via WAGO SMI Configurator or IEC libraries
Approvals	CE,	CE,
Data sheet and further information, see:	wago.com/753-1630	wago.com/753-1631
Accessories	Item No.	Item No.
Pluggable connector	Included	Included
Coding keys	Included	Included

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 522 or www.wago.com

AS-Interface Master



Figure: 750-655

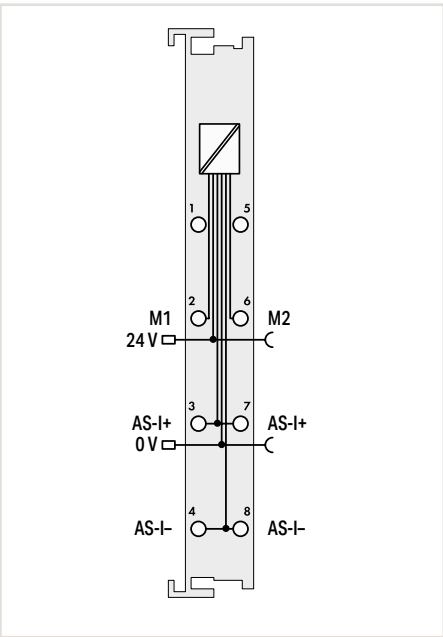
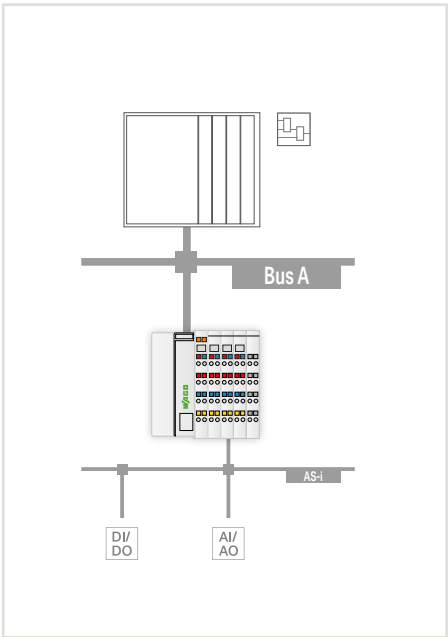


Figure: 753-655



5.7

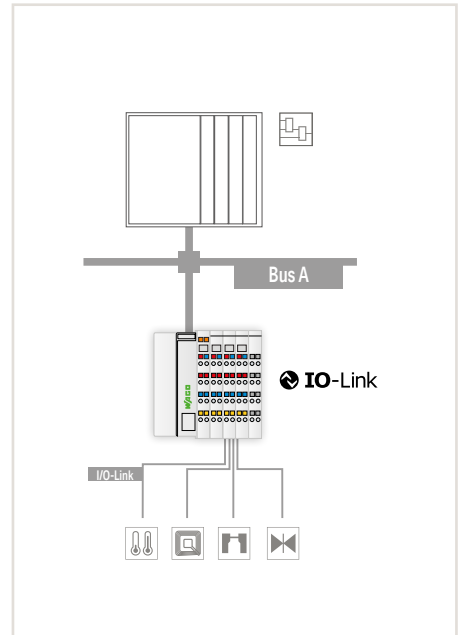
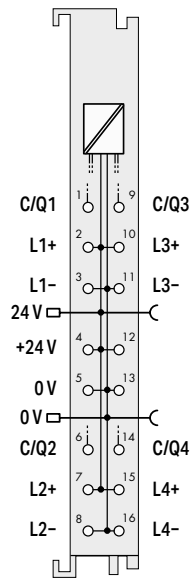
Item Description	
Version	
Item No.	
Order Text	
Technical Data	
Pluggable connector	
AS-i master class	M4
Number of slaves	62
Slave profiles	V3.0 with transaction types 1 ... 5
Cable length	100 m (with repeater 300 m)
AS-i cycle time	0.3 ... 10 ms
Supply voltage (AS-i)	26.5 ... 31.6 V
Supply voltage (field)	24 VDC (–15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	55 mA
Data width (internal)	12 ... 48 bytes (max.); Configurable, including 1 byte control/status
Isolation	500 V (system/field)
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	12 x 67.8 x 100 mm 12 x 69 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-655 wago.com/753-655
Accessories	
Pluggable connector	753-110
Coding keys	753-150

The AS-Interface Master Module connects AS-Interface devices to a higher-level fieldbus. It acts as a master for the AS-Interface and via the fieldbus coupler, as a slave for the fieldbus. The AS-i functions are provided both cyclically and acyclically via the fieldbus.

Diagnostics, which go far beyond the AS-i specifications, simplify detection of both sporadic configuration errors and AS-i communication interference sources. An auto-installation mode allows an AS-Interface network to be created via sequential slave installation, with no addressing tool required.

Both signal transmission and operating status, as well as trouble-free local bus communication, are indicated via LEDs.

IO-Link Master



Item Description

Version

Item No.

Order Text

IO-Link Master

Standard with 16 connectors

750-657

IO-Link Master

Technical Data

Number of I/O-Link ports

4

Baud rate

4.8 Kbit/s; 38.4 Kbit/s; 230.4 Kbit/s

Cable length

20 m

Supply voltage (field)

24 VDC (–15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)

Current consumption – system supply (5 V)

40 mA

Data width (internal)

4 ... 24 bytes

Isolation

500 V (system/field)

Surrounding air temperature (operation)

0 ... +55 °C

Dimensions W x H x D

12 x 69 x 100 mm

Approvals

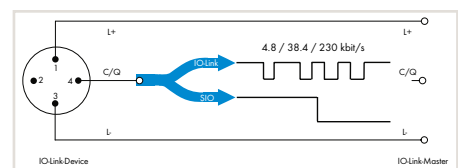
CE; OrdLoc/HazLoc; ATEX/IECEx

Data sheet and further information, see:

wago.com/750-657

Four different IO-Link devices or standard digital sensors/actuators can simultaneously connect to the IO-Link Master. Process data, as well as acyclic data for identification, configuration, parameterization and diagnostics can be communicated to the respective device via a 3-wire connection.

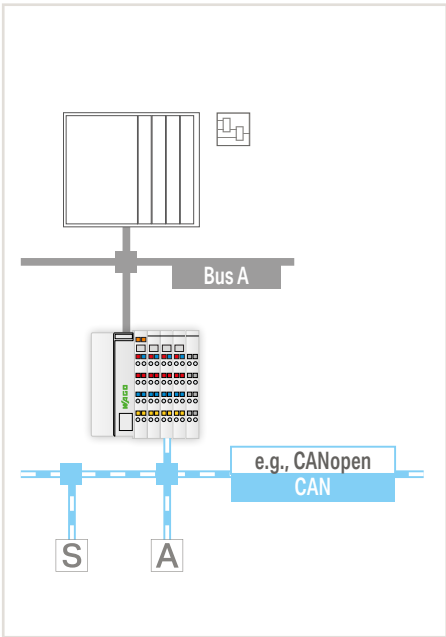
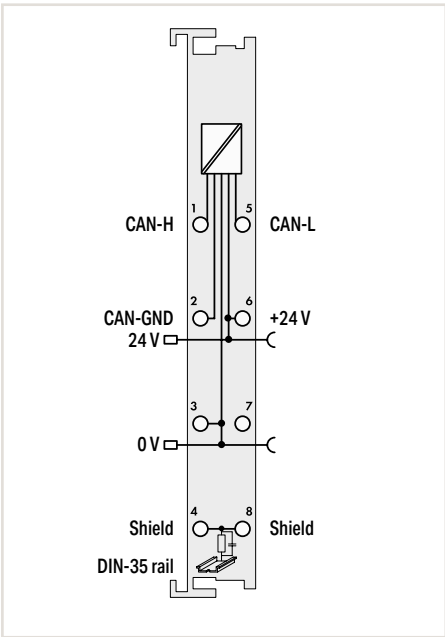
The functions and performance data are defined in device description files for master and devices; these are easy to customize via engineering tool. If a device must be replaced, the IO-Link devices' configuration and parameterization can be automatically restored without maintenance personnel. Project design, installation and operation are simplified!



„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 522 or www.wago.com

CAN Gateway



Item Description
Version
Item No.
Order Text

CAN Gateway
Standard
750-658
CAN Gateway

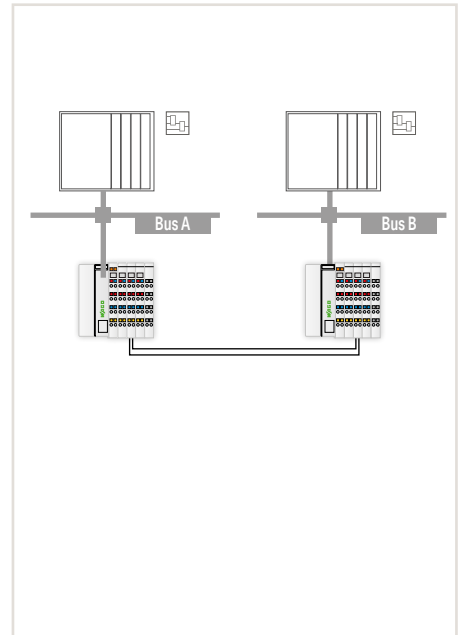
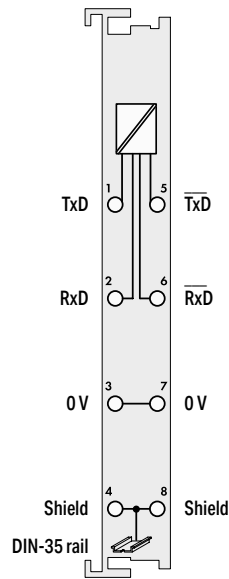
Technical Data	
Number of CAN interfaces	
Baud rate	
Data formats	
Supply voltage (field)	
Current consumption – system supply (5 V)	
Data transfer time	
Data width (internal)	
Isolation	
Surrounding air temperature (operation)	
Dimensions W x H x D	
Approvals	
Data sheet and further information, see:	

1
10 kbit/s; 20 kbit/s; 50 kbit/s; 125 kbit/s; 250 kbit/s; 500 kbit/s; 800 kbit/s (automatic baud rate)
Per 2.0 A standard (11-bit ID); Per 2.0 B extended (29-bit ID)
24 VDC; via power jumper contacts (power supply via blade contact; transmission via spring contact)
50 mA
5 ms (at 32-bit I/O)
4 ... 24 bytes
500 V (system/field)
0 ... +55 °C
12 x 67.8 x 100 mm
CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
wago.com/750-658

The CAN Gateway allows a CAN bus to be installed as a sub-bus beneath a fieldbus coupler or controller. It enables special sensors/actuators that are only available with the widely used CAN bus to also be integrated under other bus systems. Function blocks allow the gateway to read and write higher-protocol telegrams (e.g., CANopen).

- The module offers three different operating modes:
- Sniffer mode: Detailed analysis of the CAN bus through passive "snooping"
 - Transparent mode: Active CAN subscriber that can send and receive any type of CAN telegram
 - Mapped mode: Enables direct generation of CAN telegrams from the process image, or selective copying of process values from received CAN telegrams into the input process image (cyclic or event-based)

Serial Data Exchange Interface



Item Description

Version

Item No.

Order Text

Technical Data

Transmission channels	1 TxD / 1 RxD; full-duplex
Baud rate	62500 Bd (8 N 1)
Bit transfer	Via 2 twisted pairs with differential signals
Line impedance	120 Ω
Line length (max.)	1000 m
Current consumption – system supply (5 V)	65 mA
Data width (internal)	1 x 32-bit input/output; 1 x 8-bit control/status
Isolation	500 V (system/field)
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm
Approvals	CE; Marine; OrdLoc
Data sheet and further information, see:	wago.com/750-654

Serial Data Exchange Interface

Standard

750-654

Data Exchange Interface

This data exchange interface allows the exchange of data between different fieldbus systems. Two modules form a communication pair that is installed in fieldbus nodes and connected by two twisted wire pairs. The data exchange is done in full duplex operation, independent of the fieldbus system used. The data at the output of the fieldbus coupler is transmitted to the communication partner. This module then transmits the data to the input process image of its fieldbus coupler and vice versa. The “function” LED indicates a data exchange with the coupler. The status of the data transmission is indicated by the TxD and RxD LEDs.

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 522 or www.wago.com

Functional Safety

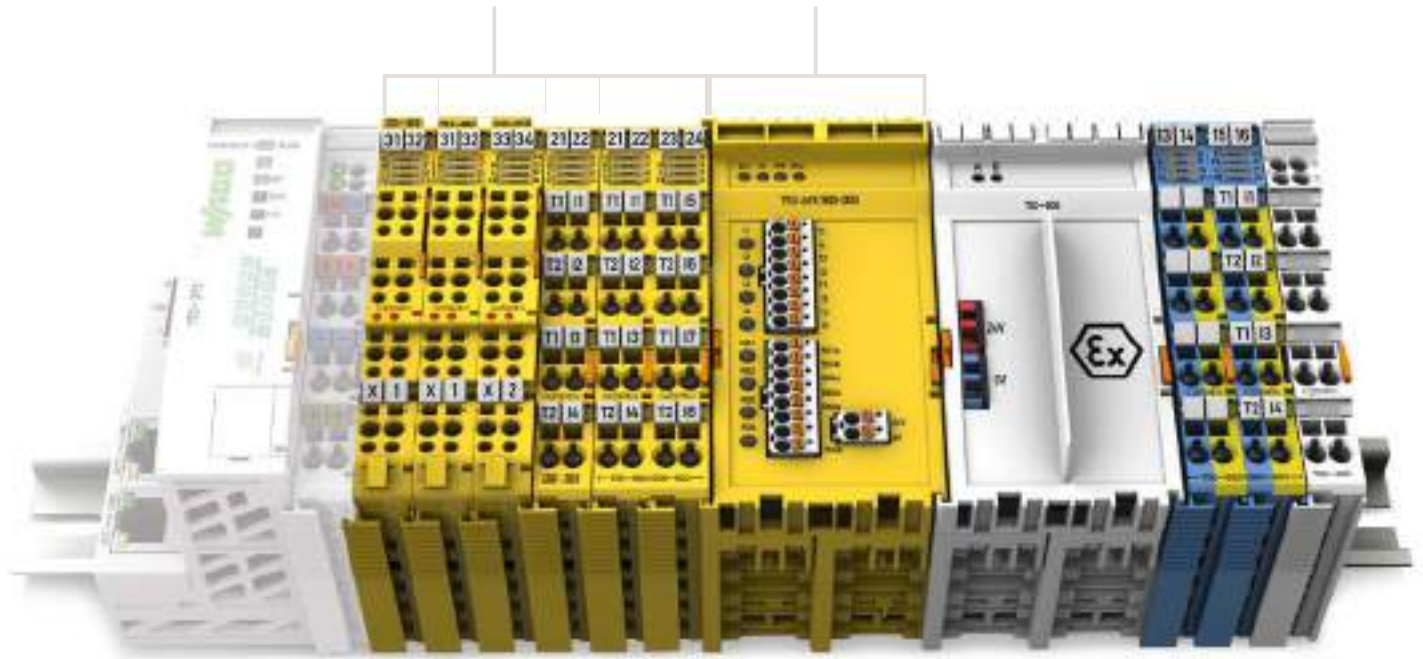


Housing design (750/753 Series)

Dimensions W x H x D	750 Series: 12 or 24 x 67.8 x 100 mm 753 Series: 12 or 24 x 69 x 100 mm
Height from upper-edge of DIN-rail	750 Series: 60.6 mm; 753 Series: 61.8 mm
Connection technology	CAGE CLAMP®
Conductor cross section	0.08 ... 2.5 mm² / 28 ... 14 AWG
Strip length	750 Series: 8 ... 9 mm / 0.33 inch 753 Series: 9 ... 10 mm / 0.37 inch

Specialty housing

Dimensions W x H x D	48 x 69.8 x 100
Height from upper-edge of DIN-rail	62.6 mm
Connection technology	Push-in CAGE CLAMP®
Conductor cross section	0.05 ... 1.5 mm² / 20 ... 14 AWG
Strip length	8 ... 9 mm / 0.33 inch

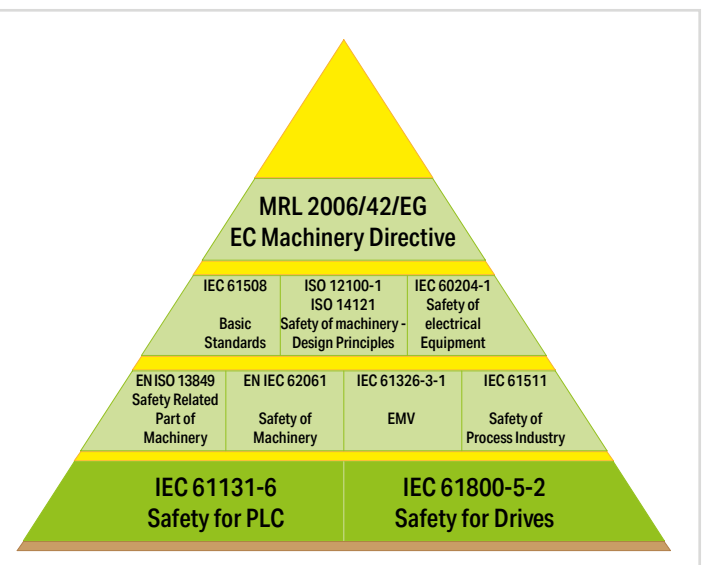


Functional Safety

In the European Union, the machinery directive defines the requirements for machine and system safety. This ensures a uniform standard for the protection of "life and limb" for people within a machine's operating area.

The required risk assessment is based on harmonized standards (e.g., EN 13849) and identifies existing risks and required risk reduction (SIL or PL quality). Based on the risk assessment, safety functionality can be implemented, e.g., by presence detection or protection zone violations using secure switches or light arrays to immediately shut down the "risk." For this purpose, the safety signals are detected by the "yellow" safety modules and transmitted via "PROFIsafe" to the fail-safe PLC for further processing. The result is then executed via safe actuator (e.g., output module or controller).

The unique characteristic safety values of the WAGO modules facilitate calculation of the final safety function up to Cat. 4/PLe according to EN 13849, or SIL3 according to EN 62061 or IEC 61511.



I/O System – 750 and 753 Series, Functional Safety

Contents

Function	Description	Item Number		Page
		Standard	Pluggable	
Fail-Safe Digital Inputs PROFIsafe	Fail-Safe Digital Input, 8 Channels; 24 VDC; PROFIsafe	750-660/000-001		302
	Fail-Safe Digital Input, 4 Channels; 24 VDC; PROFIsafe V 2.0 iPar	750-661/000-003	753-661/000-003	303
	Fail-Safe Digital Input, 8 Channels; 24 VDC; PROFIsafe V 2.0 iPar	750-662/000-003	753-662/000-003	303
Fail-Safe Digital Inputs/Outputs PROFIsafe	Fail-Safe Digital Input/Output, 4/4 Channels; 24 VDC; 0.5 A; PROFIsafe	750-665/000-001		302
	Fail-Safe Digital Input/Output, 4/2 Channels; 24 VDC; 10 A; PROFIsafe V 2.0 iPar	750-666/000-003	753-666/000-003	304
	Fail-Safe Digital Input/Output, 4/4 Channels; 24 VDC; 2 A; PROFIsafe V 2.0 iPar	750-667/000-003	753-667/000-003	304
	Fail-Safe Digital Input/Relay Output, 4/4 Channels; 48 VAC/60 VDC; 6 A; PROFIsafe V 2.0 iPar	750-669/000-003		306
Intrinsically Safe Digital Input for Functional Safety	Intrinsically Safe 4-Channel Digital Input; 24 VDC; PROFIsafe V 2.0 iPar	750-663/000-003		307
	Classification of binary 24 V interfaces with testing in the field of functional safety according to position paper CB24I of ZVEI (German Electrical and Electronic Manufacturer's Association)			298
Supply Modules Ex i 	The intrinsically safe I/O module with inputs for functional safety (750-663/000-003) must only be operated using an Ex i 24 VDC power supply (e.g., 750-606, 750-625/000-001)! General information (e.g., installation regulations) on explosion protection is available in the WAGO-I/O-SYSTEM 750 manuals!			
	Supply Module; 24 VDC; Diagnostics; Intrinsically safe	750-606		310
	Power Supply; 24 VDC; Intrinsically safe	750-625/000-001		310
Filter Modules 	The mixed operation of safe and conventional I/O modules streamlines system configuration. For increased electromagnetic immunity (EMC standard), WAGO offers compact power supply filter modules (see Section 4.10). Specific power supply features must be considered, which are described in the corresponding manuals.			
	Field Supply Filter (Surge); 24 VDC; Higher isolation	750-624/020-000		334
	Supply Filter; 24 VDC; Higher isolation	750-626/020-000		336

Position Paper CB24I of the German Electrical and Electronic Manufacturer's Association (ZVEI)

Fail-safe digital interfaces differ from conventional digital interfaces through higher safety testing for both inputs and outputs. They include dynamic digital interfaces of different characteristics and functions. At first glance, the combination of inputs to outputs results in a variety of possible variants due to the different applications.

For this reason, ZVEI has issued the Position Paper CB24i in order to increase functional safety and simplify engineering processes.

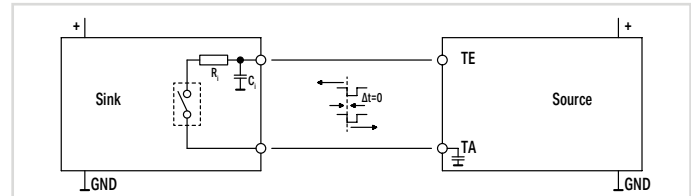
The purpose of this paper is to:

- describe terms
- define characteristics of interface types
- specify product information (technical data) per interface type to be supplied by the manufacturer.

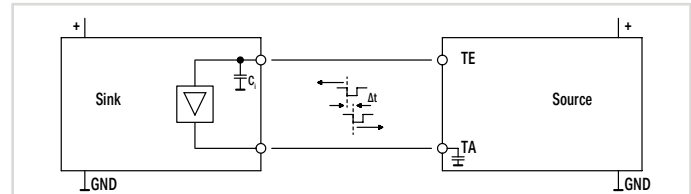
This paper provides a technical description for all interface types. No safety-related assessment is made.

The variety of possible combinations was divided into just four interface types:

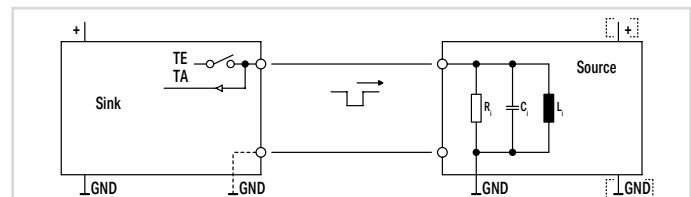
For both interface types C and D, four "performance" classes are also available to match the time requirements of the test pulses.



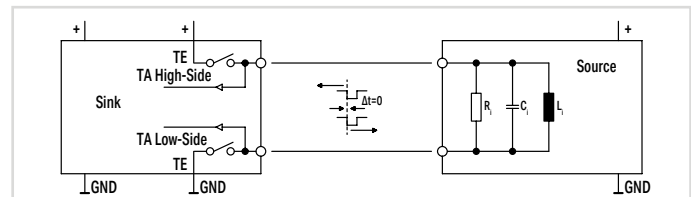
Interface type A



Interface type B



Interface type C



Interface type D

The identifying key has the following structure:

Source/Sink	Interface type (and class)	Additional measures "M"	Sink/Source	Suitable interface type (and class)	Suitable interface type (and class)	Suitable interface type (and class)

The first position describes the interface type and, if necessary, the class of the product. The second position indicates if additional measures are necessary. Next, the interface type suitable for this product is specified. Up to three interface types can be indicated. A row can only contain interface types of the same kind. Depending on the product, several identifying keys may also be used.

Examples:

a) Manufacturer information for a source of interface type C/class 2 (e.g., sensor):

Source	C2		Sink	C1	C2	

Explanation: In this case, a source of type C2 is compatible with a sink of type C1 and also with a sink of type C2.

b) Manufacturer information for a sink of interface type C/class 2 (e.g., safety PLC):

Sink	C2		Source		C2	C3

Explanation: In this case, a sink of type C2 is compatible with a source of type C2 and also with a sink of type C3.

c) Manufacturer information for a sink of interface type A (e.g., safety evaluation unit):

Sink	A	M	Source	A		

Explanation: In this case, a sink of type A is compatible with a source of type A subject to "M" additional measures.

Complete information can be found in the ZVEI Position Paper CB24i.

This position paper is available for download in German and English via the ZVEI website.

Classification of Binary 24 V Interfaces with Testing in the Field of Functional Safety per ZVEI Position Paper CB24I

WAGO – Functional Safety		Identifying Key per ZVEI Position Paper CB24I											
		Source/Sink	Interface type	Additional measures "M"	Measures			Sink/Source	Suitable interface type	Suitable interface type	Suitable interface type	Suitable interface type	
Description	Item No.				Parameterize filter time, short circuit test	Parameterize/switch off test pulse duration	Protected wiring						
Inputs													
Fail-Safe Digital Input, 8 Channels; 24 VDC; PROFIsafe	750-660/000-001	Sink	A	-				Source	A	-	-	-	
		Sink	C0	M	x			Source	C0	C1	C2	C3	
Fail-Safe Digital Input, 4 Channels; 24 VDC; PROFIsafe V 2.0 iPar	750-661/000-003	Sink	A	-				Source	A	-	-	-	
		Sink	C0	M	x			Source	C0	C1	C2	C3	
Fail-Safe Digital Input, 4 Channels; 24 VDC; PROFIsafe V 2.0 iPar	753-661/000-003	Sink	A	-				Source	A	-	-	-	
		Sink	C0	M	x			Source	C0	C1	C2	C3	
Fail-Safe Digital Input, 8 Channels; 24 VDC; PROFIsafe V 2.0 iPar	750-662/000-003	Sink	A	-				Source	A	-	-	-	
		Sink	C0	M	x			Source	C0	C1	C2	C3	
Fail-Safe Digital Input, 8 Channels; 24 VDC; PROFIsafe V 2.0 iPar	753-662/000-003	Sink	A	-				Source	A	-	-	-	
		Sink	C0	M	x			Source	C0	C1	C2	C3	
Inputs/Outputs													
Fail-Safe Digital Input/Output, 4/4 Channels; 24 VDC; 0.5 A; PROFIsafe	750-665/000-001	Sink	A	M				Source	A	-	-	-	
		Source	C0	M				Sink	C0	-	-	-	
Fail-Safe Digital Input/Output, 4/2 Channels; 24 VDC; 10 A; PROFIsafe V 2.0 iPar	750-666/000-003	Sink	A	-				Source	A	-	-	-	
		Sink	C0	M	x			Source	C0	C1	C2	C3	
		Source	C0	M		x		Sink	C0	C1	C2	C3	
		Source	D0	M		x		Sink	D0	D1	D2	D3	
Fail-Safe Digital Input/Output, 4/2 Channels; 24 VDC; 10 A; PROFIsafe V 2.0 iPar	753-666/000-003	Sink	A	-				Source	A	-	-	-	
		Sink	C0	M	x			Source	C0	C1	C2	C3	
		Source	C0	M		x		Sink	C0	C1	C2	C3	
		Source	D0	M		x		Sink	D0	D1	D2	D3	
Fail-Safe Digital Input/Output, 4/4 Channels; 24 VDC; 2 A; PROFIsafe V 2.0 iPar	750-667/000-003	Sink	A	-				Source	A	-	-	-	
		Sink	C0	M	x			Source	C0	C1	C2	C3	
		Source	C0	M		x		Sink	C0	C1	C2	C3	
		Source	D0	M		x		Sink	D0	D1	D2	D3	
Fail-Safe Digital Input/Output, 4/4 Channels; 24 VDC; 2 A; PROFIsafe V 2.0 iPar	753-667/000-003	Sink	A	-				Source	A	-	-	-	
		Sink	C0	M	x			Source	C0	C1	C2	C3	
		Source	C0	M		x		Sink	C0	C1	C2	C3	
		Source	D0	M		x		Sink	D0	D1	D2	D3	
Fail-Safe Digital Input/Relay Output, 4/4 Channels; 48 VAC/60 VDC; 6 A; PROFIsafe V 2.0 iPar	750-669/000-003	Sink	A	-				Source	A	-	-	-	
		Sink	C0	M	x			Source	C0	C1	C2	C3	
		Source	A	-				Sink	A	-	-	-	
		Source	C0	M			x	Sink	C0	C1	C2	C3	
Intrinsically Safe Input													
Intrinsically Safe 4-Channel Digital Input; 24 VDC; PROFIsafe V 2.0 iPar	750-663/000-003	Sink	A	-				Source	A	-	-	-	
		Sink	C0	M	x			Source	C0	C1	C2	C3	

Classification of Binary 24 V Interfaces with Testing in the Field of Functional Safety per ZVEI Position Paper CB24I

Interface Type A – Sink	Item: 75x-661/000-003; 75x-662/000-003; 75x-666/000-003; 75x-667/000-003; 750-669/000-003			Item: 75x-663/000-003		
Parameter	Min.	Typ. (24 V)	Max.	Min.	Typ. (24 V)	Max.
Input current I_i (in the ON state)	>2 mA	-	<9 mA	>2 mA	3 mA	<9 mA
Output voltage U_i	Field power supply -0.2 V	-	-	Field power supply -0.2 V	-	-
Input capacitance C_i	-	-	12 nF	-	-	12 nF
Additional measure "M"	• Parameterize filter time; activate short circuit test			• Parameterize filter time; activate short circuit test		

Interface Type C – Sink, Class C0	Item: 75x-661/000-003; 75x-662/000-003; 75x-666/000-003; 75x-667/000-003; 750-669/000-003			Item: 75x-663/000-003		
Parameter	Min.	Typ. (24 V)	Max.	Min.	Typ. (24 V)	Max.
Test pulse duration t_i	0.5 ms	-	200 ms	0.5 ms	-	200 ms
Test pulse interval T	18 ms	42 ms	1230 ms	18 ms	42 ms	1230 ms
Input resistance R	-	3.6 k Ω	8.5 k Ω	-	2.4 k Ω	8.5 k Ω
Input capacitance C_L	-	-	12 nF	-	-	12 nF
Inductance L_L	-	-	-	-	-	-
Additional measure "M"	• Parameterize filter time • Deactivate short circuit test			• Parameterize filter time • Deactivate short circuit test		

Interface Type C – Sink, Class C1	Item: 75x-661/000-003; 75x-662/000-003; 75x-666/000-003; 75x-667/000-003; 750-669/000-003			Item: 75x-663/000-003		
Parameter	Min.	Typ. (24 V)	Max.	Min.	Typ. (24 V)	Max.
Test pulse duration t_i	2 ms	-	200 ms	2 ms	-	200 ms
Test pulse interval T	18 ms	42 ms	1230 ms	18 ms	42 ms	1230 ms
Input resistance R	-	3.6 k Ω	8.5 k Ω	-	2.4 k Ω	8.5 k Ω
Input capacitance C_L	-	-	12 nF	-	-	12 nF
Inductance L_L	-	-	-	-	-	-
Additional measure "M"	• Parameterize filter time to at least 2 ms • Deactivate short circuit test			• Parameterize filter time to at least 2 ms • Deactivate short circuit test		

Interface Type C – Sink, Class C2	Item: 75x-661/000-003; 75x-662/000-003; 75x-666/000-003; 75x-667/000-003; 750-669/000-003			Item: 75x-663/000-003		
Parameter	Min.	Typ. (24 V)	Max.	Min.	Typ. (24 V)	Max.
Test pulse duration t_i	1 ms	-	200 ms	1 ms	-	200 ms
Test pulse interval T	18 ms	42 ms	1230 ms	18 ms	42 ms	1230 ms
Input resistance R	-	3.6 k Ω	8.5 k Ω	-	2.4 k Ω	8.5 k Ω
Input capacitance C_L	-	-	12 nF	-	-	12 nF
Inductance L_L	-	-	-	-	-	-
Additional measure "M"	• Parameterize filter time to at least 1 ms • Deactivate short circuit test			• Parameterize filter time to at least 1 ms • Deactivate short circuit test		

Interface Type C – Sink, Class C3	Item: 75x-661/000-003; 75x-662/000-003; 75x-666/000-003; 75x-667/000-003; 750-669/000-003			Item: 75x-663/000-003		
Parameter	Min.	Typ. (24 V)	Max.	Min.	Typ. (24 V)	Max.
Test pulse duration t_i	0.5 ms	-	200 ms	0.5 ms	-	200 ms
Test pulse interval T	18 ms	42 ms	1230 ms	18 ms	42 ms	1230 ms
Input resistance R	-	3.6 k Ω	8.5 k Ω	-	2.4 k Ω	8.5 k Ω
Input capacitance C_L	-	-	12 nF	-	-	12 nF
Inductance L_L	-	-	-	-	-	-
Additional measure "M"	• Parameterize filter time to at least 0.5 ms • Deactivate short circuit test			• Parameterize filter time to at least 0.5 ms • Deactivate short circuit test		

Classification of Binary 24 V Interfaces with Testing in the Field of Functional Safety per ZVEI Position Paper CB24I

Interface Type A – Source	Item: 750-669/000-003		
Parameter	Min.	Typ.	Max.
Switching current I _i	3 mA	-	6 A per contact
Switching voltage U _i	10 V	-	60 VDC / 48 VAC
Internal resistance R _i (in the switched state)	-	-	100 mΩ
Load capacitance C _L	-	-	-
Load inductance L _L	-	-	1.2 H
Potential-free	Yes		

Interface Type C – Source, Class C0	Item: 75x-666/000-003			Item: 75x-667/000-003		
Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.
Test pulse duration t_i	2 ms	-	500 ms	1 ms	-	500 ms
Leakage current $I_{Leakage}$ of the output in the OFF state	-	-	<1 mA	-	-	1.2 mA
Nominal current I_N of the output in the ON state	-	-	10 A	20 mA	2 A	2.4 A
Capacitive load C_L	-	-	10,000 μ F	-	-	2.2 μ F
Inductive load L_L	-	-	1.2 H	-	-	1.2 H
Additional measure “M”	• Parameterize test pulse duration • Parameterize output tolerance time			• Parameterize test pulse duration		

Interface Type D – Source, Class D0	Item: 75x-666/000-003			Item: 75x-667/000-003		
Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.
Test pulse duration t_i	2 ms	-	500 ms	1 ms	-	500 ms
Leakage current $I_{Leakage}$ of the output in the OFF state	-	-	<1 mA	-	-	1.2 mA
Nominal current I_N of the output in the ON state	-	-	10 A	20 mA	2 A	2.4 A
Capacitive load C_L	-	-	10,000 μ F	-	-	2.2 μ F
Inductive load L_L	-	-	1.2 H	-	-	1.2 H
Additional measure “M”	• Parameterize test pulse duration • Parameterize output tolerance time			• Parameterize test pulse duration		

Interface Type D – Source, Class D1	Item: 75x-667/000-003		
Parameter	Min.	Typ.	Max.
Test pulse duration t_i	-	-	1 ms
Leakage current $I_{Leakage}$ of the output in the OFF state	-	-	1.2 mA
Nominal current I_N of the output in the ON state	20 mA	2 A	2.4 A
Capacitive load C_L	-	-	2.2 μ F
Inductive load L_L	-	-	1.2 H
Additional measure “M”	• Parameterize test pulse duration to 1 ms		

Interface Type D – Source, Class D1, D2, D3	Item: 75x-666/000-003			Item: 75x-667/000-003		
Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.
Test pulse duration t_i	-	-	-	-	-	-
Leakage current $I_{Leakage}$ of the output in the OFF state	-	-	<1 mA	-	-	1.2 mA
Nominal current I_N of the output in the ON state	20 mA	2 A	10 A	20 mA	2 A	2.4 A
Capacitive load C_L	-	-	10,000 μ F	-	-	2.2 μ F
Inductive load L_L	-	-	1.2 H	-	-	1.2 H
Additional measure “M”	• Parameterize test pulse duration to 0 ms (off) • Parameterize output tolerance time • Program safety application for automatic test: Switch off the output once every 8 h • Parameterize output configuration			• Parameterize test pulse duration to 0 ms (off) • Program safety application for automatic test: Switch off the output once every 8 h		

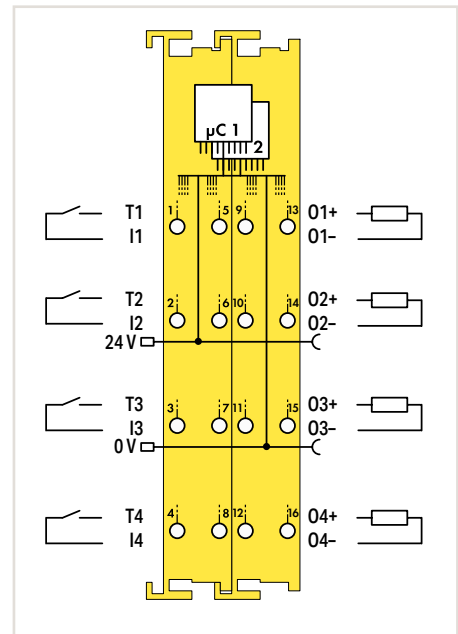
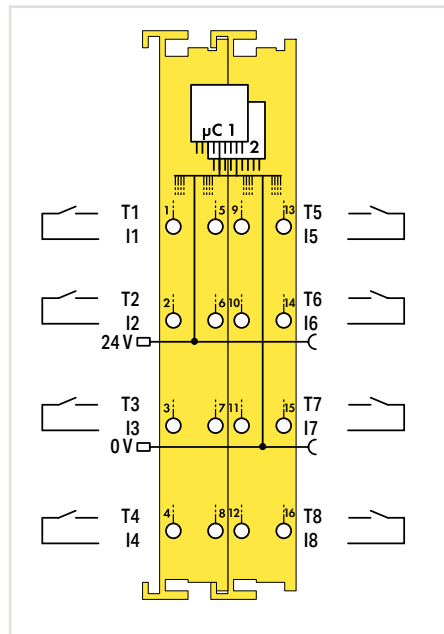
Fail-Safe Digital Input or Digital Input/Output; 24 VDC; PROFIsafe



Figure: 750-660/000-001



Figure: 750-665/000-001



Item Description	Fail-Safe Digital Input, 8 Channels; 24 VDC; PROFIsafe	Fail-Safe Digital Input/Output, 4/4 Channels; 24 VDC; 0.5 A; PROFIsafe
Version	Standard	Standard
Item No.	750-660/000-001	750-665/000-001
Order Text	8FDI; 24 VDC; PROFIsafe	4FDI/4FDO; 24 VDC; 0.5A; PROFIsafe
Technical Data		
Number of digital inputs	8	4
Achievable safety classes	8 x Cat. 2/SIL 2 or 4 x Cat. 4/SIL 3	4 x Cat. 2/SIL 2 or 2 x Cat. 4/SIL 3
Protocol	PROFIsafe V1.3	PROFIsafe V1.3
Configuration options	PROFIsafe address adjustable via DIP switch or engineering software	PROFIsafe address adjustable via DIP switch or engineering software
Sensor connection	Fail-safe input with test pulse	Fail-safe input with test pulse
Input characteristic	Clock sensitive	Clock sensitive
Input current per channel for signal (1) typ.	2.2 mA	2.2 mA
Number of digital outputs		4
Output circuit design		Power outputs
Actuator connection		Fail-safe output with test pulse
Switching frequency (max.) with load type		5 Hz, ohmic load; 0.1 Hz, inductive load per IEC 947-5-1, DC 13; 5 Hz, inductive load per IEC 947-5-1, DC 13, with recovery diodes
Supply voltage (field)	24 VDC (–15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)	24 VDC (–15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Proof test interval	10 years	10 years
Supply voltage (system)	5 VDC; via data contacts	5 VDC; via data contacts
Current consumption – system supply (5 V)	40 mA	55 mA
Surrounding air temperature (operation)	0 ... +55 °C	0 ... +55 °C
Dimensions W x H x D	24 x 70.9 x 100 mm	24 x 70.9 x 100 mm
Safety Standards	IEC 61508, parts 1-7, 1998 and 2000; EN 954-1 Cat. 4	IEC 61508, parts 1-7, 1998 and 2000; EN 954-1 Cat. 4
Approvals	CE; OrdLoc/HazLoc; ATEX/IECEx	CE; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-660/000-001	wago.com/750-665/000-001

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 522 or www.wago.com

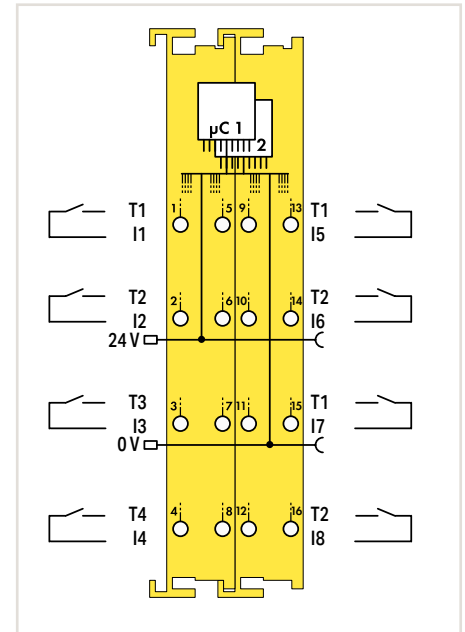
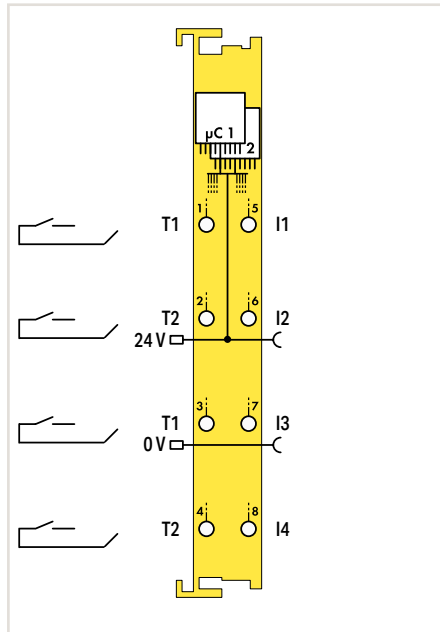
Fail-Safe Digital Input; 24 VDC; PROFIsafe V 2.0 iPar



Figure: 750-661/000-003



Figure: 750-662/000-003



Item Description		Fail-Safe Digital Input, 4 Channels; 24 VDC; PROFIsafe V 2.0 iPar		Fail-Safe Digital Input, 8 Channels; 24 VDC; PROFIsafe V 2.0 iPar	
Version		Standard	Pluggable (delivery without connector)	Standard	Pluggable (delivery without connector)
Item No.		750-661/000-003	753-661/000-003	750-662/000-003	753-662/000-003
Order Text		4FDI; 24 VDC; PROFIsafe V2 iPar	4FDI; 24 VDC; PROFIsafe V2 iPar	8FDI; 24 VDC; PROFIsafe V2 iPar	8FDI; 24 VDC; PROFIsafe V2 iPar
Technical Data					
Pluggable connector			•		•
Number of digital inputs		4		8	
Achievable safety classes		SIL 3; Cat. 4, PL e		SIL 3; Cat. 4, PL e	
Protocol		PROFIsafe V2		PROFIsafe V2	
Configuration options		PROFIsafe address adjustable via DIP switch or engineering software		PROFIsafe address adjustable via DIP switch or engineering software	
Sensor connection		Fail-safe input with test pulse		Fail-safe input with test pulse	
Input characteristic		Clock sensitive		Clock sensitive	
Input current per channel for signal (1) typ.		2.2 mA		2.2 mA	
Input characteristic		Type 1		Type 1	
Signal frequency (max.)		50 Hz		50 Hz	
Supply voltage (field)		24 VDC (–15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)		24 VDC (–15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)	
Supply voltage (system)		5 VDC; via data contacts		5 VDC; via data contacts	
Current consumption – system supply (5 V)		145 mA		148 mA	
Surrounding air temperature (operation)		0 ... +55 °C		0 ... +55 °C	
Dimensions W x H x D		24 x 70.9 x 100 mm		24 x 70.9 x 100 mm	
Safety Standards		IEC 61508, Parts 1-7, Edition 2: 2010; EN ISO 13849-1: 2008 + AC: 2009; EN 62061		IEC 61508, Parts 1-7, Edition 2: 2010; EN ISO 13849-1: 2008 + AC: 2009; EN 62061	
Approvals		CE; Marine; OrdLoc/HazLoc; ATEX/IECEx		CE; Marine; OrdLoc/HazLoc; ATEX/IECEx	
Data sheet and further information, see:		wago.com/ 750-661/000-003		wago.com/ 750-662/000-003	
Accessories		Item No.		Item No.	
Pluggable connector, safety		753-120		753-120	
Coding keys		753-150		753-150	

Support for iPar servers allows automatic parameter restoration when replacing an I/O module.

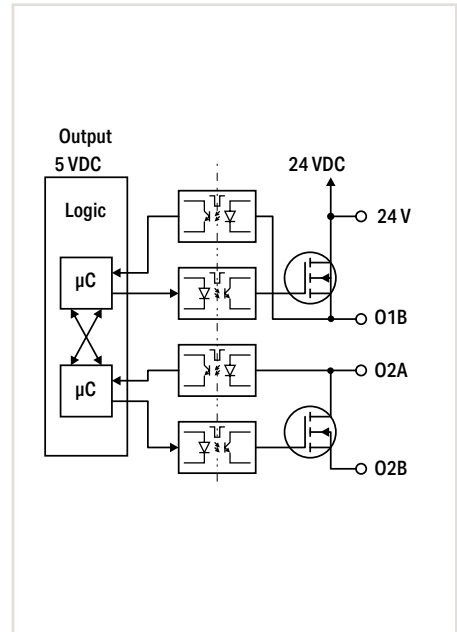
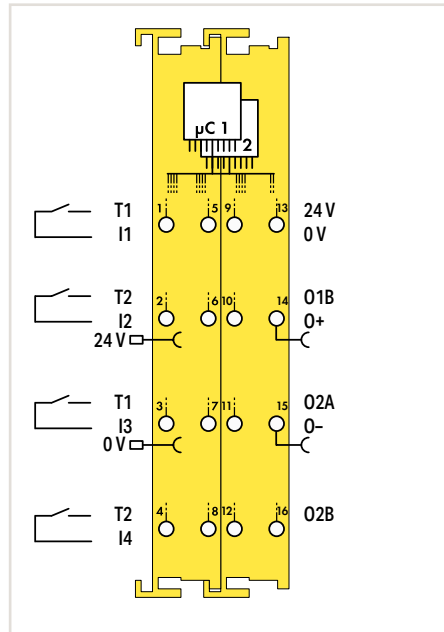
Fail-Safe Digital Input/Output, 4/2 Channels; 24 VDC; 10 A; PROFIsafe V 2.0 iPar



Figure: 750-666/000-003



Figure: 753-666/000-003



5.8

Item Description	
Version	
Item No.	
Order Text	
Technical Data	
Pluggable connector	•
Number of digital inputs	4
Achievable safety classes	SIL 3; Cat. 4, PL e
Protocol	PROFIsafe V2
Configuration options	PROFIsafe address adjustable via DIP switch or engineering software
Sensor connection	Fail-safe input with test pulse
Input characteristic	Clock sensitive
Input current per channel for signal (1) typ.	2.2 mA
Signal frequency (max.)	50 Hz
Number of digital outputs	2
Output circuit design	Power outputs
Actuator connection	2 x (fail-safe output with test pulse)
Output current per channel	10 A
Output current (module) max.	20 A (single operation)
Protection against incorrect wiring	Short-circuit-protected
Switching frequency (max.) with load type	50 Hz, ohmic load; 0.1 Hz, inductive load
Supply voltage (field)	24 VDC (–15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Supply voltage (system)	5 VDC; via data contacts
Current consumption – system supply (5 V)	190 mA
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	24 x 70.9 x 100 mm
Safety Standards	
IEC 61508, Parts 1-7, Edition 2: 2010; EN ISO 13849-1: 2008 + AC: 2009; EN 62061	
Approvals	
CE; Marine; OrdLoc/HazLoc; ATEX/IECEX	
Data sheet and further information, see:	
wago.com/ 750-666/000-003	wago.com/ 753-666/000-003
Accessories	
Pluggable connector, safety	Item No. 753-120
Coding keys	753-150
„ Approvals and corresponding ratings, see page 522 or www.wago.com	

This module enables a fail-safe 2-channel switch-off (single failure protection) when the power outputs are used in a bipolar configuration. If a fail-safe 1-channel switch-off is adequate, two independent switching channels are available.

The module is capable of safely shutting off the supply voltage of entire actuator groups which are connected to the standard modules arranged to the right.

The 2-channel circuit types P-M and P-P as well as the 1-channel circuit types P, P or P, M are available.

Support for iPar servers allows automatic parameter restoration when replacing an I/O module.

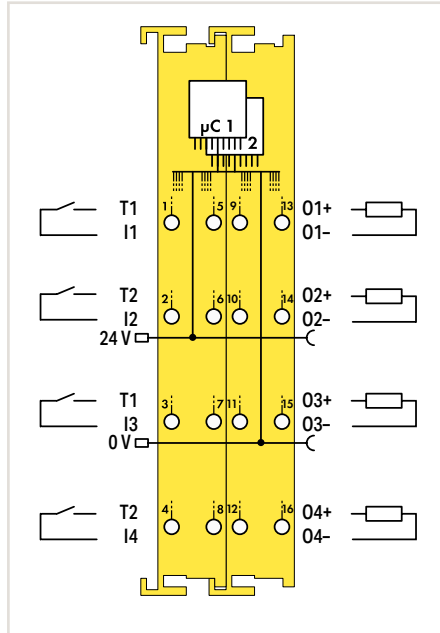
Fail-Safe Digital Input/Output, 4/4 Channels; 24 VDC; 2 A; PROFIsafe V 2.0 iPar



Figure: 750-667/000-003



Figure: 753-667/000-003



Item Description	Fail-Safe Digital Input/Output, 4/4 Channels; 24 VDC; 2 A; PROFIsafe V 2.0 iPar	
Version	Standard	Pluggable (delivery without connector)
Item No.	750-667/000-003	753-667/000-003
Order Text	4FDI/4FDO; 24 VDC; 2 A; PROFIsafe V2 iPar	4FDI/4FDO; 24 VDC; 2 A; PROFIsafe V2 iPar

Technical Data	
Pluggable connector	●
Number of digital inputs	4
Achievable safety classes	SIL 3; Cat. 4, PL e
Protocol	PROFIsafe V2
Configuration options	PROFIsafe address adjustable via DIP switch or engineering software
Sensor connection	Fail-safe input with test pulse
Input characteristic	Clock sensitive
Input current per channel for signal (1) typ.	2.2 mA
Signal frequency (max.)	50 Hz
Number of digital outputs	4
Output circuit design	Power outputs
Actuator connection	4 x (fail-safe output with test pulse)
Output current per channel	2 A
Output current (module) max.	8 A
Protection against incorrect wiring	Short-circuit-protected
Switching frequency (max.) with load type	50 Hz, ohmic load; 0.1 Hz, inductive load
Supply voltage (field)	24 VDC (-15 ... +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Supply voltage (system)	5 VDC; via data contacts
Current consumption – system supply (5 V)	180 mA
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	24 x 70.9 x 100 mm
Safety Standards	IEC 61508, Parts 1-7, Edition 2: 2010; EN ISO 13849-1: 2008 + AC: 2009; EN 62061
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-667/000-003 wago.com/753-667/000-003

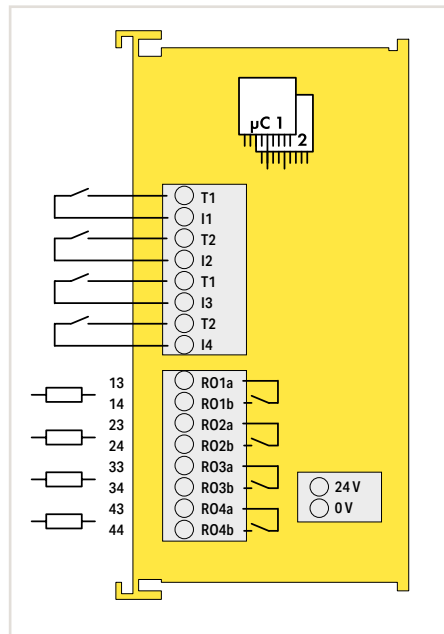
Accessories	Item No.
Pluggable connector, safety	753-120
Coding keys	753-150

The 2-channel circuit types P-M and P-P as well as the 1-channel circuit types P, P or P, M are available at each output. When two 1-channel P circuits are used, Categories 4/PL e or SIL3 are possible.

Support for iPar servers allows automatic parameter restoration when replacing an I/O module.

5.8

Fail-Safe Digital Input/Relay Output, 4/4 Channels; 48 VAC/60 VDC; 6 A; PROFIsafe V 2.0 iPar



Support for iPar servers allows automatic parameter restoration when replacing an I/O module.

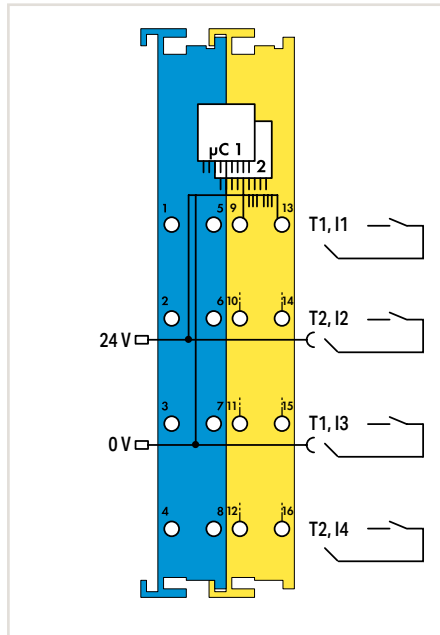
5.8

Item Description		Fail-Safe Digital Input/Relay Output, 4/4 Channels; 48 VAC/60 VDC; 6 A; PROFIsafe V 2.0 iPar
Item No.		750-669/000-003
Order Text		4FDI/4FRO; 48VAC/ 60VDC; 6A; PROFIsafe V2 iPar
Technical Data		
Number of digital inputs		4
Achievable safety classes		SIL 3; Cat. 4, PL e
Protocol		PROFIsafe V2
Configuration options		PROFIsafe address adjustable via DIP switch or engineering software
Sensor connection		4 x (fail-safe input with test pulse)
Input characteristic		Clock sensitive
Input current per channel for signal (1) typ.		2.2 mA
Input characteristic		Type 1
Signal frequency (max.)		50 Hz
Number of digital outputs		4
Output circuit design		Relay outputs
Actuator connection		4 x (fail-safe output with test pulse)
Load switching voltage range		5 ... 60 VDC (SELV/PELV); 5 ... 48 VAC
Isolation voltage		Relay outputs: 48 VAC; 60 VDC
Switching current (min.)		3 mA
Output current per channel		6 A
Output current (module) max.		24 A
Switching delay		50 ms
Supply voltage (field)		24 VDC via wiring level (push-in CAGE CLAMP® connector)
Supply voltage (system)		5 VDC; via data contacts
Current consumption – system supply (5 V)		120 mA
Surrounding air temperature (operation)		0 ... +55 °C
Dimensions W x H x D		24 x 70.9 x 100 mm
Safety Standards		IEC 61508, Parts 1-7, Edition 2: 2010; EN ISO 13849-1: 2008 + AC: 2009; EN 62061
Approvals		CE, UKCA
Data sheet and further information, see:		wago.com/750-669/000-003

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 522 or www.wago.com

Intrinsically Safe 4-Channel Digital Input; 24 VDC; PROFIsafe V 2.0 iPar



Item Description	
Item No.	Intrinsically Safe 4-Channel Digital Input; 24 VDC; PROFIsafe V 2.0 iPar
Order Text	750-663/000-003
	4F-Ex i DI; 24 VDC; PROFIsafe V2 iPar
Technical Data	
Protocol	PROFIsafe V2
Configuration options	PROFIsafe address adjustable via DIP switch or engineering software
Sensor inputs	I4; clock sensitive to T1 ... T2
Input current (typ.)	3 mA
Input frequency (max.)	50 Hz
Input filter (digital)	0 ... 200 ms, parameterizable in steps
Clock outputs	2
Supply voltage (field)	24 VDC (Ex i power supply: $U_o = \text{max. } 27.3 \text{ V}$); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption, field supply (module with no external load)	20 mA
Current consumption – system supply (5 V)	145 mA
Isolation	$U_m = 375 \text{ V system/supply}$
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	24 x 67.8 x 100 mm
Functional Safety	
Achievable risk reduction	SIL 3 per IEC 61508:2010; SIL 3 per IEC 61511:2005; SIL 3 per IEC 62061:2005; Cat. 4, PL e per EN ISO 13849:2008
Safety standards	IEC 61508; IEC 62061; EN ISO 13849; IEC 61511
Explosion Protection	
Safety-relevant data (circuit)	$U_o = 27.3 \text{ V}$; $I_o = 23 \text{ mA}$; $P_o = 157 \text{ mW}$; Linear characteristic curve
Reactances Ex ia IIC	$L_o = 61 \text{ mH}$; $C_o = 64 \text{ nF}$
Reactances Ex ia IIB	$L_o = 100 \text{ mH}$; $C_o = 552 \text{ nF}$
Reactances Ex ia IIA	$L_o = 100 \text{ mH}$; $C_o = 2.28 \text{ µF}$
Reactances Ex ia I	$L_o = 100 \text{ mH}$; $C_o = 2.95 \text{ µF}$
Ex guideline	EN IEC 60079-0, -7, -11
Approvals	CE; Marine; OrdLoc/HazLoc/AEx; ATEX/IECEx; INMETRO
Marking	ATEX/IECEx: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc II (1) D [Ex ia Da] IIC I (M1) [Ex ia Ma] I
Data sheet and further information, see:	wago.com/750-663/000-003

This module combines intrinsic safety with functional safety and was specifically developed for reliable acquisition from potential-free, contact-based emergency stop switches, safety interlock switches, mode selectors and safety sensors that are located in hazardous environments.

Thus, safety functions with fail-safe sensors from Ex Zones 0 and 1 can be implemented.

Support for iPar servers allows automatic parameter restoration when replacing an I/O module.

Reactances without accounting for the concurrence of capacitance (C_o) and inductance (L_o)

Intrinsically Safe Modules Ex i

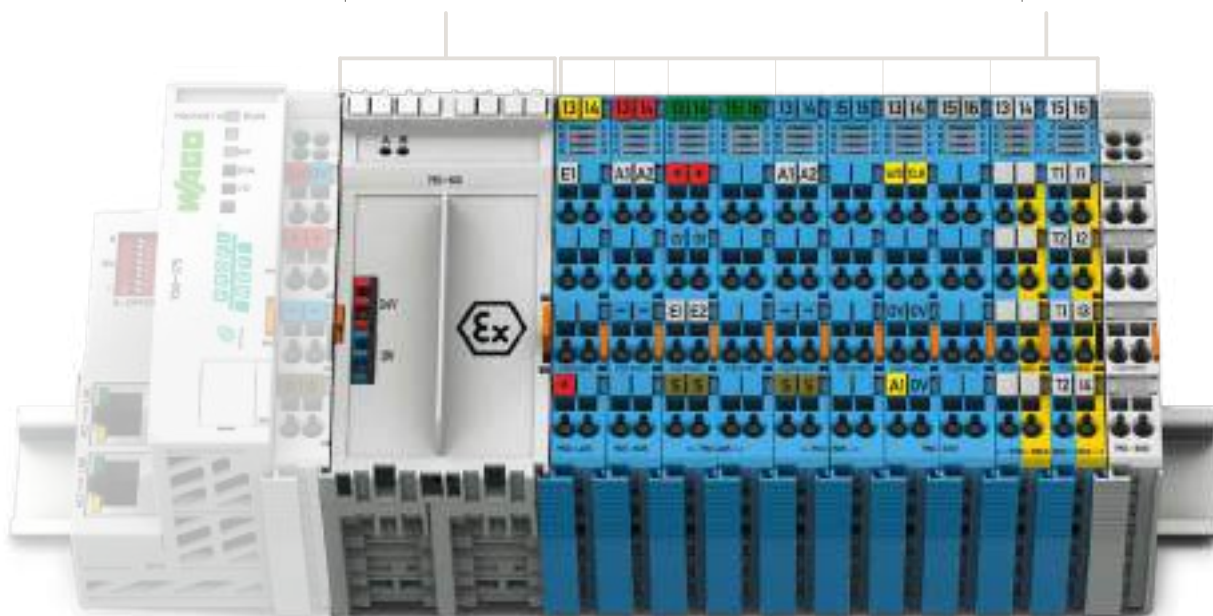


Specialty Housing

Dimensions W x H x D	48 x 70.9 x 100
Height from upper-edge of DIN-rail	63.7 mm
Connection technology	CAGE CLAMP®
Conductor cross section	0.08 ... 1.5 mm² / 28 ... 16 AWG
Strip length	5 ... 6 mm / 0.22 inch

Housing Design (750 Series)

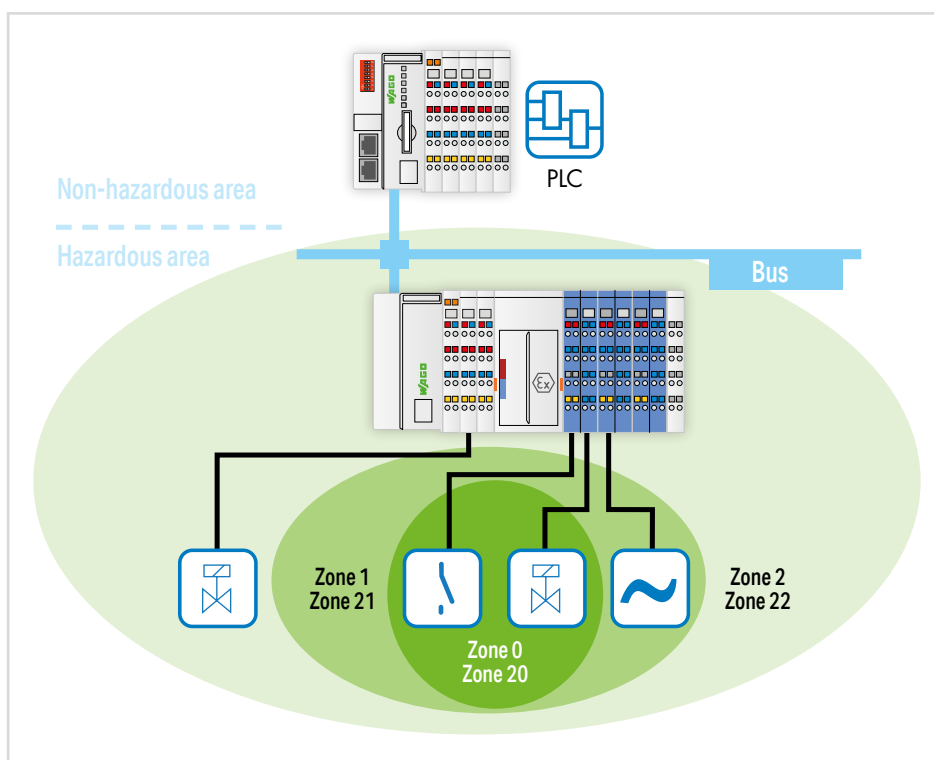
Dimensions W x H x D	12 or 24 x 67.8 x 100 mm
Height from upper-edge of DIN-rail	60.6 mm
Connection technology	CAGE CLAMP®
Conductor cross section	0.08 ... 2.5 mm² / 28 ... 14 AWG
Strip length	8 ... 9 mm / 0.33 inch



Use in Hazardous Areas

In many plants across the chemical and petrochemical industries, as well as in the production and process automation sectors, installations are operated that process explosive gas- or dust-air mixtures. This is why electrical equipment must be explosion-proof in order to avoid injuries to personnel and damage to equipment.

The modules within the WAGO-I/O-SYSTEM 750 are designed for use in both non-hazardous and hazardous areas. The direct application of fieldbus technology in potentially explosive areas is typically resource-intensive. When used in hazardous areas of Zone 2/22, the WAGO-I/O-SYSTEM 750 offers a safe, easy and economical connection to the sensors and actuators of Zones 0/20 and 1/21. The "blue" Ex i I/O modules were specially developed for this purpose. They form an intrinsically safe section that can be integrated into a standard fieldbus node, offering all the advantages of state-of-the-art fieldbus technology. The WAGO-I/O-SYSTEM 750 is also approved for mining applications.



I/O System – 750 and 753 Series; Intrinsically Safe Modules Ex i

Contents

Function	Description	Item Number	Page
Power Supplies Ex i	Power Supply; 24 VDC; Diagnostics; Intrinsically safe	750-606*	310
	Power Supply; 24 VDC; Intrinsically safe	750-625/000-001	310
Digital Inputs Ex i for Proximity Sensors per EN 60947-5-6	1-Channel Digital Input; NAMUR; Intrinsically safe	750-435	311
	2-Channel Digital Input; NAMUR; Intrinsically safe	750-438	311
	Intrinsically Safe 4-Channel Digital Input; 24 VDC; PROFIsafe V 2.0 iPar	750-663/000-003	312
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Digital Outputs Ex i	2-Channel Digital Output; 24 VDC; Intrinsically safe	750-535*	314
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	2-Channel Analog Input; RTD; Intrinsically safe	750-481/003-000*	318
	2-Channel Analog Input; TC; Intrinsically safe	750-487/003-000	318
Analog Outputs Ex i	2-Channel Analog Output; 0 ... 20 mA; Intrinsically safe	750-585*	319
	2-Channel Analog Output; 4 ... 20 mA; Intrinsically safe	750-586	319
Function Module Ex i	Up/Down Counter; Intrinsically safe	750-633*	320
*This module is also available as a variant of the 750 XTR Series.		See Section 6	

5.9
Ex i

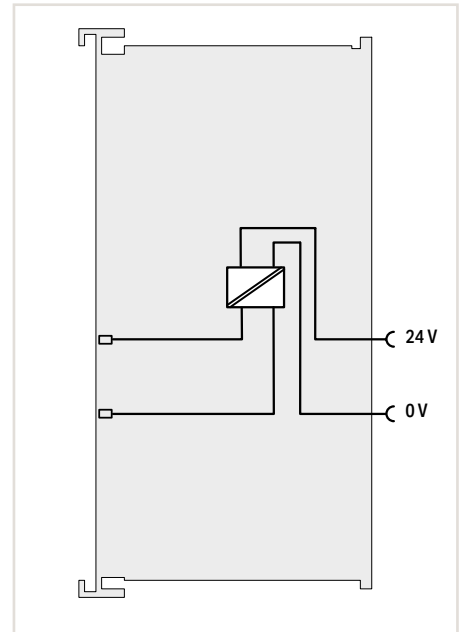
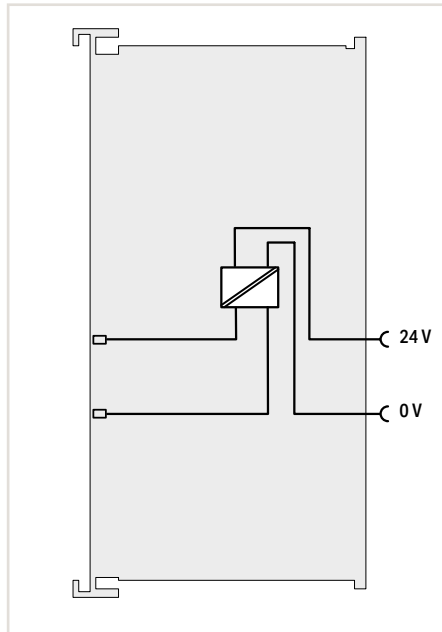


I/O System –
750 XTR Series

Power Supply; Ex i



Figure: 750-606



Item Description	Power Supply; 24 VDC; Diagnostics; Intrinsically safe	Power Supply; 24 VDC; Intrinsically safe
Item No.	750-606	750-625/000-001
Order Text	Power Supply; 24 VDC; Diagn; Ex i	Power Supply; 24 VDC; Ex i
Technical Data		
Current consumption – system supply (5 V)	7.5 mA	7.5 mA
Input voltage	24 VDC (–25 ... +30 %)	24 VDC (–25 ... +30 %)
Supply voltage (field)	24 VDC (adjacent Ex i modules are supplied with $U_o = \max. 27.3 \text{ V}$); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact)	24 VDC (adjacent Ex i modules are supplied with $U_o = \max. 27.3 \text{ V}$); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact)
Current carrying capacity (power jumper contacts)	1 ADC	1 ADC
Fuse	Electronic	Electronic
Data width	2 bits (input voltage failure, fuse triggered)	
Surrounding air temperature (operation)	0 ... +55 °C	0 ... +55 °C
Dimensions W x H x D	24 x 70.9 x 100 mm	24 x 70.9 x 100 mm
Explosion Protection		
Power supply (input)	$U_n = 24 \text{ VDC}$; $P_{\max} = 29 \text{ W}$; $U_m = 253 \text{ V}$	$U_n = 24 \text{ VDC}$; $P_{\max} = 29 \text{ W}$; $U_m = 253 \text{ V}$
Power supply (output)	$U_o = 27.3 \text{ V}$ (intrinsically safe output voltage per protection level ia); $I_n = 1 \text{ A}$	$U_o = 27.3 \text{ V}$ (intrinsically safe output voltage per protection level ia); $I_n = 1 \text{ A}$
Ex guideline	EN IEC 60079-0, -7, -11	EN IEC 60079-0, -7, -11
Approvals	CE; Marine; OrdLoc/HazLoc/AEx; ATEX/IECEx; INMETRO	CE; Marine; OrdLoc/HazLoc/AEx; ATEX/IECEx; INMETRO
Marking	ATEX/IECEx: II 3G Ex ec IIC T4 Gc	ATEX/IECEx: II 3G Ex ec IIC T4 Gc
Data sheet and further information, see:	wago.com/750-606	wago.com/750-625/000-001

The supply modules monitor the voltage supply of the downstream intrinsically safe segment and separate the intrinsically safe from the non-intrinsically safe section of the I/O system. The input and output sides are electrically isolated from each other.

Note: If, due to load conditions, more than one supply module is required per station, four spacer modules (750-616) must be placed between the intrinsically safe sections.

General information (e.g., installation regulations) on explosion protection is available in the WAGO-I/O-SYSTEM 750 manuals!

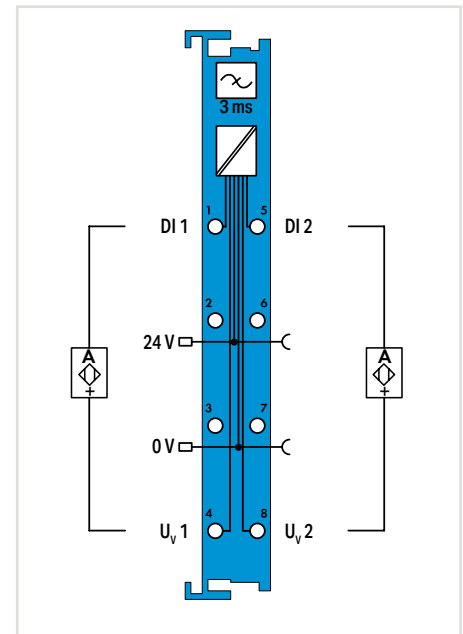
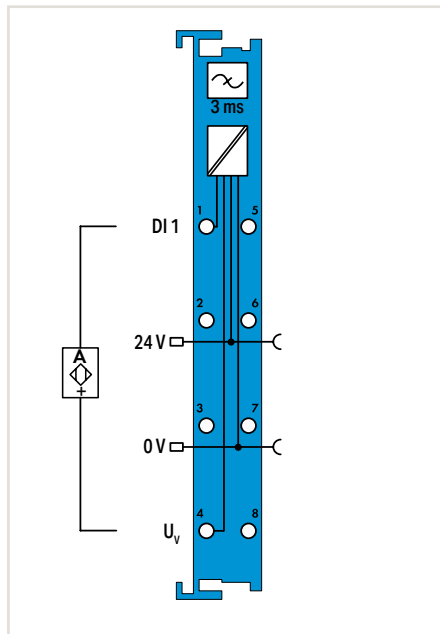
„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 523, 518 or www.wago.com

Digital Input; NAMUR; Ex i

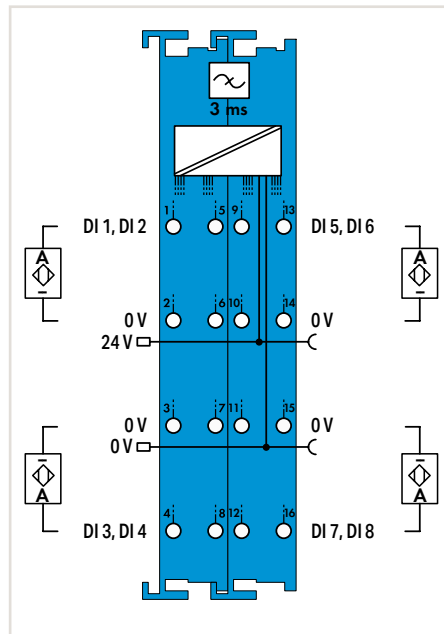


Figure: 750-435



Item Description	1-Channel Digital Input; NAMUR; Intrinsically safe 750-435	2-Channel Digital Input; NAMUR; Intrinsically safe 750-438
Item No.	750-435	750-438
Order Text	1DI; NAMUR; Ex i	2DI; NAMUR; Ex i
Technical Data		
Number of digital inputs	1	2
Signal type	NAMUR	NAMUR
Sensor connection	2-wire	2-wire
Input characteristic	High-side switching	High-side switching
Input filter (digital)	3 ms	3 ms
Open-circuit voltage	8.2 VDC	8.2 VDC
Diagnostics	Short circuit; wire break	-/-
Supply voltage (sensor)	8.2 VDC; short-circuit-protected; isolated channels	8.2 VDC; short-circuit-protected; isolated channels
Supply voltage (field)	24 VDC (Ex i power supply: $U_0 = \max. 27.3 \text{ V}$); via power jumper contacts (power supply via blade contact; transmission via spring contact)	24 VDC (Ex i power supply: $U_0 = \max. 27.3 \text{ V}$); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption, field supply (module with no external load)	13 mA	16 mA
Current consumption – system supply (5 V)	2.5 mA	2.5 mA
Data width (internal)	2 bits	2 bits
Isolation	$U_m = 375 \text{ V}$ system/supply	$U_m = 375 \text{ V}$ system/supply
Surrounding air temperature (operation)	0 ... +55 °C	0 ... +55 °C
Dimensions W x H x D	12 x 67.8 x 100 mm	12 x 67.8 x 100 mm
Explosion Protection		
Safety-relevant data (circuit)	$U_0 = 12 \text{ V}$; $I_0 = 16 \text{ mA}$; $P_0 = 48 \text{ mW}$; Linear characteristic curve	$U_0 = 12 \text{ V}$; $I_0 = 13.5 \text{ mA}$; $P_0 = 40.5 \text{ mW}$; Linear characteristic curve
Reactances Ex ia IIC	$L_0 = 180 \text{ mH}$; $C_0 = 1.4 \mu\text{F}$	$L_0 = 190 \text{ mH}$; $C_0 = 1.4 \mu\text{F}$
Reactances Ex ia IIB	$L_0 = 560 \text{ mH}$; $C_0 = 9 \mu\text{F}$	$L_0 = 600 \text{ mH}$; $C_0 = 9 \mu\text{F}$
Reactances Ex ia IIA	$L_0 = 900 \text{ mH}$; $C_0 = 36 \mu\text{F}$	$L_0 = 1 \text{ H}$; $C_0 = 36 \mu\text{F}$
Reactances Ex ia I	$L_0 = 1 \text{ H}$; $C_0 = 38 \mu\text{F}$	$L_0 = 1 \text{ H}$; $C_0 = 38 \mu\text{F}$
Reactances	Reactances without accounting for the concurrence of capacitance (C_0) and inductance (L_0) EN IEC 60079-0, -7, -11	Reactances without accounting for the concurrence of capacitance (C_0) and inductance (L_0) EN IEC 60079-0, -7, -11
Ex guideline	CE; Marine; OrdLoc/HazLoc/AEx; ATEX/IECEx; INMETRO	CE; Marine; OrdLoc/HazLoc/AEx; ATEX/IECEx; INMETRO
Approvals	ATEX/IECEx: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc II (1) D [Ex ia Da] IIIC I (M1) [Ex ia Ma] I	ATEX/IECEx: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc II (1) D [Ex ia Da] IIIC I (M1) [Ex ia Ma] I
Marking		
Data sheet and further information, see:	wago.com/750-435	wago.com/750-438

Digital Input; NAMUR; Ex i



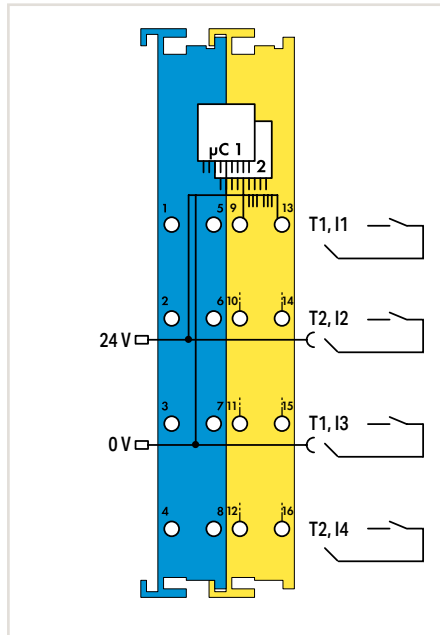
Item Description	8-Channel Digital Input; NAMUR; Intrinsically safe
Item No.	750-439
Order Text	8DI; NAMUR; Ex i
Technical Data	
Number of digital inputs	8
Signal type	NAMUR
Sensor connection	2-wire
Input characteristic	High-side switching
Input filter (digital)	3 ms
Open-circuit voltage	8.2 VDC
Diagnostics	Short circuit; wire break (can be switched off)
Supply voltage (sensor)	8.2 VDC; short-circuit-protected; isolated channels
Supply voltage (field)	24 VDC (Ex i power supply: $U_o = \text{max. } 27.3 \text{ V}$); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption, field supply (module with no external load)	11 mA
Current consumption – system supply (5 V)	56 mA
Data width (internal)	16 bits
Isolation	$U_m = 375 \text{ V system/supply}$
Surrounding air temperature (operation)	$0 \dots +55 \text{ }^\circ\text{C}$
Dimensions W x H x D	24 x 67.8 x 100 mm
Explosion Protection	
Safety-relevant data (circuit)	$U_o = 11.76 \text{ V}$; $I_o = 12.4 \text{ mA}$; $P_o = 36.67 \text{ mW}$; Linear characteristic curve
Reactances Ex ia IIC	$L_o = 100 \text{ mH}$; $C_o = 1 \text{ } \mu\text{F}$
Reactances Ex ia IIB	$L_o = 100 \text{ mH}$; $C_o = 9.9 \text{ } \mu\text{F}$
Reactances Ex ia IIA	$L_o = 100 \text{ mH}$; $C_o = 39 \text{ } \mu\text{F}$
Reactances Ex ia I	$L_o = 100 \text{ mH}$; $C_o = 30 \text{ } \mu\text{F}$
Ex guideline	EN IEC 60079-0, -7, -11
Approvals	CE; Marine; OrdLoc/HazLoc/AEx; ATEX/IECEx; INMETRO
Marking	ATEX/IECEx: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc II (1) D [Ex ia Da] IIC I (M1) [Ex ia Ma] I
Data sheet and further information, see:	wago.com/750-439

Reactances without accounting for the concurrence of capacitance (C_o) and inductance (L_o)

„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ Approvals and corresponding ratings, see page 518, 522 or www.wago.com

Intrinsically Safe 4-Channel Digital Input; 24 VDC; PROFIsafe V 2.0 iPar



Item Description	Intrinsically Safe 4-Channel Digital Input; 24 VDC; PROFIsafe V 2.0 iPar
Item No.	750-663/000-003
Order Text	4F-Ex i DI; 24 VDC; PROFIsafe V2 iPar
Technical Data	
Protocol	PROFIsafe V2
Configuration options	PROFIsafe address adjustable via DIP switch or engineering software
Sensor inputs	4; clock sensitive to T1 ... T2
Input current (typ.)	3 mA
Input frequency (max.)	50 Hz
Input filter (digital)	0 ... 200 ms (configurable in steps)
Clock outputs	2
Supply voltage (field)	24 VDC (Ex i power supply: $U_o = \text{max. } 27.3 \text{ V}$); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption, field supply (module with no external load)	20 mA
Current consumption – system supply (5 V)	145 mA
Isolation	$U_m = 375 \text{ V system/supply}$
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	24 x 67.8 x 100 mm
Functional Safety	
Achievable risk reduction	SIL 3 per IEC 61508:2010; SIL 3 per IEC 61511:2005; SIL 3 per IEC 62061:2005; Cat. 4, PL e per EN ISO 13849:2008
Safety standards	IEC 61508; IEC 62061; EN ISO 13849; IEC 61511
Explosion Protection	
Safety-relevant data (circuit)	$U_o = 27.3 \text{ V}$; $I_o = 23 \text{ mA}$; $P_o = 157 \text{ mW}$; Linear characteristic curve
Reactances Ex ia IIC	$L_o = 61 \text{ mH}$; $C_o = 64 \text{ nF}$
Reactances Ex ia IIB	$L_o = 100 \text{ mH}$; $C_o = 552 \text{ nF}$
Reactances Ex ia IIA	$L_o = 100 \text{ mH}$; $C_o = 2.28 \text{ µF}$
Reactances Ex ia I	$L_o = 100 \text{ mH}$; $C_o = 2.95 \text{ µF}$
Ex guideline	EN IEC 60079-0, -7, -11
Approvals	CE; Marine; OrdLoc/HazLoc/AEx; ATEX/IECEx; INMETRO
Marking	ATEX/IECEx: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc II (1) D [Ex ia Da] IIIC I (M1) [Ex ia Ma] I
Data sheet and further information, see:	wago.com/750-663/000-003

This module combines intrinsic safety with functional safety and was specifically developed for reliable acquisition from potential-free, contact-based emergency stop switches, safety interlock switches, mode selectors and safety sensors that are located in hazardous environments.

Thus, safety functions with fail-safe sensors from Ex Zones 0 and 1 can be implemented.

Support for iPar servers allows automatic parameter restoration when replacing an I/O module.

Reactances without accounting for the concurrence of capacitance (C_o) and inductance (L_o)

Digital Output; 24 VDC; Ex i



Figure: 750-535

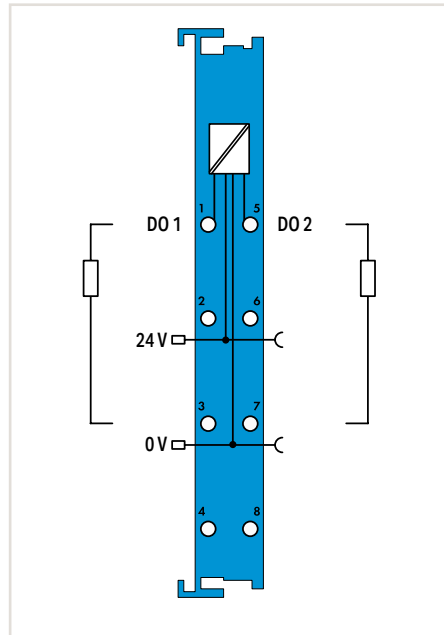
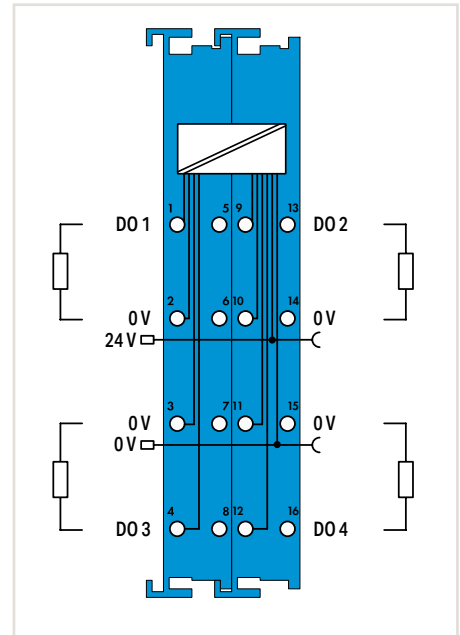


Figure: 750-539

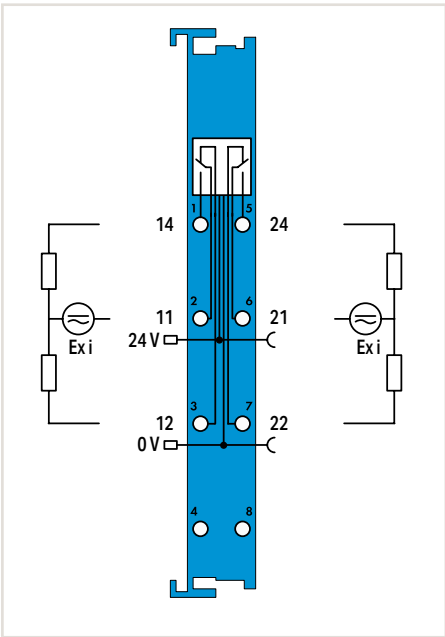


Item Description	2-Channel Digital Output; 24 VDC; Intrinsically safe	4-Channel Digital Output; 24 VDC; Valve; Intrinsically safe
Item No.	750-535	750-539
Order Text	2DO; 24 VDC; Ex i	4DO; 24 VDC; Valve; Ex i
Technical Data		
Number of digital outputs	2	4
Signal type	24 VDC	24 VDC
Output characteristic	High-side switching	High-side switching
Load type	Resistive; inductive; lamp load	Resistive; inductive; lamp load
Actuator connection	2-wire	2-wire
Switching frequency (max.)	1 kHz	100 Hz
Supply voltage (field)	24 VDC (Ex i power supply: $U_o = \max. 27.3 \text{ V}$); via power jumper contacts (power supply via blade contact; transmission via spring contact)	24 VDC (Ex i power supply: $U_o = \max. 27.3 \text{ V}$); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption, field supply (module with no external load)	8.5 mA	10 mA
Current consumption – system supply (5 V)	7 mA	20 mA
Data width (internal)	2 bits	4-bit output; 4-bit input (diagnostics)
Isolation	$U_m = 375 \text{ V system/supply}$	$U_m = 375 \text{ V system/supply}$
Surrounding air temperature (operation)	0 ... +55 °C	0 ... +55 °C
Dimensions W x H x D	12 x 67.8 x 100 mm	24 x 67.8 x 100 mm
Explosion Protection		
Safety-relevant data (circuit)	$U_o = 27.3 \text{ V}$; $I_o = 106 \text{ mA}$; $P_o = 723 \text{ mW}$; Linear characteristic curve	$U_o = 27.3 \text{ V}$; $I_o = 117.5 \text{ mA}$; $P_o = 800.1 \text{ mW}$; Linear characteristic curve
Reactances Ex ia IIC	$L_o = 3 \text{ mH}$; $C_o = 88 \text{ nF}$	$L_o = 13 \text{ } \mu\text{H}$; $C_o = 88 \text{ nF}$
Reactances Ex ia IIB	$L_o = 12 \text{ mH}$; $C_o = 680 \text{ nF}$	$L_o = 8.1 \text{ mH}$; $C_o = 683 \text{ nF}$
Reactances Ex ia IIA	$L_o = 18 \text{ mH}$; $C_o = 2.2 \text{ } \mu\text{F}$	$L_o = 14 \text{ mH}$; $C_o = 2.28 \text{ } \mu\text{F}$
Reactances Ex ia I	$L_o = 20 \text{ mH}$; $C_o = 3.6 \text{ } \mu\text{F}$	$L_o = 21 \text{ mH}$; $C_o = 3.6 \text{ } \mu\text{F}$
Reactances	Reactances without accounting for the concurrence of capacitance (C_o) and inductance (L_o)	Reactances without accounting for the concurrence of capacitance (C_o) and inductance (L_o)
Ex guideline	EN IEC 60079-0, -7, -11	EN IEC 60079-0, -7, -11
Approvals	CE; Marine; OrdLoc/HazLoc/AEx; ATEX/IECEx; INMETRO	CE; Marine; ATEX/IECEx
Marking	ATEX/IECEx: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc II (1) D [Ex ia Da] IIIC I (M1) [Ex ia Ma] I	ATEX/IECEx: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc II (1) D [Ex ia Da] IIIC I (M1) [Ex ia Ma] I
Data sheet and further information, see:	wago.com/750-535	wago.com/750-539

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 519 or www.wago.com

Relay Output; Ex i



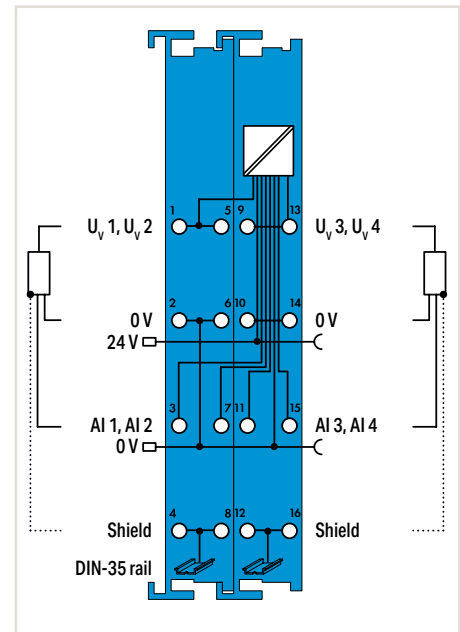
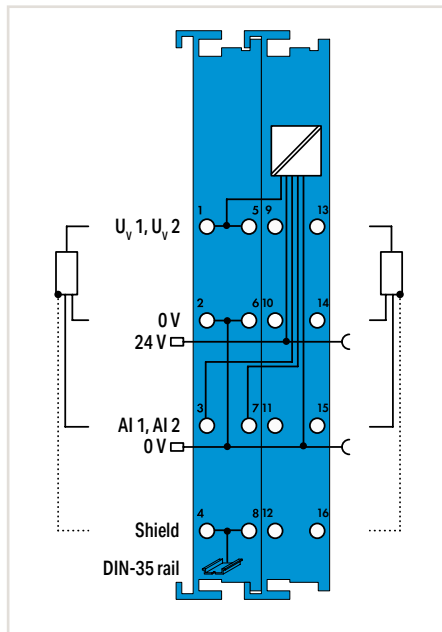
Item Description	2-Channel Relay Output; Changeover contact; Potential-free; Intrinsically safe
Item No.	750-538
Order Text	2RO; Changeover contacts; Pot-free; Ex i
Technical Data	
Number of digital outputs	2
Signal type	100 VAC; 30 VDC*
Output circuit design	Relay with 2 changeover contacts
Output characteristic	Potential-free
Output current per channel	0.5 AAC; 1 ADC*
Actuator connection	2-wire
Switching frequency (max.)	0.33 Hz
Supply voltage (field)	24 VDC (Ex i power supply: U _O = max. 27.3 V); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption, field supply (module with no external load)	24 mA
Current consumption – system supply (5 V)	26 mA
Data width (internal)	2 bits
Isolation	U _m = 375 V system/supply
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	12 x 67.8 x 100 mm
Explosion Protection	
Safety-relevant data (circuit)	Relay output: U _i = DC 30 V; I _i = 1 A; P _i = 30 W; U _i = AC 100 V; I _i = 0.5 A; P _i = 50 VA; L _i = negligible; C _i = negligible
Ex guideline	EN IEC 60079-0, -7, -11
Approvals	CE; Marine; OrdLoc/HazLoc/AEx; ATEX/IECEX; INMETRO
Marking	ATEX/IECEX: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc II (1) D [Ex ia Da] IIC I (M1) [Ex ia Ma] I
Data sheet and further information, see:	wago.com/750-538

*Details on relay!
Both maximum switching current and voltage must comply with EN 60079-11.

Analog Input; 4 ... 20 mA or 0/4 ... 20 mA; Ex i



Figure: 750-486



Item Description	2-Channel Analog Input; 4 ... 20 mA; Intrinsically safe	4-Channel Analog Input; 0/4 ... 20 mA; NAMUR NE43; Intrinsically safe
Item No.	750-485	750-486
Order Text	4AI; 4–20mA; Ex i	4AI; 0/4–20mA; NE43; Ex i
Technical Data		
Number of analog inputs	2	4
Signal type	4 ... 20 mA	0 ... 20 mA; 4 ... 20 mA; 3.6 ... 21 mA
Signal characteristic	Single-ended	Single-ended
Input resistance	< 100 Ω	< 200 Ω
Resolution	12 bits	12 bits + sign bit
Conversion time	< 2 ms	< 10 ms
Measuring error (max.) at 25 °C	±0.2 % of the upper-range value	±0.1 % of the upper-range value
Temperature error (max.)	±0.01 %/K of the upper-range value	±0.01 %/K of the upper-range value
Supply voltage (field)	24 VDC (Ex i power supply: $U_o = \text{max. } 27.3 \text{ V}$); via power jumper contacts (power supply via blade contact; transmission via spring contact)	24 VDC (Ex i power supply: $U_o = \text{max. } 27.3 \text{ V}$); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption, field supply (module with no external load)	11 mA	19 mA
Current consumption – system supply (5 V)	31 mA	45 mA
Transmitter supply	$U_v = 16 \text{ V}$ at 20 mA	$U_v = 15 \text{ V}$ at 20 mA
Data width	2 x 16-bit data; 2 x 8-bit control/status (optional)	4 x 16-bit data; 4 x 8-bit control/status (optional)
Isolation	$U_m = 375 \text{ V}$ system/supply	$U_m = 375 \text{ V}$ system/supply
Surrounding air temperature (operation)	0 ... +55 °C	0 ... +55 °C
Dimensions W x H x D	24 x 67.8 x 100 mm	24 x 67.8 x 100 mm
Explosion Protection		
Safety-relevant data (circuit)	$U_o = 27.3 \text{ V}$; $I_o = 90 \text{ mA}$; $P_o = 0.61 \text{ mW}$; Linear characteristic curve	$U_o = 27.3 \text{ V}$; $I_o = 98.4 \text{ mA}$; $P_o = 0.672 \text{ mW}$; Linear characteristic curve
Reactances Ex ia IIC	$L_o = 5 \text{ mH}$; $C_o = 88 \text{ nF}$	$L_o = 970 \mu\text{H}$; $C_o = 88 \text{ nF}$
Reactances Ex ia IIB	$L_o = 18 \text{ mH}$; $C_o = 680 \text{ nF}$	$L_o = 13 \text{ mH}$; $C_o = 683 \text{ nF}$
Reactances Ex ia IIA	$L_o = 40 \text{ mH}$; $C_o = 2.2 \mu\text{F}$	$L_o = 22 \text{ mH}$; $C_o = 2.28 \mu\text{F}$
Reactances Ex ia I	$L_o = 100 \text{ mH}$; $C_o = 3.5 \mu\text{F}$	$L_o = 31 \text{ mH}$; $C_o = 3.6 \mu\text{F}$
Reactances	Reactances without accounting for the concurrence of capacitance (C_o) and inductance (L_o)	Reactances without accounting for the concurrence of capacitance (C_o) and inductance (L_o)
Ex guideline	EN IEC 60079-0, -7, -11	EN IEC 60079-0, -7, -11
Approvals	CE; Marine; OrdLoc/HazLoc/AEx; ATEX/IECEX; INMETRO	CE; Marine; ATEX/IECEX
Marking	ATEX/IECEX: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc II (1) D [Ex ia Da] IIIC I (M1) [Ex ia Ma] I	ATEX/IECEX: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc II (1) D [Ex ia Da] IIIC I (M1) [Ex ia Ma] I
Data sheet and further information, see:	wago.com/750-485	wago.com/750-486

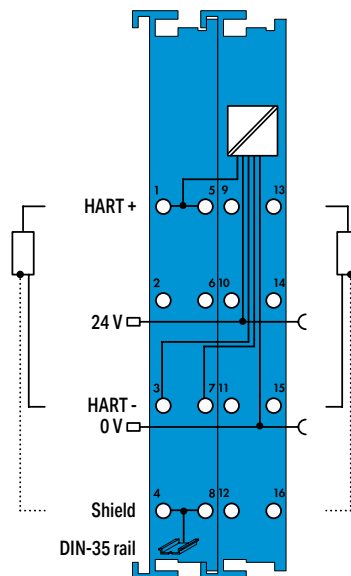
„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 520 or www.wago.com

Analog Input; 4 ... 20 mA HART; Ex i



Figure: 750-484



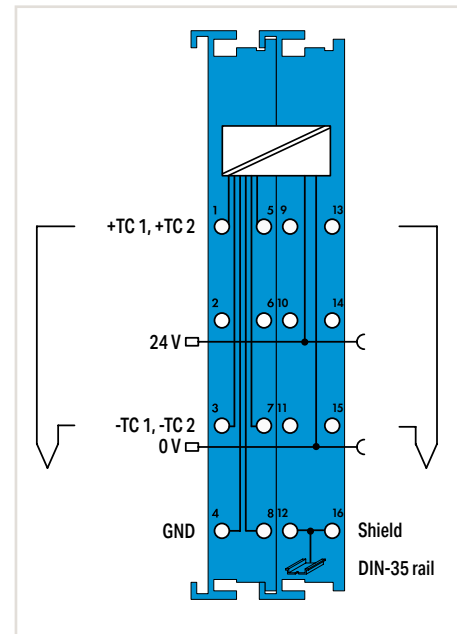
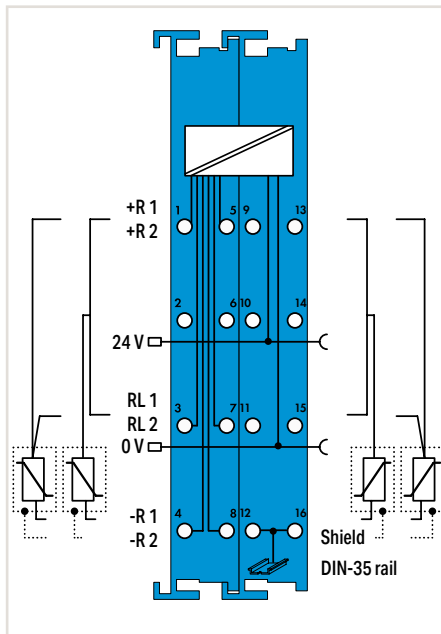
Item Description	2-Channel Analog Input; 4 ... 20 mA HART; Intrinsically safe	2-Channel Analog Input; 4 ... 20 mA HART; NAMUR NE43; Intrinsically safe
Item No.	750-484	750-484/000-001
Order Text	2AI; 4–20mA HART; Ex i	2AI 4–20 mA HART NAMUR NE43 Ex i
Technical Data		
Number of analog inputs	2	
Signal type	4 ... 20 mA	
Signal characteristic	Single-ended	
Resolution	12 bits	
Conversion time	10 ms	
Measuring error (max.) at 25 °C	0.2 % of the upper-range value	
Temperature error (max.)	±0.01 %/K of the upper-range value	
Supply voltage (field)	24 VDC (Ex i power supply: U_0 = max. 27.3 V); via power jumper contacts (power supply via blade contact; transmission via spring contact)	
Current consumption, field supply (module with no external load)	26 mA	
Current consumption – system supply (5 V)	25 mA	
Transmitter supply	U_V = 16.5 V at 20 mA	
Data width	2 x 2-byte data; 2 x 2-byte data + 2n x 4-byte data (n = number of dynamic variables); 2 x 2-byte data + 6-byte mailbox	
Isolation	U_m = 375 V system/supply	
Surrounding air temperature (operation)	0 ... +55 °C	
Dimensions W x H x D	24 x 67.8 x 100 mm	
Explosion Protection		
Safety-relevant data (circuit)	U_0 = 27.3 V; I_0 = 92.7 mA; P_0 = 630 mW; Linear characteristic curve	
Reactances Ex ia IIC	L_0 = 1.5 mH; C_0 = 87 nF	
Reactances Ex ia IIB	L_0 = 15 mH; C_0 = 670 nF	
Reactances Ex ia IIA	L_0 = 38 mH; C_0 = 2.2 µF	
Reactances Ex ia I	L_0 = 36 mH; C_0 = 3.49 µF	
Reactances	Reactances without accounting for the concurrence of capacitance (C_0) and inductance (L_0)	
Ex guideline	EN IEC 60079-0, -7, -11	
Approvals	CE; Marine; OrdLoc/HazLoc/AEx; ATEX/IECEx; INMETRO	CE; OrdLoc/HazLoc; ATEX/IECEx
Marking	ATEX/IECEx: II 3 (1) G II (1) D I (M1)	Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC [Ex ia Ma] I
Data sheet and further information, see:	wago.com/750-484	wago.com/750-484/000-001

In addition to analog signal processing, this module offers optional HART communication for parameterizing or recording dynamic variables.

Analog Input; for Resistance Sensors or Thermocouples; Ex i



Figure: 750-481/003-000

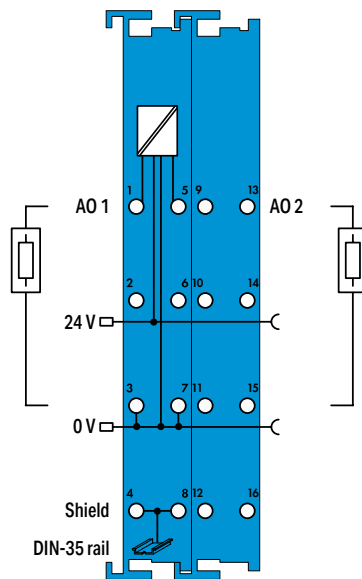


Item Description	2-Channel Analog Input; Resistance measurement; Intrinsically safe	2-Channel Analog Input; Thermocouple; Intrinsically safe
Item No.	750-481/003-000	750-487/003-000
Order Text	2AI; RTD; Ex i	2AI; TC; Ex i
Technical Data		
Number of analog inputs	2	2
Signal type	Resistance thermometers: Pt100; Pt200; Pt500; Pt1000; Ni100; Ni120; Ni1000; Resistors: 1.2 kΩ; 5 kΩ; Potentiometer setting: 0 ... 100 %	Thermocouples: Type B; E; J; K; L; N; R; S; T; U; Voltage encoders: ±30 mV; ±60 mV; ±120 mV
Sensor connection	2-wire; 3-wire	2-wire
Temperature range	-200 ... +850 °C (Pt); -60 ... +250 °C (Ni); -80 ... +320 °C (Ni 120)	-100 ... +1,800 °C
Resolution	0.1 °C; 0.1 Ω; 0.0049 %	0.1 °C or 0.01 mV for voltage measurement
Conversion time	150 ... 500 ms (per channel)	≤ 320 ms (both channels)
Measuring error (max.) at 25 °C	±0.2 % of the upper-range value	±6 K (type K); Voltage input ±2 K; Cold junction compensation ±4 K
Temperature error (max.)	±0.01 %/K of the upper-range value	±0.2 K/K of the upper-range value (type K)
Cold junction compensation		Integrated or external
Supply voltage (field)	24 VDC (Ex i power supply: U_0 = max. 27.3 V); via power jumper contacts (power supply via blade contact; transmission via spring contact)	24 VDC (Ex i power supply: U_0 = max. 27.3 V); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption, field supply (module with no external load)	12 mA	8.5 mA
Current consumption – system supply (5 V)	25 mA	13.5 mA
Data width	2 x 16-bit data; 2 x 8-bit control/status (optional)	2 x 16-bit data; 2 x 8-bit control/status (optional)
Isolation	U_m = 375 V system/supply	U_m = 375 V system/supply
Surrounding air temperature (operation)	0 ... +55 °C	0 ... +55 °C
Dimensions W x H x D	24 x 67.8 x 100 mm	24 x 67.8 x 100 mm
Explosion Protection		
Safety-relevant data (circuit)	U_0 = 7.2 V; I_0 = 5.8 mA; P_0 = 10.5 mW; Linear characteristic curve	U_0 = 14.4 V; I_0 = 29.1 mA; P_0 = 52.4 mW; Linear characteristic curve
Reactances Ex ia IIC	L_0 = 0.9 H; C_0 = 13.5 μF	L_0 = 52 mH; C_0 = 650 nF
Reactances Ex ia IIB	L_0 = 1 H; C_0 = 240 μF	L_0 = 100 mH; C_0 = 4.0 μF
Reactances Ex ia IIA	L_0 = 1 H; C_0 = 1000 μF	L_0 = 300 mH; C_0 = 15.8 μF
Reactances Ex ia I	L_0 = 1 H; C_0 = 1000 μF	L_0 = 400 mH; C_0 = 17.9 μF
Reactances	Reactances without accounting for the concurrence of capacitance (C_0) and inductance (L_0)	Reactances without accounting for the concurrence of capacitance (C_0) and inductance (L_0)
Ex guideline	EN IEC 60079-0, -7, -11	EN IEC 60079-0, -7, -11
Approvals	CE; Marine; OrdLoc/HazLoc/AEx; ATEX/IECEX; INMETRO	CE; Marine; OrdLoc/HazLoc/AEx; ATEX/IECEX; INMETRO
Marking	Ⓔ ATEX/IECEX: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc II (1) D [Ex ia Da] IIC I (M1) [Ex ia Ma] I	Ⓔ ATEX/IECEX: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc II (1) D [Ex ia Da] IIC I (M1) [Ex ia Ma] I
Data sheet and further information, see:	wago.com/750-481/003-000	wago.com/750-487/003-000

Analog Output; 0 ... 20 mA or 4 ... 20 mA; Ex i



Figure: 750-585



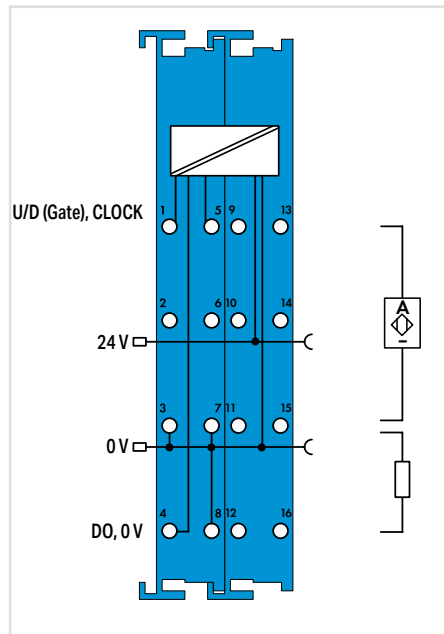
Item Description	2-Channel Analog Output; 0 ... 20 mA; Intrinsically safe	2-Channel Analog Output; 4 ... 20 mA; Intrinsically safe
Item No.	750-585	750-586
Order Text	2AO; 0–20mA; Ex i	2AO; 4–20mA; Ex i
Technical Data		
Number of analog outputs	2	
Signal type	0 ... 20 mA	4 ... 20 mA
Signal characteristic	Single-ended	
Load impedance	< 500 Ω	
Resolution	12 bits	
Conversion time	< 2 ms	
Output error (max.) at 25 °C	±0.2 % of the upper-range value	
Temperature error (max.)	±0.01 %/K of the upper-range value	
Supply voltage (field)	24 VDC (Ex i power supply: U_o = max. 27.3 V); via power jumper contacts (power supply via blade contact; transmission via spring contact)	
Current consumption, field supply (module with no external load)	19 mA	
Current consumption – system supply (5 V)	21 mA	
Data width	2 x 16-bit data	
Isolation	U_m = 375 V system/supply	
Surrounding air temperature (operation)	0 ... +55 °C	
Dimensions W x H x D	24 x 67.8 x 100 mm	
Explosion Protection		
Safety-relevant data (circuit)	U_o = 27.3 V; I_o = 57.5 mA; P_o = 392 mW; Linear characteristic curve	
Reactances Ex ia IIC	L_o = 11 mH; C_o = 88 nF	
Reactances Ex ia IIB	L_o = 56 mH; C_o = 680 nF	
Reactances Ex ia IIA	L_o = 90 mH; C_o = 2.2 µF	
Reactances Ex ia I	L_o = 110 mH; C_o = 3.5 µF	
Reactances	Reactances without accounting for the concurrence of capacitance (C_o) and inductance (L_o)	
Ex guideline	EN IEC 60079-0, -7, -11	
Approvals	CE; Marine; OrdLoc/HazLoc/AEx; ATEX/IECEX; INMETRO	
Marking	ATEX/IECEX: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc II (1) D [Ex ia Da] IIIC I (M1) [Ex ia Ma] I	
Data sheet and further information, see:	wago.com/750-585	wago.com/750-586

5.9

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 520, 521 or www.wago.com

Up/Down Counter; Ex i



Item Description	Up/Down Counter; Intrinsically safe
Item No.	750-633
Order Text	Up/Down Counter; Ex i
Technical Data	
Number of counters	1
Number of outputs	1
Sensor supply UV	8.2 VDC
Input filter	10 µs
Switching frequency	20 Hz ... 50 kHz
Counter depth	32 bits
Output voltage	24 VDC
Supply voltage (field)	24 VDC (Ex i power supply: $U_o = \text{max. } 27.3 \text{ V}$); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption, field supply (module with no external load)	31 mA
Current consumption – system supply (5 V)	25 mA
Data width	1 x 32-bit data, 1 x 8-bit status/diagnostics
Isolation	$U_m = 375 \text{ V system/supply}$
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	24 x 67.8 x 100 mm
Explosion Protection	
Safety data – input	$U_o = 12 \text{ V}$; $I_o = 13.5 \text{ mA}$; $P_o = 40.5 \text{ mW}$; Linear characteristic curve
Input reactances Ex ia IIC	$L_o = 100 \text{ mH}$; $C_o = 1.4 \mu\text{F}$
Input reactances Ex ia IIB	$L_o = 100 \text{ mH}$; $C_o = 9 \mu\text{F}$
Input reactances Ex ia IIA	$L_o = 100 \text{ mH}$; $C_o = 36 \mu\text{F}$
Input reactances Ex ia I	$L_o = 100 \text{ mH}$; $C_o = 38 \mu\text{F}$
Safety data – output	$U_o = 27.3 \text{ V}$; $I_o = 103 \text{ mA}$; $P_o = 703 \text{ mW}$; Linear characteristic curve
Output reactances Ex ia IIC	$L_o = 0.5 \text{ mH}$; $C_o = 88 \text{ nF}$
Output reactances Ex ia IIB	$L_o = 10 \text{ mH}$; $C_o = 683 \text{ nF}$
Output reactances Ex ia IIA	$L_o = 18 \text{ mH}$; $C_o = 2.2 \mu\text{F}$
Output reactances Ex ia I	$L_o = 26 \text{ mH}$; $C_o = 3.6 \mu\text{F}$
Ex guideline	EN IEC 60079-0, -7, -11
Approvals	CE; Marine; OrdLoc/HazLoc/AEx; ATEX/IECEx; INMETRO
Marking	ATEX/IECEx: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc II (1) D [Ex ia Da] IIIC I (M1) [Ex ia Ma] I
Data sheet and further information, see:	wago.com/750-633

Reactances without accounting for the concurrence of capacitance (C_o) and inductance (L_o)

5.9

„ Mini-WSB marker card and mounting accessories,
see Section “Accessories and Tools”

„ Approvals and corresponding ratings,
see page 522 or www.wago.com

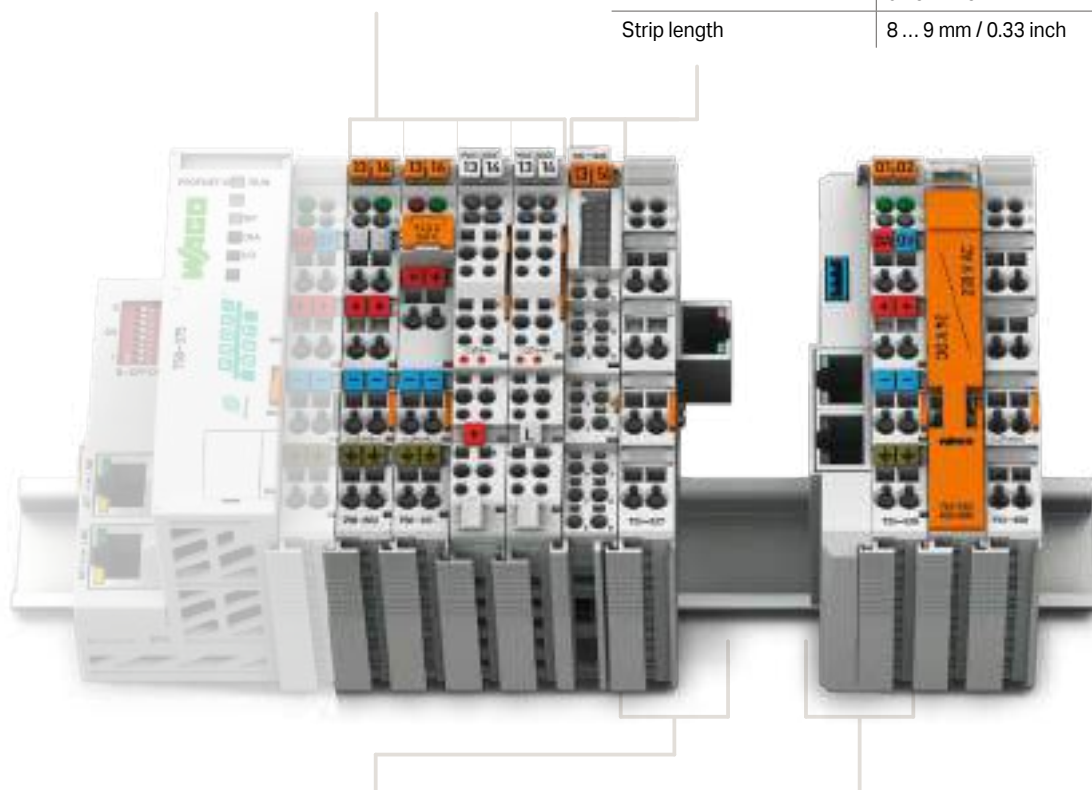
Supply/Segment Modules

Housing design (750/753 Series)

Dimensions W x H x D	12 x 69.8 x 100 mm
Height from upper-edge of DIN-rail	62.6 mm
Connection technology	CAGE CLAMP®
Conductor cross section	0.08 ... 2.5 mm² / 28 ... 14 AWG
Strip length	750 Series: 8 ... 9 mm / 0.33 inch 753 Series: 9 ... 10 mm / 0.37 inch

Housing design (750 Series), with Push-in CAGE CLAMP® connections (up to 16 connection points)

Dimensions W x H x D	12 x 69 x 100 mm
Height from upper-edge of DIN-rail	61.8 mm
Connection technology	Push-in CAGE CLAMP®
Conductor cross section	Solid: 0.08 ... 2.5 mm² / 28 ... 16 AWG Fine-stranded: 0.25 ... 1.5 mm² / 22 ... 16 AWG
Strip length	8 ... 9 mm / 0.33 inch



Specialty housing (end module for bus extension)

Dimensions W x H x D	24 x 69.8 x 100
Height from upper-edge of DIN-rail	62.6 mm

Specialty housing (coupler module for bus extension)

Dimensions W x H x D	24 x 69.8 x 100
Height from upper-edge of DIN-rail	62.6 mm



I/O System –
750 XTR Series

I/O System – 750 and 753 Series, Supply/Segment Modules

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Ex i		See Section 5.9			
*This module is also available as a variant of the 750 XTR Series.		See Section 6			

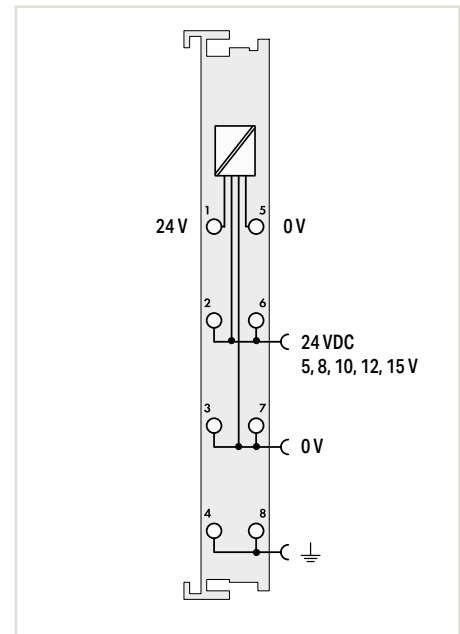
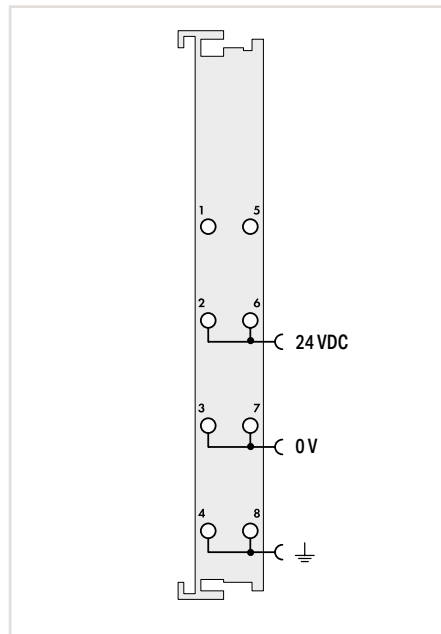
Power Supply; 24 VDC



Figure: 750-602



Figure: 750-623



Item Description		Power Supply; 24 VDC			Power Supply; 24 VDC/5 ... 15 VDC	
Version		Standard	Extended temperature	Pluggable (delivery without connector)	Standard	
Item No.		750-602	750-602/025-000	753-602	750-623	
Order Text		Power Supply; 24 VDC	Power Supply; 24 VDC; T	Power Supply; 24 VDC	Power Supply; 24/5–15 VDC	
Technical Data						
Pluggable connector						
Supply voltage (system)		5 VDC; via data contacts			5 VDC; via data contacts	
Supply voltage (field)		24 VDC (–25 ... +30 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact)			24 VDC (–15 ... +20 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact); Output voltage adjustable in steps via DIP switch: 5 V; 8 V; 10 V; 12 V; 15 V	
Total current (system supply)					0.5 A (1 A at 5 V)	
Current carrying capacity (power jumper contacts)		10 A				
Surrounding air temperature (operation)		0 ... +55 °C	–20 ... +60 °C	0 ... +55 °C	0 ... +55 °C	
Dimensions W x H x D		12 x 69.8 x 100 mm			12 x 69.8 x 100 mm	
Approvals		CE, [UK], [M] Marine; [UL] OrdLoc/HazLoc; [ATEX] ATEX/IECEX			CE, [UK], [M] Marine; [UL] OrdLoc/HazLoc; [ATEX] ATEX/IECEX	
Data sheet and further information, see:		wago.com/750-602			wago.com/750-623	
Accessories						
Pluggable connector					Item No.	
Coding keys					753-110	
					753-150	

This I/O module provides the applied supply voltage to the field devices connected to downstream I/O modules.

This I/O module converts the applied supply voltage to a value selected via DIP switch and provides it to the field devices connected to the downstream I/O modules.

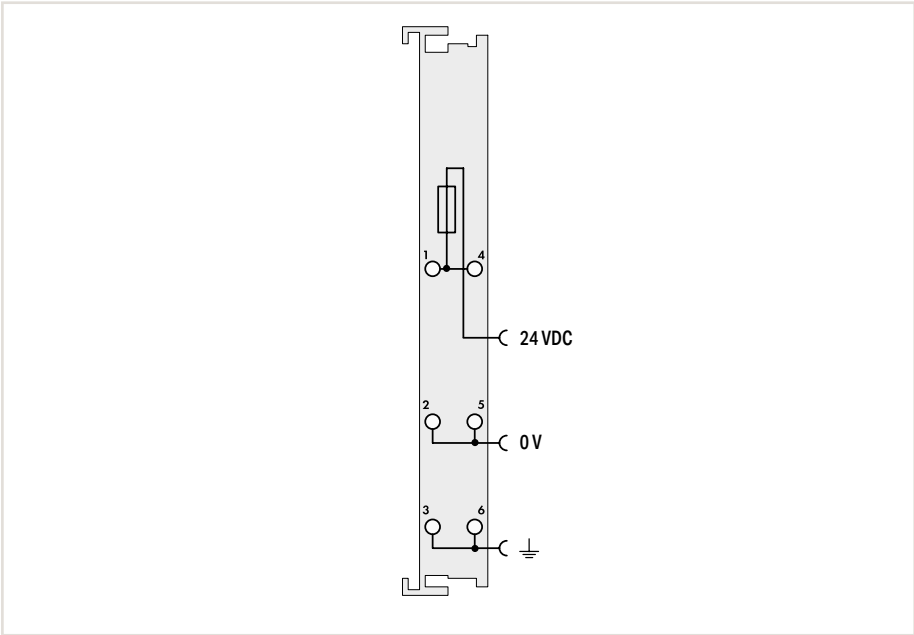
„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 523 or www.wago.com

Power Supply; 24 VDC



Figure: 750-601

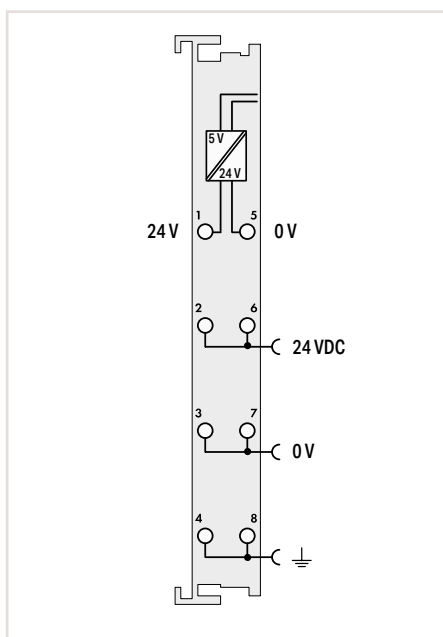


Item Description		Power Supply; 24 VDC; Fuse holder	
Version		Standard	Diagnostics
Item No.		750-601	750-610
Order Text		Power Supply; 24 VDC; Fuse	Power Supply; 24 VDC; Fuse; Diagn
Technical Data			
Supply voltage (field)		24 VDC (–25 ... +30 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact)	
Current carrying capacity (power jumper contacts)		6.3 A	
Fuse		5 x 20; T max. 6.3 A (not included)	
Diagnostics			Supply voltage, field: Detection "on" at > 15 VDC; Detection "off" at < 5 VDC
Current consumption – system supply (5 V)			5 mA
Data width (internal)			2 bits (1-bit current monitoring; 1-bit fuse fault)
Surrounding air temperature (operation)		0 ... +55 °C	
Dimensions W x H x D		12 x 69.8 x 100 mm	
Approvals		CE; Marine; OrdLoc/HazLoc; ATEX/IECEx	
Data sheet and further information, see:		wago.com/750-601	wago.com/750-610

This I/O module provides the applied supply voltage, protected by fuse, to the field devices connected to downstream I/O modules. A blown fuse is indicated by an LED.

This I/O module provides the applied supply voltage, protected by fuse, to the field devices connected to downstream I/O modules. A blown fuse is indicated by an LED. The fuse status can also be queried from the fieldbus coupler.

System Power Supply; 24 VDC



Item Description	System Power Supply; 24 VDC
Version	Standard
Item No.	750-613
Order Text	System Power Supply; 24 VDC
Technical Data	
Supply voltage, system (24 V)	24 VDC (–25 ... +30 %); power supply and transmission via CAGE CLAMP® connection
Input current (typ.) at nominal load (24 V)	500 mA
Power supply efficiency (typ.) at nominal load (24 V)	90 %
Total current (system supply)	2000 mA
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact)
Current carrying capacity (power jumper contacts)	10 A
Isolation	500 V system/field
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm
Approvals	CE, UKCA, Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-613

This I/O module provides the applied supply voltage to the field devices connected to downstream I/O modules. It also serves as an additional system supply for large nodes, covering the power demands of the I/O modules themselves.

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 523 or www.wago.com

Power Supply; 0 ... 230 VAC/DC



Figure: 750-612

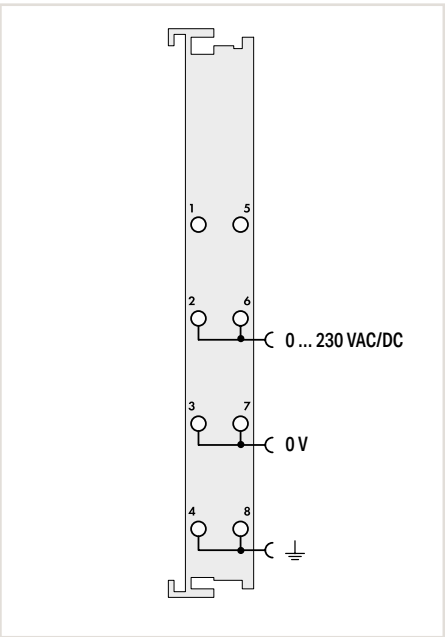


Figure: 753-612

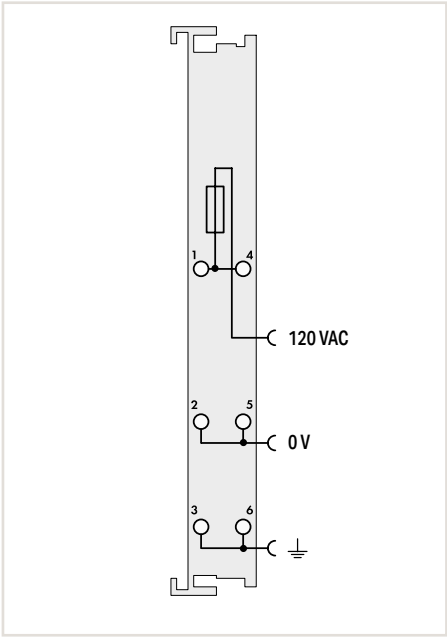
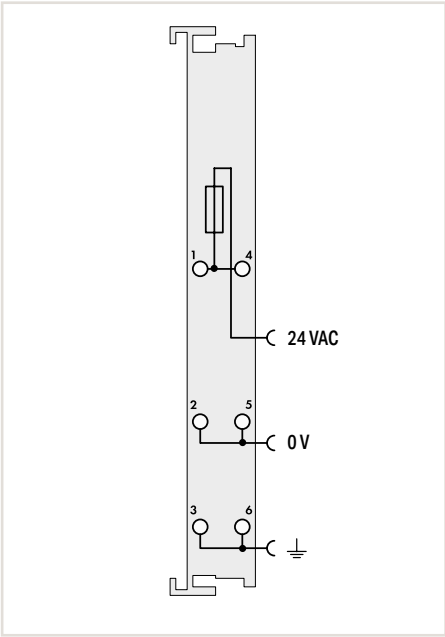
Item Description		Power Supply; 0 ... 230 VAC/DC	
Version		Standard	Pluggable (delivery without connector)
Item No.		750-612	753-612
Order Text		Power Supply; 0–230 VAC/VDC	Power Supply; 0–230 VAC/VDC
Technical Data		●	
Pluggable connector		0 ... 230 VAC/DC (–15 ... +10 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact)	
Supply voltage (field)		10 A	
Current carrying capacity (power jumper contacts)		0 ... +55 °C	
Surrounding air temperature (operation)		12 x 69.8 x 100 mm	
Dimensions W x H x D		CE; Marine; OrdLoc/HazLoc; ATEX/IECEx	
Approvals		wago.com/750-612	wago.com/753-612
Data sheet and further information, see:			
Accessories		Item No.	
Pluggable connector		753-110	
Coding keys		753-150	

This I/O module provides the applied supply voltage to the field devices connected to downstream I/O modules.

Power Supply; 24 VAC or 120 VAC



Figure: 750-617



Item Description
Version
Item No.
Order Text

Power Supply; 24 VAC; Fuse holder
Standard
750-617
Power Supply; 24 VAC; Fuse

Power Supply; 120 VAC; Fuse holder
Standard
750-615
Power Supply; 120 VAC; Fuse

Technical Data
Supply voltage (field)
Current carrying capacity (power jumper contacts)
Fuse
Surrounding air temperature (operation)
Dimensions W x H x D
Approvals
Data sheet and further information, see:

24 VAC; via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact)
6.3 A
5 x 20; T max. 6.3 A (not included)
0 ... +55 °C
12 x 69.8 x 100 mm
CE, UL, OrdLoc
wago.com/750-617

120 VAC; via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact)
6.3 A
5 x 20; T max. 6.3 A (not included)
0 ... +55 °C
12 x 69.8 x 100 mm
CE, UL, OrdLoc/HazLoc, ATEX/IECEx
wago.com/750-615

This I/O module provides the applied supply voltage, protected by fuse, to the field devices connected to downstream I/O modules. A blown fuse is indicated by an LED.

This I/O module provides the applied supply voltage, protected by fuse, to the field devices connected to downstream I/O modules. A blown fuse is indicated by an LED.

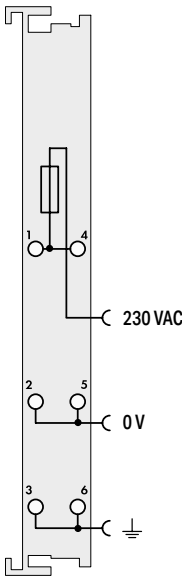
„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 523 or www.wago.com

Power Supply; 230 VAC

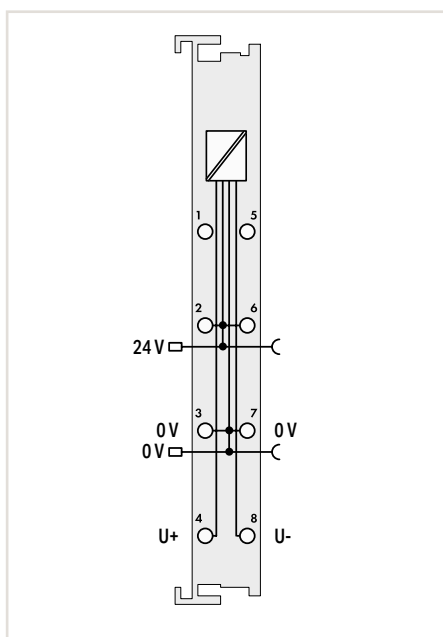


Figure: 750-609



Item Description		Power Supply; 230 VAC; Fuse holder	
Version		Standard	Diagnostics
Item No.		750-609	750-611
Order Text		Power Supply; 230 VAC; Fuse	Power Supply; 230 VAC; Fuse; Diagn
Technical Data			
Supply voltage (field)	230 VAC (–15 ... +10 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact)		
Current carrying capacity (power jumper contacts)	6.3 A		
Fuse	5 x 20; T max. 6.3 A (not included)		
Diagnostics			Supply voltage, field: Detection "on" at > 164 VAC; Detection "off" at < 40 VAC
Current consumption – system supply (5 V)			5 mA
Data width (internal)			2 bits (1-bit current monitoring; 1-bit fuse fault)
Surrounding air temperature (operation)	0 ... +55 °C		
Dimensions W x H x D	12 x 69.8 x 100 mm		
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx		
Data sheet and further information, see:	wago.com/750-609		wago.com/750-611
This I/O module provides the applied supply voltage, protected by fuse, to the field devices connected to downstream I/O modules. A blown fuse is indicated by an LED.		This I/O module provides the applied supply voltage, protected by fuse, to the field devices connected to downstream I/O modules. A blown fuse is indicated by an LED. The fuse status can also be queried from the fieldbus coupler.	

DALI Multi-Master DC/DC Converter



Item Description

Version

Item No.

Order Text

DALI Multi-Master DC/DC Converter

Pluggable (delivery without connector)

753-620

DALI Multi-Master DC/DC Converter

Technical Data

Pluggable connector

Supply voltage (field)

•
24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact);
Supply voltage (DALI): 18 VDC; at +U and -U via CAGE CLAMP® connection

Current carrying capacity (power jumper contacts)

10 A

Total current (system supply)

200 mA; short-circuit-protected

Test voltage (input/output)

1.5 kV

Surrounding air temperature (operation)

0 ... +55 °C

Dimensions W x H x D

12 x 69.8 x 100 mm

Approvals

CE; Marine; OrdLoc

Data sheet and further information, see:

wago.com/753-620

Accessories

Pluggable connector

Coding keys

Item No.

753-110

753-150

This I/O module powers the DALI Multi-Master (753-647). It uses the field supply, which is connected via the power jumper contacts. Cable bridges connect the module to the DALI Multi-Master.

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

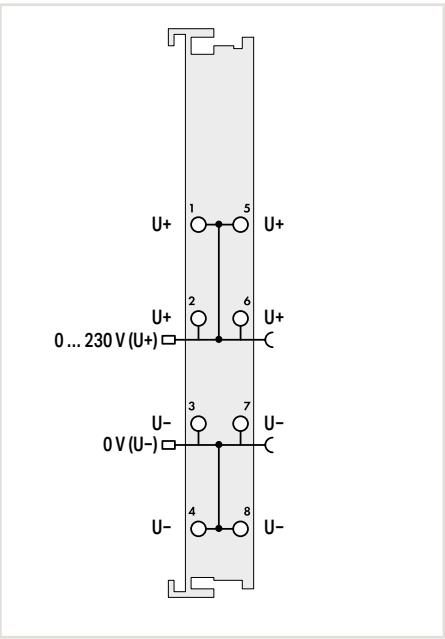
„ Approvals and corresponding ratings, see page 523 or www.wago.com

Potential Distribution



Figure: 750-614

Figure: 753-614



Item Description
Version
Item No.
Order Text

Technical Data

Pluggable connector
Supply voltage (field)
Current carrying capacity (power jumper contacts)
Surrounding air temperature (operation)
Dimensions W x H x D

Approvals

Data sheet and further information, see:

Accessories
Pluggable connector
Coding keys

Potential Distribution	
Standard	Pluggable (delivery without connector)
750-614	753-614
Potential Distribution	Potential Distribution

	●
0 ... 230 VAC/DC; via power jumper contacts (power supply via blade contact; transmission via spring contact)	
10 A	
0 ... +55 °C	
12 x 69.8 x 100 mm	
CE; Marine; OrdLoc/HazLoc; ATEX/IECEX	

wago.com/750-614	wago.com/753-614
Item No.	
753-110	
753-150	

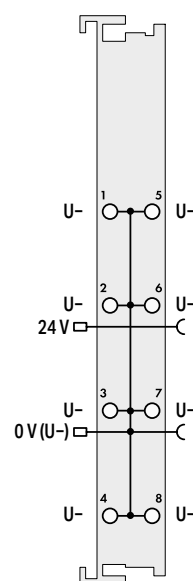
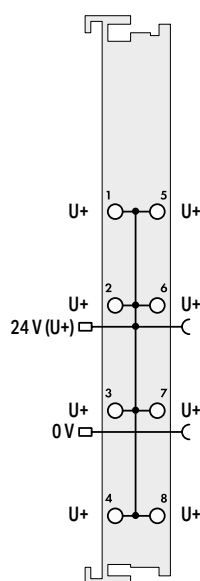
Potential Distribution



Figure: 750-603



Figure: 750-1605



Item Description		Potential Distribution; 8x 24 V		Potential Distribution; 8x 0 V	
Version		Standard	Pluggable (delivery without connector)	Standard	Pluggable (delivery without connector)
Item No.		750-603	753-603	750-604	753-604
Order Text		Potential Distribution; 8*24V	Potential Distribution; 8*24V	Potential Distribution; 8*0V	Potential Distribution; 8*0V
Technical Data					
Pluggable connector			•		•
Supply voltage (field)		24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)		24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)	
Current carrying capacity (power jumper contacts)		10 A		10 A	
Surrounding air temperature (operation)		0 ... +55 °C		0 ... +55 °C	
Dimensions W x H x D		12 x 69.8 x 100 mm		12 x 69.8 x 100 mm	
Approvals		CE; Marine; OrdLoc/HazLoc; ATEX/IECEX		CE; Marine; OrdLoc/HazLoc; ATEX/IECEX	
Data sheet and further information, see:		wago.com/750-603 wago.com/753-603		wago.com/750-604 wago.com/753-604	
Accessories		Item No.		Item No.	
Pluggable connector		753-110		753-110	
Coding keys		753-150		753-150	

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 523 or www.wago.com

Potential Distribution; 16x 24 V	Potential Distribution; 16x 0 V	Potential Distribution; 8x 24 V/8x 0 V
Standard with 16 connectors	Standard with 16 connectors	Standard with 16 connectors
750-1605	750-1606	750-1607
Potential Distribution; 16*24V	Potential Distribution; 16*0V	Potential Distribution; 8*24V/8*0V
24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)	24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)	24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
10 A	10 A	10 A
0 ... +55 °C	0 ... +55 °C	0 ... +55 °C
12 x 69 x 100 mm	12 x 69 x 100 mm	12 x 69 x 100 mm
CE; Marine; OrdLoc/HazLoc; ATEX/IECEX	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
wago.com/750-1605	wago.com/750-1606	wago.com/750-1607

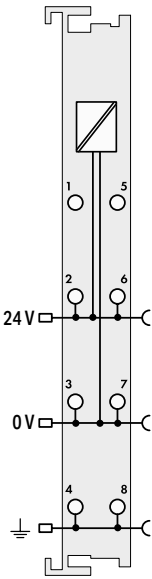
Field Supply Filter (Surge)



Figure: 750-624/020-000



Figure: 750-624/020-001



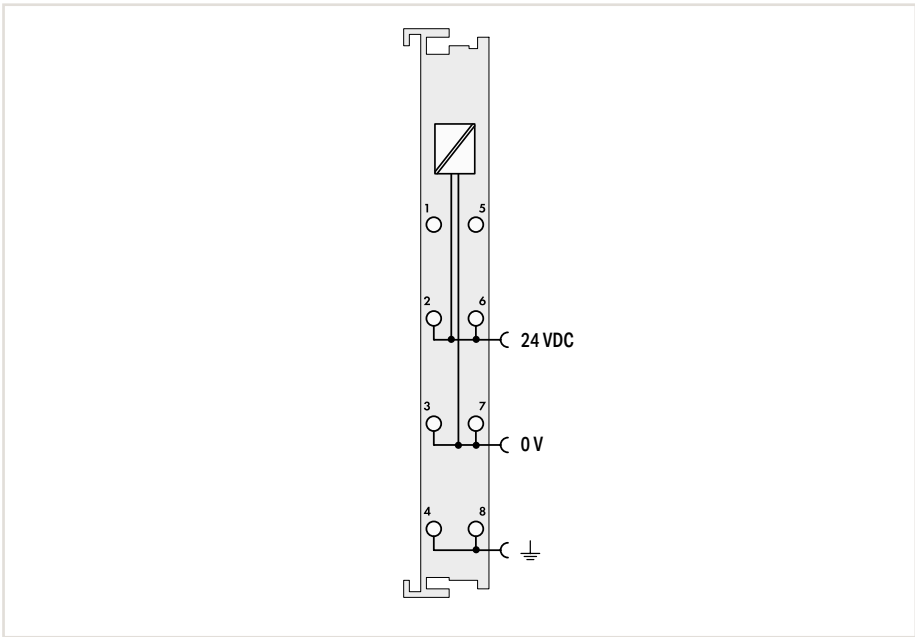
Item Description		Field Supply Filter (Surge); 24 VDC		
Version		Standard	Higher isolation	Higher isolation; Ground fault diagnostics
Item No.		750-624	750-624/020-000	750-624/020-002
Order Text		Field Supply Filter; 24 VDC	Field Supply Filter; 24 VDC; HI	Field Supply Filter; 24 VDC HI; GF
Technical Data				
Supply voltage (field)		24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)		
Current carrying capacity (power jumper contacts)		10 A		
Use		Marine-certified operation in conjunction with the Ex i supply module and the use of 750 Series PROFIsafe Modules Marine-certified operation in conjunction with 750 Series I/O Modules		
Ground diagnostics		Response values:		
Pre-alarm		50 kΩ (±15 %)		
Main alarm		25 kΩ (±15 %);		
Hysteresis		typ. 25 ... 30 %;		
Response time		≤5 s (typ. 2.5 s);		
Internal resistance DC (test circuit)		> 10 MΩ (test inactive), > 90 kΩ (test active)		
Test current		≤180 μA (R _F = 0 Ω)		
Permissible system leakage capacitance		≤2 μF		
Surrounding air temperature (operation)		0 ... +55 °C		
Dimensions W x H x D		12 x 69.8 x 100 mm		
Approvals		CE; Marine; OrdLoc/HazLoc; ATEX/IECEx		
Data sheet and further information, see:		wago.com/750-624	wago.com/750-624/020-000	wago.com/750-624/020-002

*pending

Use in systems with isolation monitoring requires the high isolation variants.

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 523 or www.wago.com



Field Supply Filter (Surge); 24 VDC	
Without power jumper contacts	Higher isolation; Without power jumper contacts
750-624/000-001	750-624/020-001
Field Supply Filter; 24 VDC; NC	Field Supply Filter; 24 VDC; HI; NC

24 VDC (–25 ... +30 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact)

10 A

Marine-certified operation in conjunction with the Ex i supply module and the use of 750 Series PROFIsafe Modules	Marine-certified operation in conjunction with 750 Series I/O Modules

0 ... +55 °C

12 x 69.8 x 100 mm

CE; Marine; OrdLoc/HazLoc; ATEX/IECEx

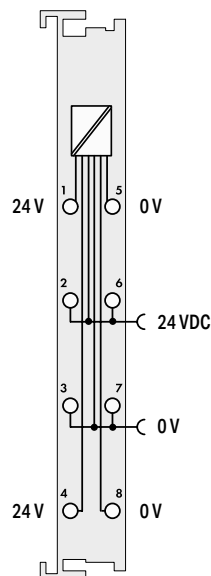
wago.com/750-624/000-001	wago.com/750-624/020-001

Use in systems with isolation monitoring requires the high isolation variants.

Supply Filter



Figure: 750-626/020-000

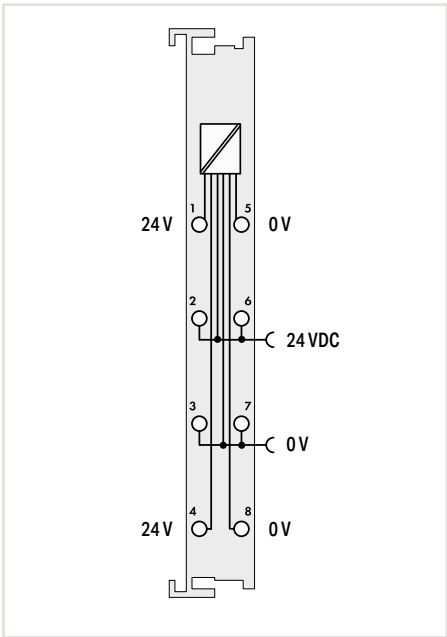


Item Description	Supply Filter; 24 VDC			
Version	Higher isolation	Higher isolation; Extended temperature	Standard	Extended temperature
Item No.	750-626/020-000	750-626/025-001	750-626	750-626/025-000
Order Text	Supply Filter; 24 VDC; HI	Supply Filter; 24 VDC; HI; T	Supply Filter; 24 VDC	Supply Filter; 24 VDC; T
Technical Data				
Supply voltage (field)		24 VDC (–25 ... +30 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact)		
Supply voltage, system (24 V)		24 VDC (–25 ... +30 %); power supply and transmission via CAGE CLAMP® connection		
Current via system voltage (max.)		1.5 A		
Current carrying capacity (power jumper contacts)		10 A		
Use		Marine-certified operation in conjunction with 750 Series Couplers and Controllers		Marine-certified operation in conjunction with the Ex i supply module and the use of 750 Series PROFIsafe Modules
Ground diagnostics				
Pre-alarm				
Main alarm				
Hysteresis				
Response time				
Internal resistance DC (test circuit)				
Test current				
Permissible system leakage capacitance				
Surrounding air temperature (operation)		0 ... +55 °C	–20 ... +60 °C	0 ... +55 °C
Dimensions W x H x D		12 x 69.8 x 100 mm		
Approvals		CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEX		
Data sheet and further information, see:		wago.com/750-626/020-000		wago.com/750-626

Use in systems with isolation monitoring requires the high isolation variants.

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 523 or www.wago.com



Supply Filter; 24 VDC
Higher isolation; Ground fault diagnostics
750-626/020-002
Supply Filter; 24 VDC HI; GF

24 VDC (–25 ... +30 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact)
24 VDC (–25 ... +30 %); power supply and trans- mission via CAGE CLAMP® connection
1.5 A
10 A

Marine-certified operation in conjunction with 750 Series Couplers and Controllers
Response values:
50 kΩ (±15 %)
25 kΩ (±15 %);
typ. 25 ... 30 %;
≤5 s (typ. 2.5 s);
> 10 MΩ (test inactive), > 90 kΩ (test active)
≤ 180 μA (R _F = 0 Ω)
≤ 2 μF
0 ... +55 °C
12 x 69.8 x 100 mm
CE; Marine; OrdLoc; ATEX/IECEx
wago.com/750-626/020-002

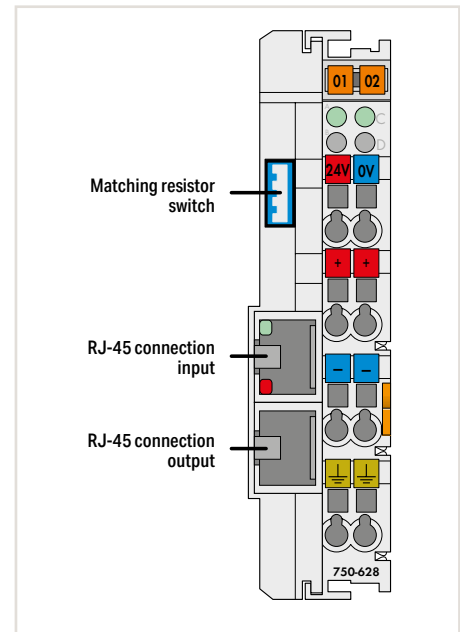
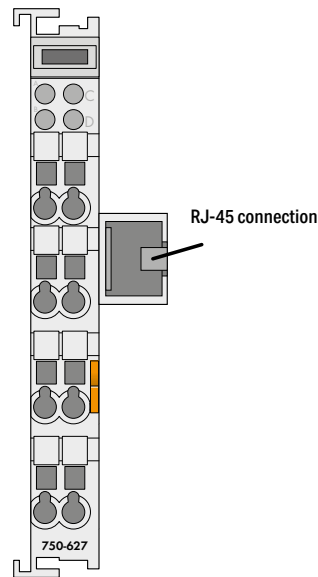
Use in systems with isolation monitoring requires the high isolation variants.

End Module/Coupler Module for Bus Extension

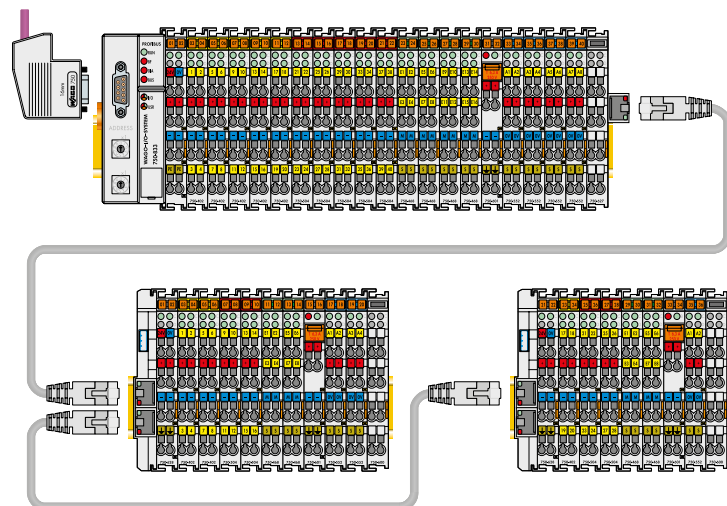


Figure: 750-627

Figure: 750-628



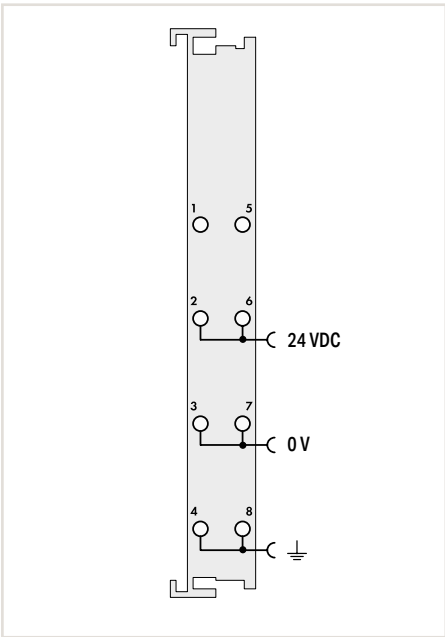
Item Description	Bus Extension End Module	Bus Extension Coupler Module
Version	Standard	Standard
Item No.	750-627	750-628
Order Text	Bus Extension End Module	Bus Extension Coupler Module
Technical Data		
Number of coupler modules	Up to 10	64 (within the system)
Number of I/O modules		2 x RJ-45 socket (input + output)
Connection technology (local bus)	1 x RJ-45 socket	5 m (10 m see manual); (end/coupler modules or coupler/coupler modules)
Distance (max.)	5 m (10 m see manual); (end/coupler modules or coupler/coupler modules)	24 VDC (–15 ... +20 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact)
Supply voltage (field)		24 VDC (–15 ... +20 %); power supply and transmission via CAGE CLAMP® connection
Supply voltage, system (24 V)		150 mA
Current consumption – system supply (5 V)	70 mA	10 A
Current carrying capacity (power jumper contacts)		
Isolation	500 V system/field	500 V system/field
Surrounding air temperature (operation)	0 ... +55 °C	0 ... +55 °C
Dimensions W x H x D	24 x 69.8 x 100 mm	24 x 69.8 x 100 mm
Approvals	CE, Marine; OrdLoc	CE, Marine; OrdLoc
Data sheet and further information, see:	wago.com/750-627	wago.com/750-628



„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 523 or www.wago.com

Binary Spacer Module



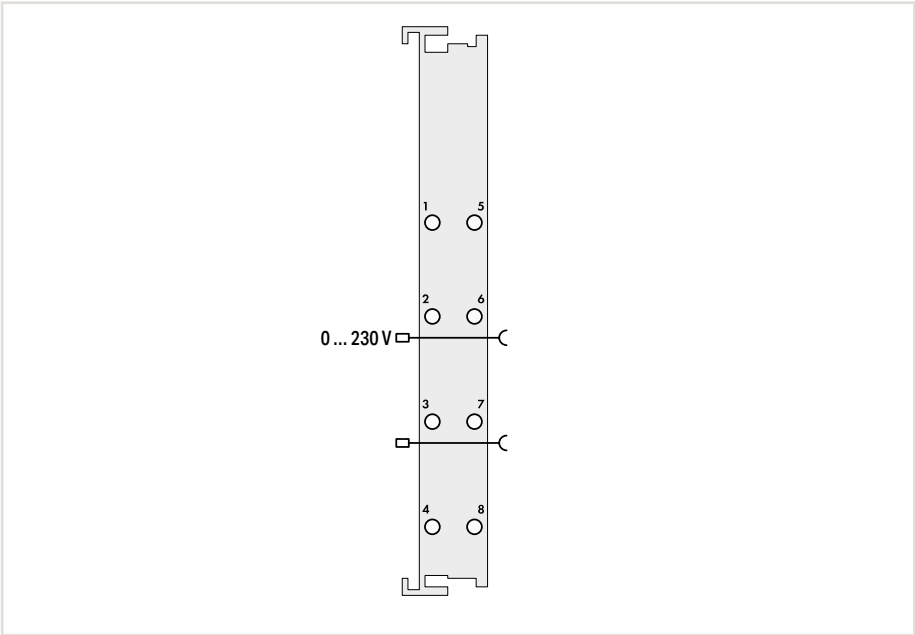
Item Description	Binary Spacer Module
Version	Standard
Item No.	750-622
Order Text	Binary Spacer Module
Technical Data	
Current consumption – system supply (5 V)	10 mA
Supply voltage (field)	24 VDC (–15 ... +20 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact)
Current carrying capacity (power jumper contacts)	10 A
Data width (internal)	2; 4; 6 or 8 bits (adjustable via DIP switches)
Operating mode	Inputs/outputs (adjustable via DIP switches)
Isolation	500 V system/field
Surrounding air temperature (operation)	0 ... +55 °C
Dimensions W x H x D	12 x 69.8 x 100 mm
Approvals	CE, OrdLoc/HazLoc, ATEX/IECEx
Data sheet and further information, see:	wago.com/750-622

This binary spacer module reserves bit addresses in the process image of a fieldbus node.

Spacer Module



Figure: 753-1629



Item Description	Spacer Module		
	Active; Pluggable (delivery without connector)	Active; Without power jumper contacts; Pluggable (delivery without connector)	Passive; Pluggable (delivery without connector)
	753-1629	753-1629/000-001	753-629/020-000
Order Text	Spacer Module; Active	Spacer Module; Active; NC	Spacer Module; Passive
Technical Data			
Supply voltage (field)	0 ... 230 VAC/DC; Field-side supply via power jumper contacts		0 ... 230 VAC/DC; Field-side supply via power jumper contacts
Surrounding air temperature (operation)	0 ... +55 °C		
Dimensions W x H x D	12 x 69.8 x 100 mm		
Approvals	CE, RoHS, OrdLoc		
Data sheet and further information, see:	wago.com/753-1629		wago.com/753-629
	This active spacer module enables both hardware and software space reservation for standard function modules (digital input/output modules and analog input/output modules) in PROFIBUS/PROFINET networks (only in conjunction with 750-333, 750-375, 750-377).		This passive spacer module enables hardware space reservation for standard function modules (digital input/output modules and analog input/output modules).

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

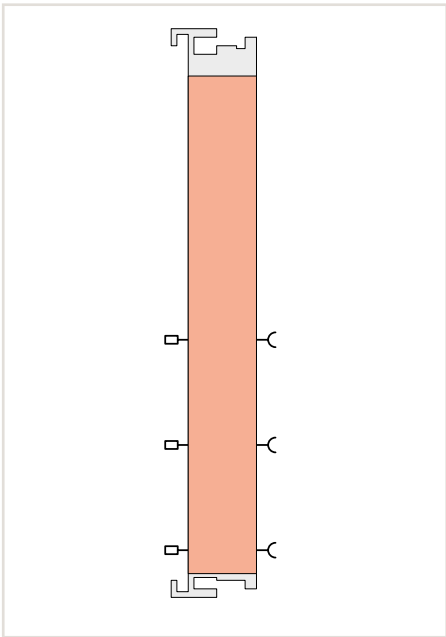
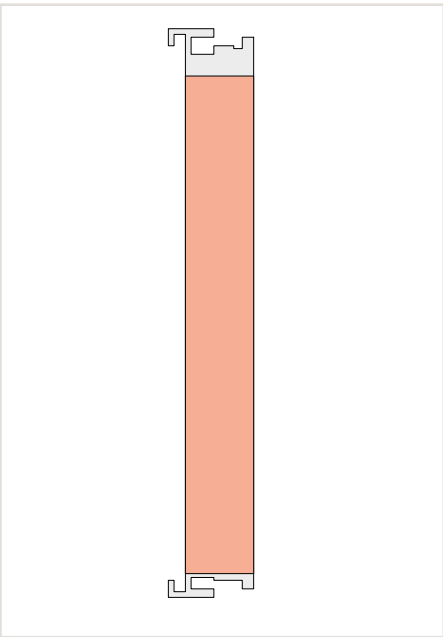
„ Approvals and corresponding ratings, see page 523 or www.wago.com

Distance Module



Figure: 750-616

Figure: 750-616/030-000



Item Description
Version
Item No.
Order Text

Technical Data
Surrounding air temperature (operation)
Dimensions W x H x D

Approvals

Data sheet and further information, see:

Distance Module	
Standard	Labeled
750-616	750-616/030-000
Distance Module	Distance Module

0 ... +55 °C
12 x 69.8 x 100 mm
CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
wago.com/750-616

This distance module visually divides a fieldbus node into sections.

The 750-616 Distance Module has no power jumper contacts. The labeled version of the distance module is available under the item number 750-616/030-000.

Notice:
Operation of the adjacent I/O modules requires a supply module.

Distance Module
With power jumper contacts
750-621
Distance Module

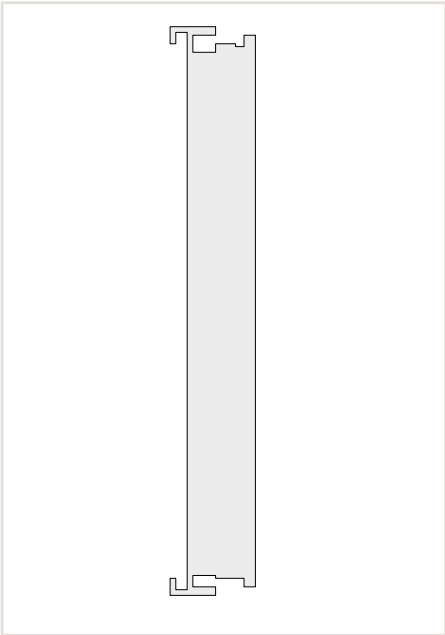
0 ... +55 °C
12 x 69.8 x 100 mm
CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
wago.com/750-621

The 750-621 Distance Module has power jumper contacts that can supply the power to adjacent I/O modules.

End Module



Figure: 750-600



Item Description		End Module	
Version		Standard	Extended temperature
Item No.		750-600	750-600/025-000
Order Text		End Module	End Module; T
Technical Data			
Surrounding air temperature (operation)		0 ... +55 °C	-20 ... +60 °C
Dimensions W x H x D		12 x 69.8 x 100 mm	
Approvals		CE; Marine; OrdLoc/HazLoc; ATEX/IECEX	
Data sheet and further information, see:		wago.com/750-600	

This end module must be snapped onto the assembly at the end of a fieldbus node. The end module completes the internal data bus, ensuring flawless data transmission.

" Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

" Approvals and corresponding ratings, see page 523 or www.wago.com



I/O System – 750 XTR Series

I/O System – 750 and 753 Series

- Highly versatile
- More than 500 modules available
- Functional safety
- Ex i

I/O System – 750 XTR Series

- For demanding applications in which the following are critical:
- Extreme temperature stability
 - Immunity to electromagnetic interference and impulse voltages
 - Vibration and shock resistance

I/O System – 750 XTR Series

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	8-Channel Digital Input; 24 VDC; 0.2 ms; 2-wire connection; extreme	750-1416/040-000	357
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	Analog Output Modules	2-Channel Analog Output; 0/4 ... 20 mA; 16 bits; 6 ... 18 VDC; extreme	750-563/040-000
4-Channel Analog Output; ±10 VDC; extreme		750-557/040-000	370
4-Channel Analog Output; 0 ... 10 VDC; extreme		750-559/040-000	370
Function/Technology Modules	Counter; adjustable; extreme	750-404/040-003	371
	SSI Transmitter Interface; adjustable; extreme	750-630/040-001	372
	Incremental Encoder Interface; 24 VDC; Differential input; 32 bits; extreme	750-637/040-001	373
Communication Modules	Serial Interface RS-232/485; extreme	750-652/040-000	374
	CAN Gateway; extreme	750-658/040-000	375
Supply/Segment Modules	Power Supply; 24 VDC; extreme	750-602/040-000	376
	Power Supply; 24 VDC; Fuse holder; extreme	750-601/040-000	376
	Power Supply; 24 VDC; Fuse holder; Diagnostics; extreme	750-610/040-000	377
	Power Supply; 0 ... 230 VAC/DC; extreme	750-612/040-000	377
	System Power Supply; 24 VDC; extreme	750-613/040-000	377
	Potential Distribution; 16x 24 V; extreme	750-1605/040-000	378
	Potential Distribution; 16x 0 V; extreme	750-1606/040-000	378
	Potential Distribution; 0 ... 230 VAC/DC; extreme	750-614/040-000	379
	Field Supply Filter (Surge); 24 VDC; Higher isolation; extreme	750-624/040-000	380
	Field Supply Filter (Surge); 24 VDC; Higher isolation; without power jumper contacts; extreme	750-624/040-001	380
	Supply Filter; 24 VDC; Higher isolation; extreme	750-626/040-000	381
	Distance Module; extreme	750-616/040-000	382
	End Module; extreme	750-600/040-000	383
	Power Supply; 24 VDC; extreme; for intrinsically safe XTR modules	750-606/040-000	385
	8-Channel Digital Input; NAMUR; intrinsically safe; extreme	750-439/040-000	386
	2-Channel Digital Output; 24 VDC; intrinsically safe; extreme	750-535/040-000	387
	4-Channel Analog Input; 0/4 ... 20 mA; intrinsically safe; extreme	750-486/040-000	388
2-Channel Analog Input; 4 ... 20 mA HART; intrinsically safe; extreme	750-484/040-000	389	
2-Channel Analog Input; Resistance measurement; intrinsically safe; extreme	750-481/040-000	390	
2-Channel Analog Output; 0 ... 20 mA; intrinsically safe; extreme	750-585/040-000	391	
Up/Down Counter; intrinsically safe; extreme	750-633/040-000	392	
Accessories	Section 10		
Marking and Mounting Accessories			

I/O System – 750 XTR Series

General Product Information

Taking It to the eXTReMe — The Standard for 750 XTR

Instantly recognizable by its dark gray modules, the WAGO-I/O-SYSTEM 750 XTR's unique features make it ideal for extreme environments.

Extremely temperature-resistant, immune to interference, as well as unfazed by vibrations and impulse voltages – WAGO's 750 XTR is the first choice for demanding applications including:

- Marine systems and onshore/offshore industry
- Renewable energy systems (wind turbines, solar systems and biogas plants)
- Transformer stations and power distribution systems
- Petrochemical processing
- Water and wastewater treatment systems
- Custom machines
- Railway applications

Superior Reliability in Extreme Climates

Automation systems are increasingly being located in outdoor and remote locations where components are directly affected by widely fluctuating temperature conditions such as wind turbines or transformer stations.

Engineered for freezing cold, extreme heat and high humidity, the WAGO-I/O-SYSTEM 750 XTR provides absolute dependability in virtually any weather. The XTR version of the WAGO-I/O-SYSTEM 750 is unfazed by both freezing cold down to -40°C and scorching heat up to $+70^{\circ}\text{C}$. And this applies equally for both start-up and ongoing operation. The maximum approved operating altitude of 5,000 m is another highlight. Even in the thin air of a mountain-top station, the system impressively demonstrates its high performance and availability.

eXTReMe Evolution of the Tried and Tested

Using an industry-leading platform, the WAGO-I/O-SYSTEM 750 XTR boasts the same proven benefits:

- Compact design: up to 16 channels in a module width of 12 mm (1/2")
- Easy to Use
- Vibration-proof, fast and maintenance-free CAGE CLAMP® spring connections
- Fieldbus independence due to its modular design
- Clear identification with the WAGO WSB Marking System

Additional Protection Against Interference Pulses

The WAGO-I/O-SYSTEM 750 XTR provides greater isolation up to 5 kV of impulse voltage, lower EMC emission of interference and higher insensitivity to EMC interference. These strengths add up to trouble-free operation.

High Mechanical Performance

Automation systems must be incredibly vibration-resistant, especially when installed close to vibration-prone and shock-generating system components. Powerful motors and power circuit breakers are just two examples from a wide range of applications that can stress automation systems. In order to perform in these demanding environments, the WAGO-I/O-SYSTEM 750 XTR was developed to set new standards. With 5g of vibration resistance up to an acceleration of 50 m/s^2 per DIN EN 60068-2-6 and shock resistance of 15g (150 m/s^2), as well as 25g (250 m/s^2) of shock resistance per IEC 60068-2-27, the system is engineered for dependability – no matter what. Count on long-lasting, trouble-free operation and industry-topping levels of safety – even in the most severe applications, such as tunnel boring machines.

Worldwide Approvals

International approvals for industrial automation, shipbuilding and onshore/offshore applications guarantee worldwide use even under the harshest operating conditions, e.g., Germanischer Lloyd, Det Norske Veritas, American Bureau of Shipping, Korean Register of Shipping, Nippon Kaiji Kyokai, Registro Italiano Navale, Polski Rejestr Stratkow.

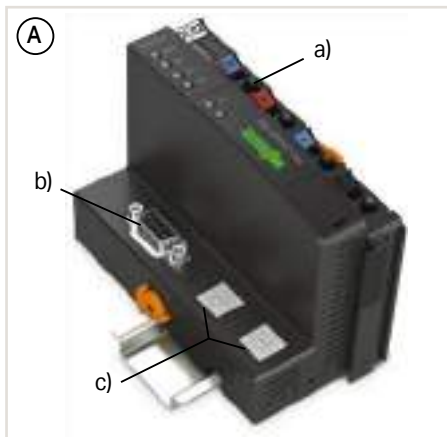


Advantages:

- No need for air conditioning
 - Takes less space
 - Lower energy and maintenance costs
- Can be used in unshielded areas
- Maximum system uptime
- Install close to vibrating and shock-generating system components
- Vibration-proof, fast and maintenance-free CAGE CLAMP® connections

I/O System – 750 XTR Series

Interfaces and Types

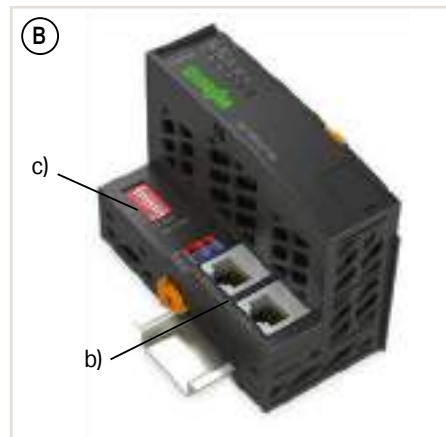


Housing design: fieldbus coupler (A)

- Including supply module (a) to power downstream I/O modules
- Technical differences on the connection level; fieldbus interface (b) and optional addressing switch (c)
- W x H x D (mm) 50.5 x 71.1 x 100

Housing design: fieldbus coupler Eco (B)

- Restriction on power supply and data width
- W x H x D (mm) 49.5 x 71.9 x 96.8



Housing design: 750 (C)

- 8 connection points (CAGE CLAMP®)
- W x H x D (mm) 12 x 67.8 x 100

Housing design: 750 (D)

- 16 connection points (Push-in CAGE CLAMP®)
- W x H x D (mm) 12 x 69 x 100



Housing design: double width (G)

- Some modules are integrated into a double housing to address specific technological needs. Despite utilizing the same standardized housing, these modules are twice as wide.
- W x H x D (mm) 24 x 67.8 x 100

Specialty housing design (H)

- Some modules are integrated into a specialty housing with a specific width and pluggable connectors. The dimensions are specified on the respective catalog pages.



Housing design: intrinsically safe XTR modules (G)

- 8 connection points (CAGE CLAMP®)
- W x H x D (mm) 12 x 67.8 x 100

Housing design (intrinsically safe XTR modules): double width (H)

- 16 connection points (CAGE CLAMP®)
- W x H x D (mm) 24 x 67.8 x 100



I/O System – 750 XTR Series

Application and Installation Instructions



Securing/removing a module from the mounting rail



Secure, automatic data and electronics power supply connection via gold-plated pressure contacts



Service interface for configuring the fieldbus coupler; connectivity via configuration cable or radio adapter



Secure, automatic power supply connection via self-cleaning blade contacts

Notice:

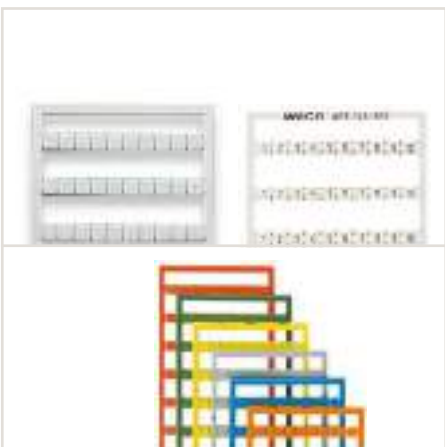
For some I/O modules, not all power jumper contacts are made! An I/O module with three power jumper contacts (e.g., 2-channel digital input) cannot be snapped into place behind a module in which not every contact is made.

To increase electromagnetic compatibility (EMC), some components are connected to the DIN-rail by a discharge contact. The DIN-rail must always have a low-resistance connection to the ground potential.



Wide range of accessories available for EMC-compliant installation, including shield connection

Marking Accessories



Mini-WSB Quick Marking System, blank, pre-marked and colored; suitable for all 750 Series I/O Modules.



Marker carrier for one single I/O module (suitable for all 750 and 753 Series I/O Modules); the marker carrier can be accommodated in the upper Mini-WSB marker slot.



Marker carrier for one I/O node; both carrier models (750-106 and 750-107) permit continuous marking regardless of the I/O module housing used.

I/O System – 750 XTR Series

Application and Installation Instructions

Power Supply

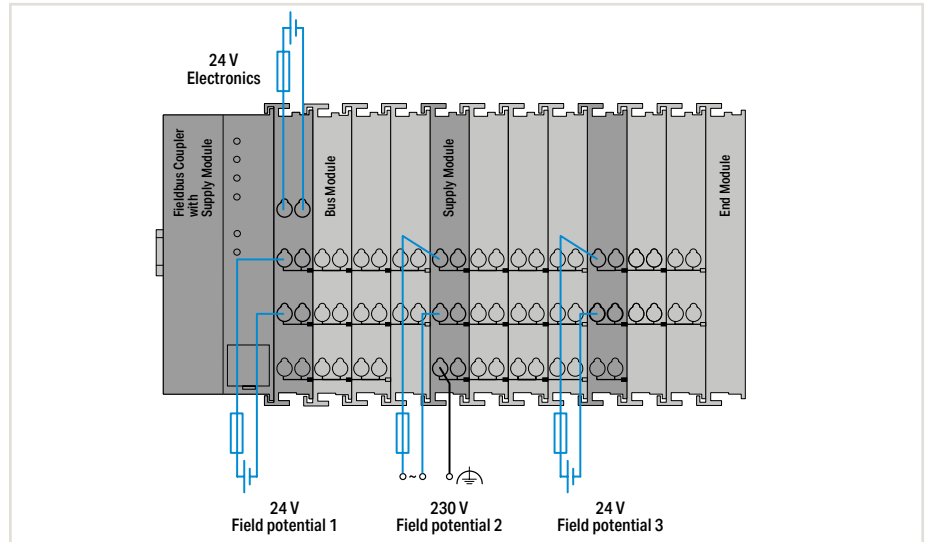
The internal electronics are powered by the fieldbus coupler. The power supply to the field-side supply is electrically isolated. This division enables a separate supply for sensors and actuators. Snapping the I/O modules together automatically routes the supply voltages. Supply modules with diagnostics also enable power supply monitoring. This ensures a flexible, user-specific supply design for a station.

Power supply to the electronics is limited by a maximum value. This value depends on the fieldbus coupler used. If the sum of the internal current demand of all the I/O modules should exceed this value, an additional system supply module is necessary. Even in this case, power supply to the field-side supply of 10 A may not be exceeded. However, different power supply modules allow a new power supply, formation of potential groups and the implementation of emergency stops.

Interference-Free in Safety-Related Applications

To easily and safely perform cost-effective, centralized deactivation of complete actuator groups, the actuator's power supply can be switched off using a safety switching device. This can either be performed for each individual actuator or by turning off the power supply to a group of control outputs. In the event of failure, ensure that no interference from other current or power circuits occurs – even when the control voltage is switched off – so the defined safety function properties (logic and time response) remain unchanged.

All 750 XTR Series Digital Output Modules are designed to provide interference-free safety functionality. The modules can be used in safety applications up to category 4 per DIN EN ISO 13849-1:2007. Safety category and performance level depend solely on the safety components and their wiring.



Notice:

WAGO's interference-free I/O modules are not a component of the safety function and do not replace the safety switching device! When using the components in safety functions, the corresponding notes must be observed in the relevant manual.

Notes

Additional steps must be implemented based on where the I/O system is installed: Specific power and field-side power supply filters (750-624/040-001 or 750-626/040-000) are required for marine and onshore/offshore applications, as well as in telecontrol and rail technology.

A specific supply module (750-606/040-000) is required to operate intrinsically safe Ex i modules.

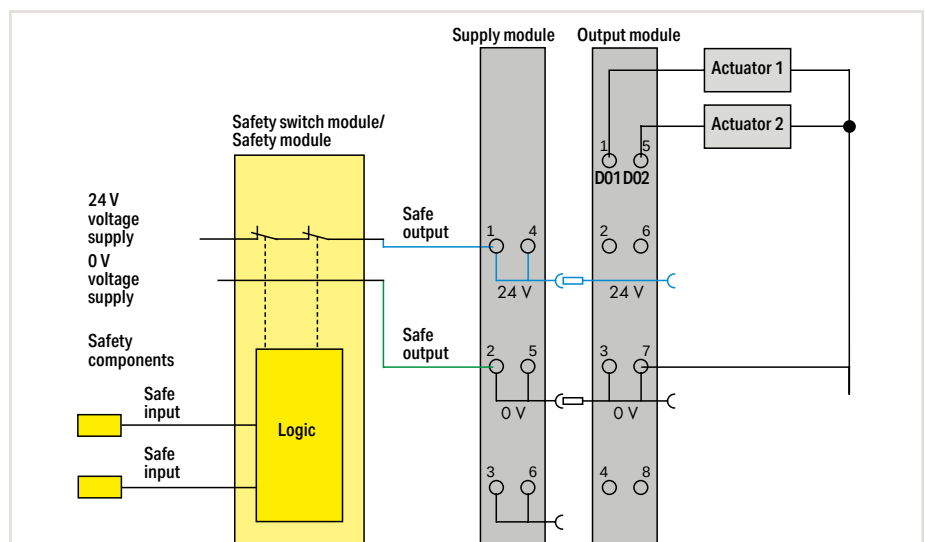
Additionally, both supply modules and a field-side power supply filters are recommended

when operating intrinsically safe Ex i modules for marine and onshore/offshore applications.

Please refer to the manual for details about the power supply's design.

Mixed Operation

Mixed operation (standard/XTR modules) within a node is possible when groups of I/O modules are electrically isolated on the field side, i.e., electrically isolated power supply. The combination may be useful, for example, when there are only increased requirements for dielectric strength and immunity to interference, but the surrounding air temperature is not critical.

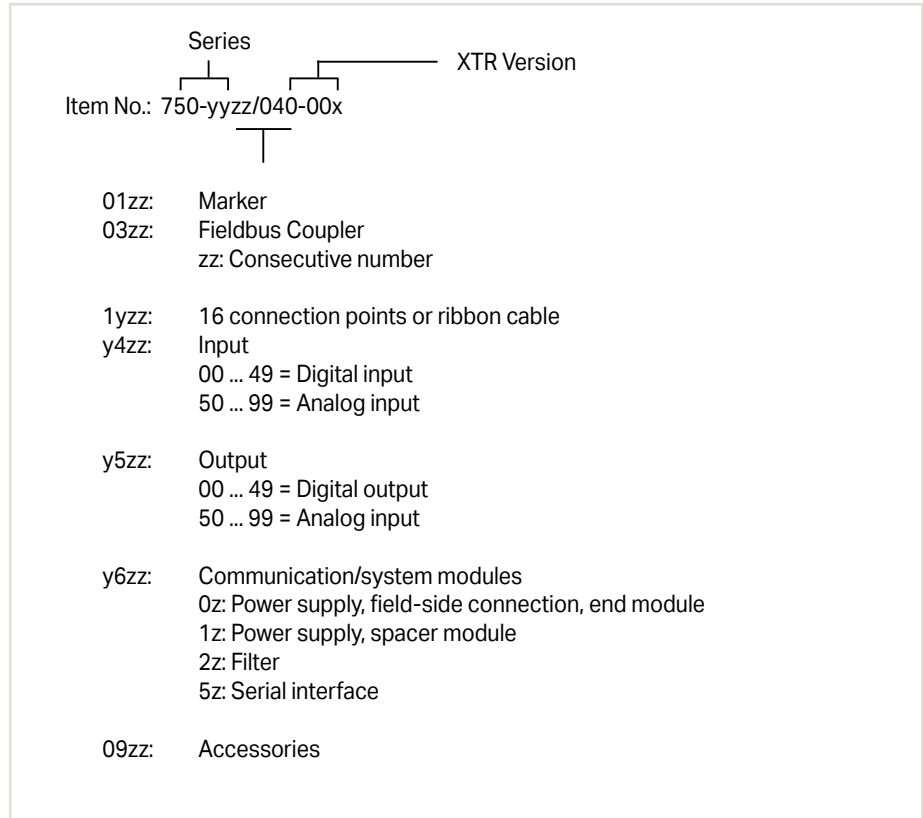


Example: 2-channel, double-pole power supply disconnection

I/O System – 750 XTR Series

Item Number Key

Explanation of item number key's components



Approvals

Overview of the approvals in the item comparison in Section 11, Technical Section, or online under www.wago.com



6

Standards and Rated Conditions for Rail Applications (EN 50155), not for Intrinsically Safe XTR Modules

Railway Applications (EN 50155)	Class/Standard Compliance
4.1 Rated operating conditions	
4.1.1 Altitude above sea level	AX (EN 50125-1)
4.1.2 Surrounding air temperature	TX
4.1.3 Shock and vibration	1A and 1B (EN 61373)
4.1.4 Relative humidity	95 % (coated PCBs)
5.1 Power supply	
5.1.1.1 Master voltage fluctuations	
Minimum voltage	0.725 x Un
Maximum voltage	1.3 x Un
5.1.1.2 Power interruptions	S1
5.4 Surge, ESD, burst tests	EN 50121-3-2
5.5 EMC (emission of interference, immunity to interference)	EN 50121-3-2, EN 50121-4, -5
Fire behavior: per EN 45545-2 hazard level HL3	
WAGO is certified in accordance with the IRIS quality standard.	

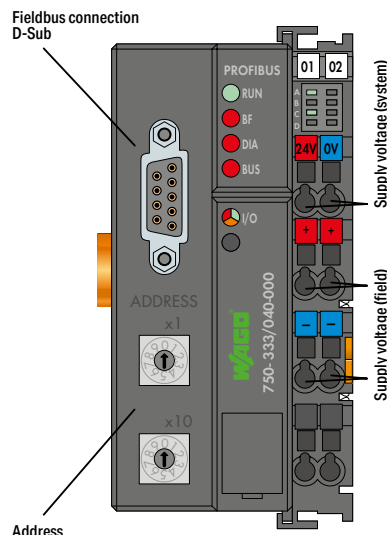
I/O System – 750 XTR Series

Standards and Rated Conditions

General Specifications

Supply voltage (system)	24 VDC (–25 ... +30 %); via power jumper contacts; Specified values for surrounding air temperature: +15 ... +35 °C For –40 ... +55 °C: 24 V (–25 ... +20 %); For +55 ... +70 °C: 24 V (–25 ... +10 %); Lower limit in all temperature ranges: –27.5 % (including 15 % residual ripple)
Supply voltage (system) for intrinsically safe XTR modules	24 VDC via power jumper contacts (Ex i power supply: U_0 = max. 26.8 V)
Surrounding air temperature (operation)	–40 ... +70 °C
Surrounding air temperature (storage)	–40 ... +85 °C
Relative humidity	Max. 95 %; Short-term condensation per Class 3K7 / IEC EN 60721-3-3 and E DIN 40046-721-3 (except wind-driven precipitation, water and ice formation)
Operating altitude	Without temperature derating: 0 ... 2000 m; With temperature derating: 2000 ... 5000 m (0.5 K/100 m); max.: 5000 m
Pollution degree	2 per IEC 61131-2
Immunity to impulse voltages	Per EN 60870-2-1 Module ≤ 50 V: 510 VAC/775 VDC; Module > 50 V: 2.5 kVAC/3.5 kVDC Isolation: rated surge voltage (EN 60079-11) Module ≤ 50 V: 1 kV (Class VW1 per EN 60870-2-1) Module > 50 V: 5 kV (Class VW3 per EN 60870-2-1) Intrinsically safe module: 1 kV; 1.5 kV between intrinsically safe and non-intrinsically safe circuits Surge: Module ≤ 50 V: 1 kV (L - L) / 2 kV (L - E) Module > 50 V: 2 kV (L - L) / 4 kV (L - E)
Vibration resistance	- Per IEC 60068-2-6 (acceleration: 5g), EN 60870-2-2, IEC 60721-3-1, -3 - EN 50155; EN 61373 (not for intrinsically safe modules)
Shock resistance	- Per IEC 60068-2-27 (15g/11 ms/half-sine/1,000 shocks; 25g/6 ms/1,000 shocks); EN 61373 - EN 50155 (not for intrinsically safe modules)
EMC immunity to interference	- Per EN 61000-6-1, -2; EN 61131-2; Marine applications; EN 60255-26; EN 60870-2-1; EN 61850-3; IEC 61000-6-5; IEEE 1613; VDEW: 1994 - EN 50121-3-2; EN 50121-4, -5 (not for intrinsically safe modules)
EMC emission of interference	- Per EN 61000-6-3, -4; EN 61131-2; EN 60255-26; Marine applications; EN 60870-2-1 (industrial and residential areas); EN 61850-3 (industrial and residential areas) - EN 50121-3-2; EN 50121-4, -5 (not for intrinsically safe modules)
Protection type	IP20
Mounting position	Horizontal (standing/lying) or vertical
Mounting type	DIN-35 rail mounting
Housing material	Polycarbonate; polyamid 6.6
Exposure to pollutants	Per IEC 60068-2-42 and IEC 60068-2-43
Permissible SO ₂ contaminant concentration at a relative humidity < 75 %	25 ppm
Permissible H ₂ S contaminant concentration at a relative humidity < 75 %	10 ppm
Connection technology	CAGE CLAMP®
Conductor cross section; strip length for standard modules and fieldbus couplers: Eco fieldbus couplers and power supply module:	0.25 ... 2.5 mm ² /24 ... 14 AWG; 8 ... 9 mm/0.31 ... 0.35 inch 0.25 ... 1.5 mm ² /24 ... 14 AWG; 5 ... 6 mm/0.2 ... 0.24 inch
Connection technology	Push-in CAGE CLAMP® (for I/O modules with 16 connection points)
Conductor cross section; strip length for I/O modules with 16 connection points:	0.25 ... 1.5 mm ² /24 ... 16 AWG; 8 ... 9 mm/0.31 ... 0.35 inch
Current carrying capacity (power jumper contacts)	10 A; 1 A for all intrinsically safe modules

Fieldbus Coupler PROFIBUS DP



Item Description

Version

Item no.

Order text

Fieldbus Coupler PROFIBUS DP; 2nd generation; 12 MBd

Extreme

750-333/040-000

FC PROFIBUS; G2; 12 MBd; XTR

Technical Data

Fieldbus

Protocols

Connection technology: Fieldbus input/output

Number of fieldbus nodes on master (max.)

Baud rate

Transmission medium

Number of modules per node (max.)

Input and output process image (internal) max.

Supply voltage (system)

Input current (typ.) at nominal load (24 V)

Current consumption – system supply (5 V)

Total current (system supply)

Rated surge voltage

Surrounding air temperature (operation)

Dimensions W x H x D

Approvals

Data sheet and further information, see:

Accessories

GSD files

PROFIBUS

PROFIBUS DP/V1

Socket D-Sub 9

96 with repeater

9.6 kBd ... 12 MBd

Copper cable per EN 50170

63

244 bytes

24 VDC (–25 ... +30 %); via wiring level (CAGE CLAMP® connection);
Specified values for surrounding air temperature: +15 ... +35 °C;
For –40 ... +55 °C: 24 V (–25 ... +20 %);
For +55 ... +70 °C: 24 V (–25 ... +10 %);
Lower limit in all temperature ranges: –27.5 % (including 15 % residual ripple)

500 mA

200 mA

1800 mA

1 kV

–40 ... +70 °C

50.5 x 71.1 x 100 mm

CE, Marine, OrdLoc/HazLoc, ATEX/IECEx

wago.com/750-333/040-000

Item no.

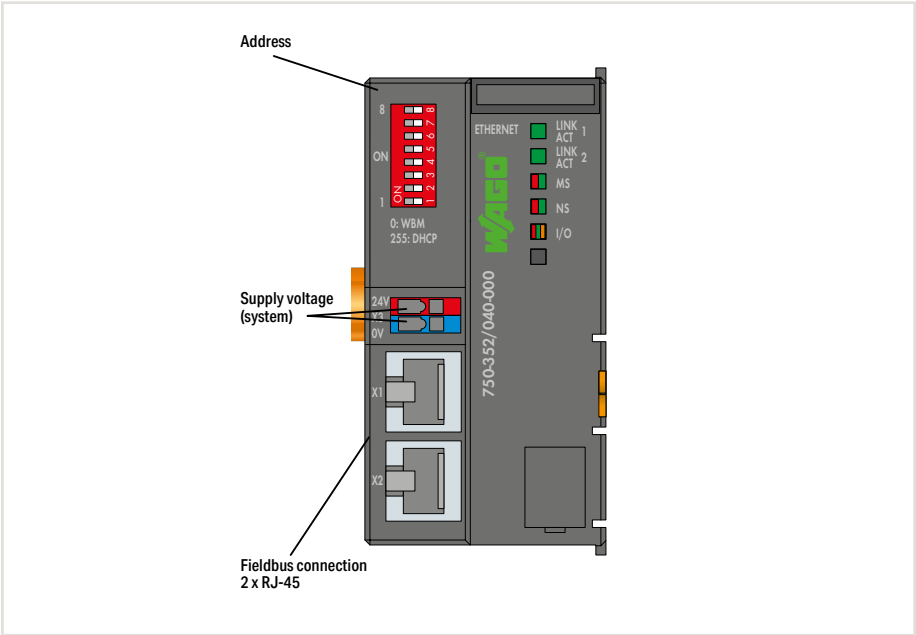
Download: www.wago.com

„ Mini-WSB Quick Marking System,
see Full Line Catalog, Volume 6

„ DIN-rails and tools,
see Section 10

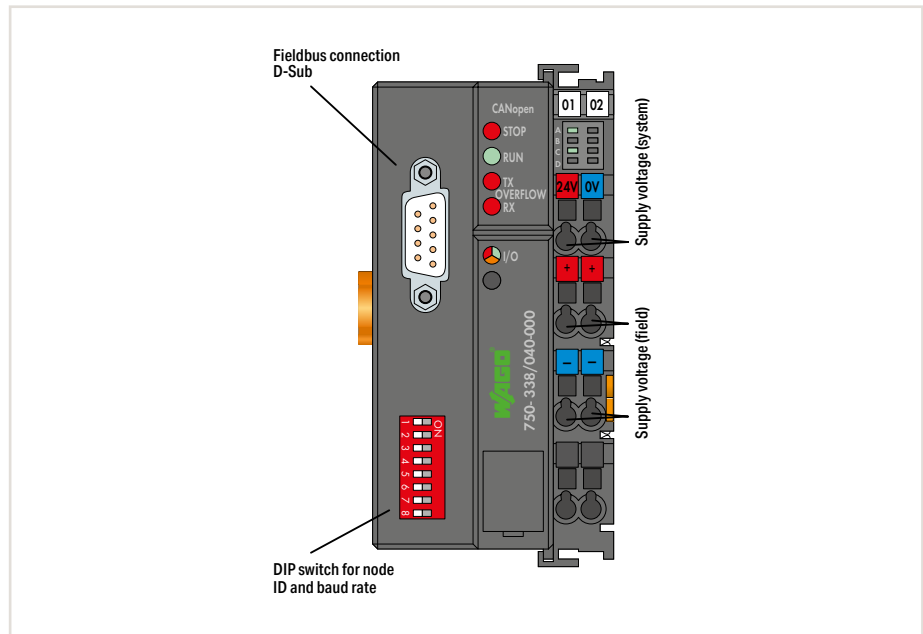
„ Approvals and corresponding ratings,
see page 526 or www.wago.com

Fieldbus Coupler ETHERNET



Item Description	Fieldbus Coupler ETHERNET; 3rd generation
Version	Extreme
Item no.	750-352/040-000
Order text	FC ETHERNET; G3; XTR
Technical Data	
Fieldbus	EtherNet/IP; Modbus (TCP, UDP)
Protocols	HTTP; BootP; DHCP; DNS; FTP; SNMP
Connection technology: Fieldbus input/output	2 x RJ-45
Baud rate	10/100 Mbit/s
Transmission medium	Twisted Pair S-UTP; 100 Ω; Cat. 5
Number of modules per node (max.)	64
Input and output process image (internal) max.	1020 words
Supply voltage (system)	24 VDC (–25 ... 30 %); via wiring level (CAGE CLAMP® connection); Lower limit: –27.5 % (including 15 % residual ripple)
Input current (typ.) at nominal load (24 V)	280 mA
Current consumption – system supply (5 V)	450 mA
Total current (system supply)	700 mA
Rated surge voltage	1 kV
Surrounding air temperature (operation)	–40 ... +70 °C
Dimensions W x H x D	49.5 x 71.9 x 96.8 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-352/040-000

Fieldbus Coupler CANopen



Item Description	Fieldbus Coupler CANopen; D-Sub
Version	Extreme
Item no.	750-338/040-000
Order text	FC CANopen; DSub; XTR
Technical Data	
Fieldbus	CANopen
Connection technology: Fieldbus input/output	Plug D-Sub 9
Number of fieldbus nodes on master (max.)	110
Bus segment length (max.)	30 m ... 1000 m (depending on baud rate/cable)
Baud rate	10 kBd ... 1 MBd
Transmission medium	Shielded Cu cable 3 x 0.25 mm ²
Number of modules per node (max.)	64
Input and output process image (internal) max.	512 bytes
Number of PDOs	32 Tx / 32 Rx
Number of SDOs	2 SDO servers
Communication profile	DS-301 V4.01
Device profile	DS-401 V2.0, Additional functions: limit monitoring; flank-triggered PDOs; configurable response in the event of an error
Supply voltage (system)	24 VDC (–25 ... +30 %); via wiring level (CAGE CLAMP® connection); Specified values for surrounding air temperature: +15 ... +35 °C; For –40 ... +55 °C: 24 V (–25 ... +20 %); For +55 ... +70 °C: 24 V (–25 ... +10 %); Lower limit in all temperature ranges: –27.5 % (including 15 % residual ripple)
Input current (typ.) at nominal load (24 V)	500 mA
Current consumption – system supply (5 V)	350 mA
Total current (system supply)	1650 mA
Rated surge voltage	1 kV
Surrounding air temperature (operation)	–40 ... +70 °C
Dimensions W x H x D	50.5 x 71.1 x 100 mm
Approvals	CE, UL, Marine, OrdLoc/HazLoc, ATEX/IECEX
Data sheet and further information, see:	wago.com/750-338/040-000
Accessories	Item no.
EDS files	Download: www.wago.com

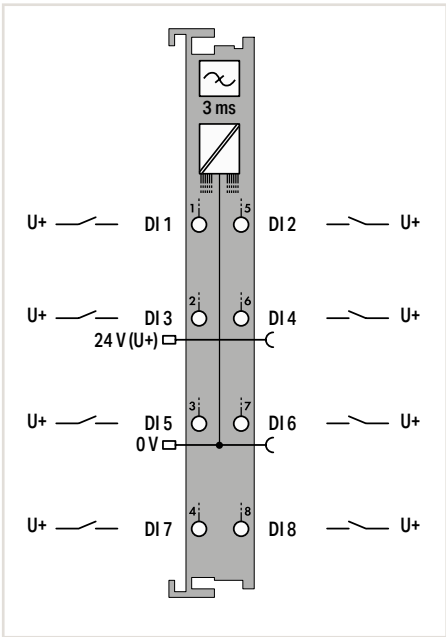
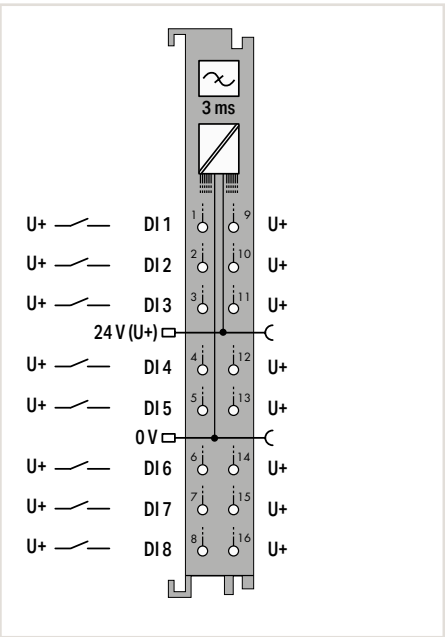
„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 526 or www.wago.com

Digital Input; 24 VDC

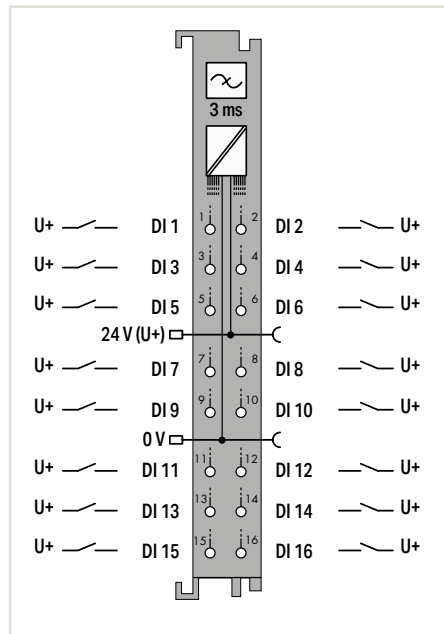


Figure: 750-1415/040-000



Item Description	8-Channel Digital Input; 24 VDC; 3 ms; 2-wire connection	8-Channel Digital Input; 24 VDC; 3 ms
Version	Extreme	Extreme
Item no.	750-1415/040-000	750-430/040-000
Order text	8DI; 24 VDC; 3ms; 2-wire; XTR	8DI; 24 VDC; 3ms; XTR
Technical Data		
Number of digital inputs	8	8
Signal type	24 VDC	24 VDC
Voltage range for signal (0)	-3 ... +5 VDC	-3 ... +5 VDC
Voltage range for signal (1)	11 ... 30 VDC	15 ... 30 VDC
Sensor connection	2-wire	1-wire
Input characteristic	High-side switching	High-side switching
Input filter (digital)	3 ms	3 ms
Input current per channel for signal (1) typ.	4.5 mA	2.8 mA
Supply voltage (sensor)	24 VDC	24 VDC
Supply voltage (field)	24 VDC (-25 ... 30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Specified values for surrounding air temperature: +15 ... +35 °C; for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple)	24 VDC (-25 ... 30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Specified values for surrounding air temperature: +15 ... +35 °C; for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple)
Current consumption – system supply (5 V)	6 mA	17 mA
Rated surge voltage	1 kV	1 kV
Data width (internal)	8 bits	8 bits
Surrounding air temperature (operation)	-40 ... +70 °C	-40 ... +70 °C
Dimensions W x H x D	12 x 69 x 100 mm	12 x 67.8 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-1415/040-000	wago.com/750-430/040-000

Digital Input; 24 VDC



Item Description	16-Channel Digital Input; 24 VDC; 3 ms
Version	Extreme
Item no.	750-1405/040-000
Order text	16DI; 24 VDC; 3ms; XTR
Technical Data	
Number of digital inputs	16
Signal type	24 VDC
Voltage range for signal (0)	-3 ... +5 VDC
Voltage range for signal (1)	11 ... 30 VDC
Sensor connection	1-wire
Input characteristic	High-side switching
Input filter (digital)	3 ms
Input current per channel for signal (1) typ.	2.3 mA
Supply voltage (field)	24 VDC (-25 ... 30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Specified values for surrounding air temperature: +15 ... +35 °C; for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple)
Current consumption – system supply (5 V)	25 mA
Rated surge voltage	1 kV
Data width (internal)	16 bits
Surrounding air temperature (operation)	-40 ... +70 °C
Dimensions W x H x D	12 x 69 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
Data sheet and further information, see:	wago.com/750-1405/040-000

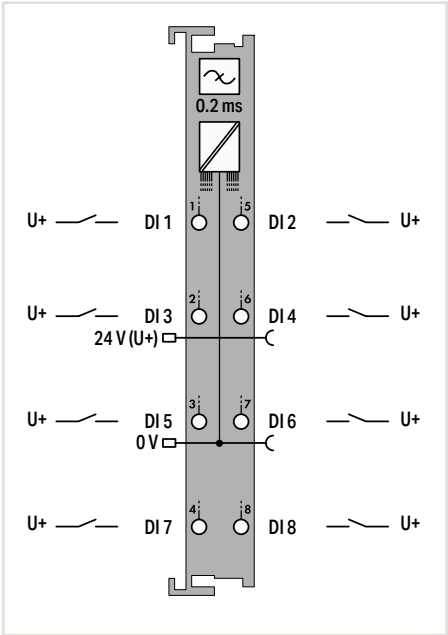
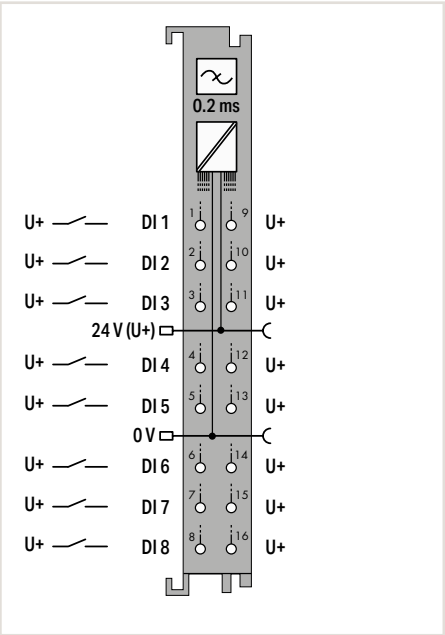
„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 526 or www.wago.com

Digital Input; 24 VDC

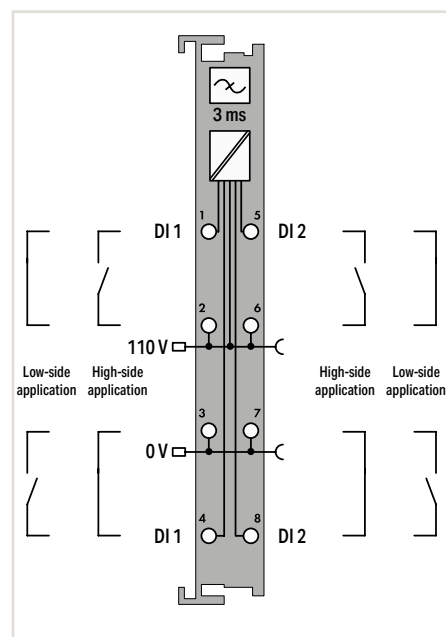
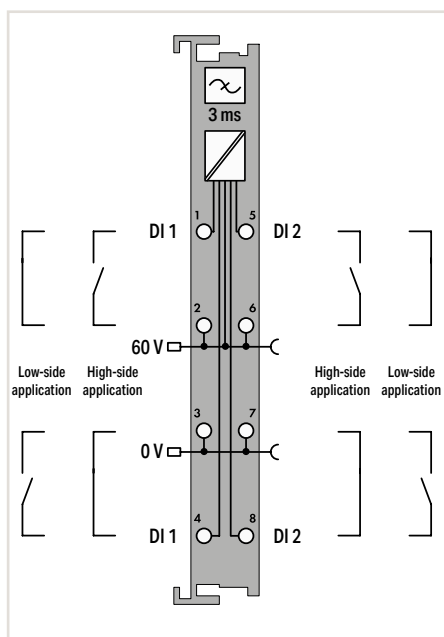


Figure: 750-1416/040-000



Item Description	8-Channel Digital Input; 24 VDC; 0.2 ms; 2-wire connection	8-Channel Digital Input; 24 VDC; 0.2 ms
Version	Extreme	Extreme
Item no.	750-1416/040-000	750-431/040-000
Order text	8DI; 24 VDC; 0.2ms; 2-wire; XTR	8DI; 24 VDC; 0.2ms; XTR
Technical Data		
Number of digital inputs	8	8
Signal type	24 VDC	24 VDC
Voltage range for signal (0)	-3 ... +5 VDC	-3 ... +5 VDC
Voltage range for signal (1)	11 ... 30 VDC	15 ... 30 VDC
Sensor connection	2-wire	1-wire
Input characteristic	High-side switching	High-side switching
Input filter (digital)	0.2 ms	0.2 ms
Input current per channel for signal (1) typ.	4.5 mA	2.8 mA
Supply voltage (sensor)	24 VDC	24 VDC
Supply voltage (field)	24 VDC (-25 ... 30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Specified values for surrounding air temperature: +15 ... +35 °C; for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple)	24 VDC (-25 ... 30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Specified values for surrounding air temperature: +15 ... +35 °C; for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple)
Current consumption – system supply (5 V)	6 mA	17 mA
Rated surge voltage	1 kV	1 kV
Data width (internal)	8 bits	8 bits
Surrounding air temperature (operation)	-40 ... +70 °C	-40 ... +70 °C
Dimensions W x H x D	12 x 69 x 100 mm	12 x 67.8 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-1416/040-000	wago.com/750-431/040-000

Digital Input; 60 VDC; 110 VDC or 220 VDC



Item Description

Version

Item no.

Order text

2-Channel Digital Input; 60 VDC; 3 ms

Extreme

750-429/040-001

2DI; 60 VDC; 3ms; XTR

2-Channel Digital Input; 110 VDC

Extreme

750-427/040-000

2DI; 110 VDC; XTR

Technical Data

Number of digital inputs	2
Signal type	60 VDC
Voltage range for signal (0)	-7.5 ... +12 VDC
Voltage range for signal (1)	44 ... 78 VDC
Sensor connection	2-wire
Input characteristic	High-side/low-side switching; configurable
Input filter (digital)	3 ms
Input current per channel for signal (1) typ.	2.9 mA
Supply voltage (sensor)	60 VDC
Supply voltage (field)	60 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	2.5 mA
Rated surge voltage	5.0 kV (EN 60870-2-1 / Class VW3); 2.5 kV (UL 508); 2.5 kV (EN 60664-1 / to 5,000 m ASL)
Overvoltage category	Nominal voltage 60 V: IV (EN 60664-1 / to 5,000 m ASL)
Data width (internal)	2 bits
Surrounding air temperature (operation)	-40 ... +70 °C
Dimensions W x H x D	12 x 67.8 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-429/040-001

Notice:

An additional supply module must be added for operation with 60 VDC!

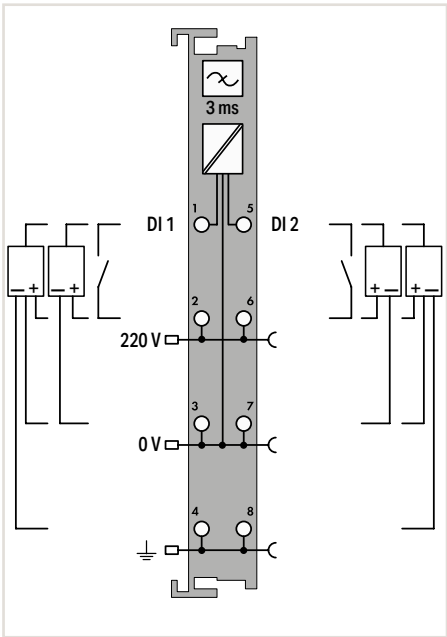
Number of digital inputs	2
Signal type	110 VDC
Voltage range for signal (0)	-14 ... +50 VDC
Voltage range for signal (1)	70 ... 143 VDC
Sensor connection	2-wire
Input characteristic	High-side/low-side switching; configurable
Input filter (digital)	3 ms
Input current per channel for signal (1) typ.	2.5 mA
Supply voltage (sensor)	110 VDC
Supply voltage (field)	110 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	2.5 mA
Rated surge voltage	5.0 kV (EN 60870-2-1 / Class VW3); 4.0 kV (UL 508); 4.0 kV (EN 60664-1 / to 2,000 m ASL); 2.5 kV (EN 60664-1 / > 2,000 m to 5,000 m ASL)
Overvoltage category	Nominal voltage 110 V: IV (EN 60664-1 / to 2,000 m ASL); III (EN 60664-1 / > 2,000 m to 5,000 m ASL)
Data width (internal)	2 bits
Surrounding air temperature (operation)	-40 ... +70 °C
Dimensions W x H x D	12 x 67.8 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-427/040-000

Notice:

An additional supply module must be added for operation with 110 VDC!

„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ Approvals and corresponding ratings, see page 526 or www.wago.com



2-Channel Digital Input; 220 VDC

Extreme

750-407/040-000

2DI; 220 VDC; XTR

2
220 VDC
-3 ... +100 VDC
160 ... 286 VDC
2-wire; 3-wire; 4-wire
High-side switching
3 ms
1.2 mA
220 VDC
220 VDC (-25 ... +25 %); via power jumper con- tacts (power supply via blade contact; transmis- sion via spring contact)
5 mA
5.0 kV (EN 60870-2-1 / Class VW3); 4.0 kV (UL 508); 4.0 kV (EN 60664-1 / to 4,000 m ASL); 2.5 kV (EN 60664-1 / > 4,000 m to 5,000 m ASL)
Nominal voltage 220 V: III (EN 60664-1 / to 4,000 m ASL); II (EN 60664-1 / > 4,000 m to 5,000 m ASL)
2 bits
-40 ... +70 °C
12 x 67.8 x 100 mm
CE; Marine; OrdLoc/HazLoc; ATEX/IECEx
wago.com/750-407/040-000

Notice:

An additional supply module must be added for operation with 220 VDC!

Digital Output; 24 VDC



Figure: 750-508/040-000

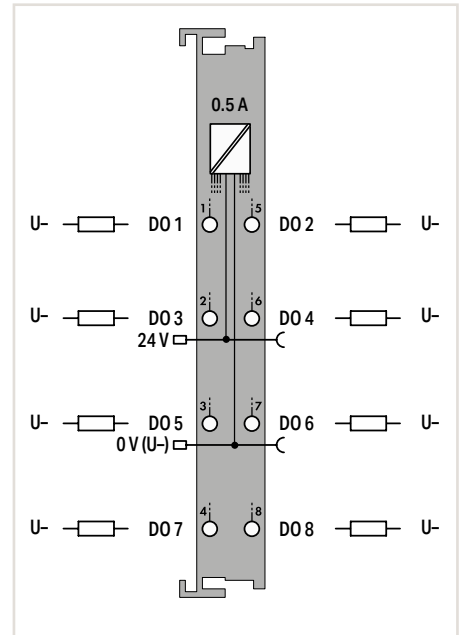
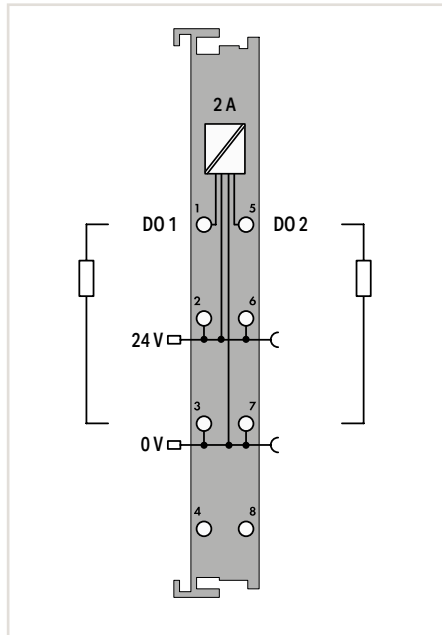


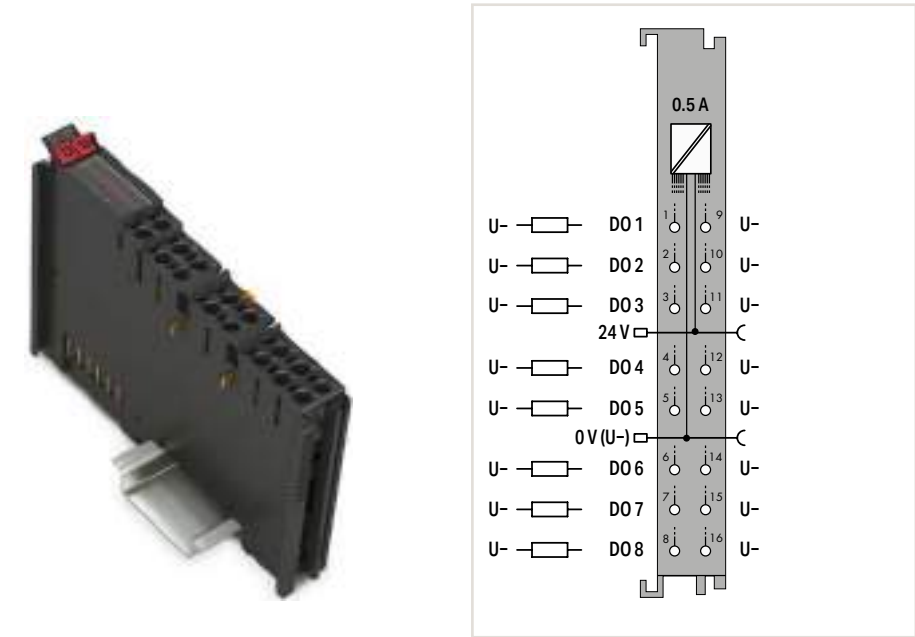
Figure: 750-537/040-000

Item Description	2-Channel Digital Output; 24 VDC; 2 A; Diagnostics	8-Channel Digital Output; 24 VDC; 0.5 A; Diagnostics
Version	Extreme	Extreme
Item no.	750-508/040-000	750-537/040-000
Order text	2DO; 24 VDC; 2A; Diagn; XTR	8DO; 24 VDC; 0.5A; Diagn; XTR
Technical Data		
Number of digital outputs	2	8
Signal type	24 VDC	24 VDC
Output characteristic	High-side switching	High-side switching
Output current per channel	2 A; short-circuit-protected	0.5 A; short-circuit-protected
Load type	Resistive; inductive; lamp load	Resistive; inductive; lamp load
Actuator connection	2-wire; 3-wire	1-wire
Switching frequency (max.)	1 kHz	1 kHz
Diagnostics	Open circuit; overload; short circuit	Open circuit; overload; short circuit
Supply voltage (field)	24 VDC (-25 ... 30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Specified values for surrounding air temperature: +15 ... +35 °C; for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple)	24 VDC (-25 ... 30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Specified values for surrounding air temperature: +15 ... +35 °C; for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple)
Current consumption – system supply (5 V)	14 mA	50 mA
Rated surge voltage	1 kV	1 kV
Data width (internal)	2-bit input; 2-bit output	8-bit input; 8-bit output
Surrounding air temperature (operation)	-40 ... +70 °C	-40 ... +70 °C
Dimensions W x H x D	12 x 67.8 x 100 mm	12 x 67.8 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-508/040-000	wago.com/750-537/040-000

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

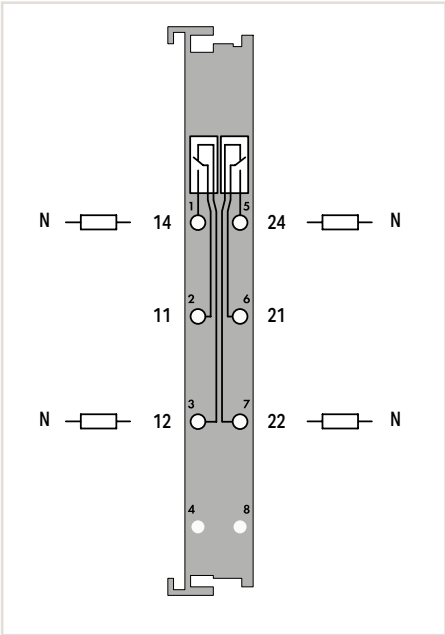
„ Approvals and corresponding ratings, see page 526 or www.wago.com

Digital Output; 24 VDC



Item Description	8-Channel Digital Output; 24 VDC; 0.5 A; 2-wire connection
Version	Extreme
Item no.	750-1515/040-000
Order text	8DO; 24 VDC; 0.5A; 2-wire; XTR
Technical Data	
Number of digital outputs	8
Signal type	24 VDC
Output characteristic	High-side switching
Output current per channel	0.5 A; short-circuit-protected
Load type	Resistive; inductive; lamp load
Actuator connection	2-wire
Switching frequency (max.)	1 kHz
Diagnostics	Open circuit; overload; short circuit
Supply voltage (field)	24 VDC (-25 ... 30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Specified values for surrounding air temperature: +15 ... +35 °C; for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple)
Current consumption – system supply (5 V)	20 mA
Rated surge voltage	1 kV
Data width (internal)	8 bits
Surrounding air temperature (operation)	-40 ... +70 °C
Dimensions W x H x D	12 x 69 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-1515/040-000

Relay Output; 230 VAC



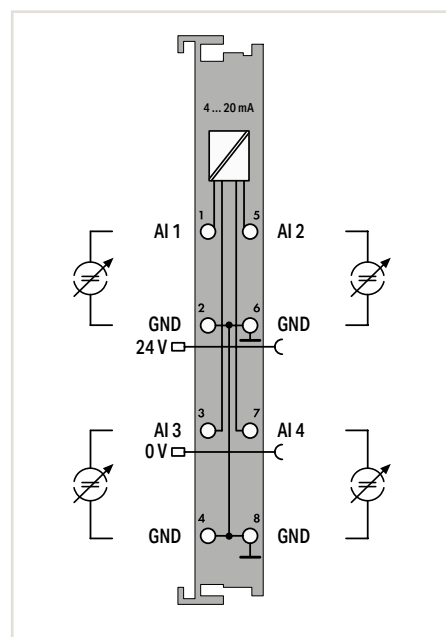
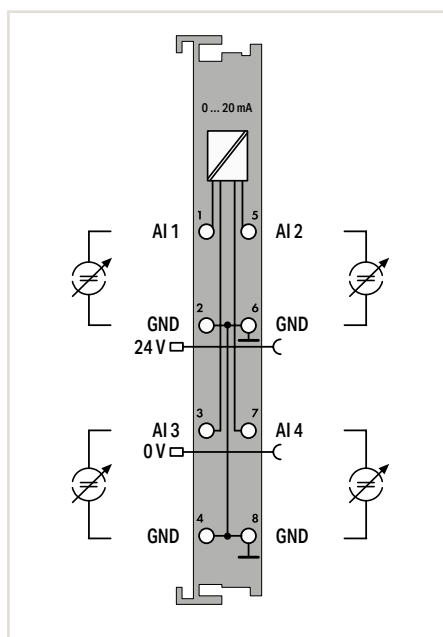
Item Description	2-Channel Relay Output; 250 VAC; 1 A; Relay with 2 changeover contacts
Version	Extreme
Item no.	750-517/040-000
Order text	2RO; 250 VAC; 1A; Relay2CO; XTR
Technical Data	
Number of digital outputs	2
Switching voltage (max.)	250 VAC; 300 VDC
Output circuit design	2 changeover contacts; relay
Output characteristic	Potential-free
Switching current (max.)	1 A at 250 VAC / 40 VDC; 0.15 A at 300 VDC
Switching current (min.)	100 mA (12 VDC)
Actuator connection	1-wire
Switching frequency (max.)	0.1 Hz
Mechanical switching operations (min.)	5 x 10 ⁶
Electrical switching operations (min.)	10 x 10 ⁵
Current consumption – system supply (5 V)	90 mA
Rated surge voltage	5.0 kV (EN 60870-2-1 / Class VW3); 6.0 kV (UL 508); 6.0 kV (EN 60664-1 / to 4,000 m ASL); 4.0 kV (EN 60664-1 / > 4,000 m to 5,000 m ASL)
Overvoltage category	Nominal voltage 230 V: IV (EN 60664-1 / to 4,000 m ASL); III (EN 60664-1 / > 4,000 m to 5,000 m ASL)
Data width (internal)	2 bits
Surrounding air temperature (operation)	-40 ... +70 °C
Dimensions W x H x D	12 x 67.8 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
Data sheet and further information, see:	wago.com/750-517/040-000

6

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

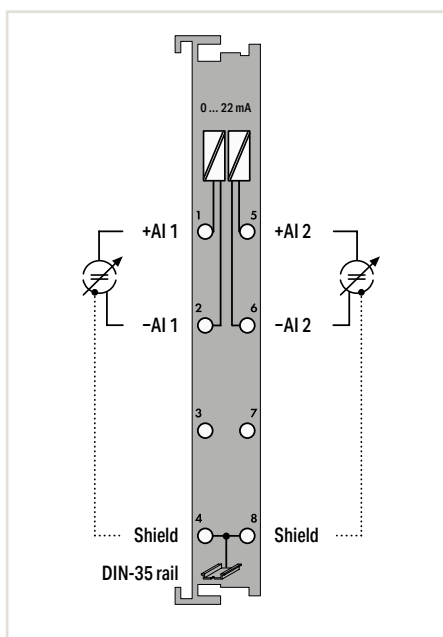
„ Approvals and corresponding ratings, see page 526 or www.wago.com

Analog Input; 0 ... 20 mA or 4 ... 20 mA



Item Description	4-Channel Analog Input; 0 ... 20 mA; single-ended	4-Channel Analog Input; 4 ... 20 mA; single-ended
Version	Extreme	Extreme
Item no.	750-453/040-000	750-455/040-000
Order text	4AI; 0-20mA; SE; XTR	4AI; 4-20mA; SE; XTR
Technical Data		
Number of analog inputs	4	4
Signal type	0 ... 20 mA	4 ... 20 mA
Signal characteristic	Single-ended	Single-ended
Resolution	12 bits	12 bits
Conversion time	10 ms	10 ms
Input resistance	< 100 Ω / 20 mA	< 100 Ω / 20 mA
Measurement error max., 25 °C	±0.1 % of the upper-range value	±0.1 % of the upper-range value
Temperature error max.	±0.01 % / K of the upper-range value	±0.01 % / K of the upper-range value
Supply voltage (field)	24 VDC (-25 ... 30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Specified values for surrounding air temperature: +15 ... +35 °C; for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple)	24 VDC (-25 ... 30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Specified values for surrounding air temperature: +15 ... +35 °C; for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple)
Current consumption – system supply (5 V)	65 mA	65 mA
Rated surge voltage	1 kV	1 kV
Data width	4 x 16-bit data; 4 x 8-bit control/status (optional)	4 x 16-bit data; 4 x 8-bit control/status (optional)
Surrounding air temperature (operation)	-40 ... +70 °C	-40 ... +70 °C
Dimensions W x H x D	12 x 67.8 x 100 mm	12 x 67.8 x 100 mm
Approvals	CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx	CE;  Marine;  OrdLoc/HazLoc;  ATEX/IECEx
Data sheet and further information, see:	wago.com/750-453/040-000	wago.com/750-455/040-000

Analog Input; 4 ... 20 mA

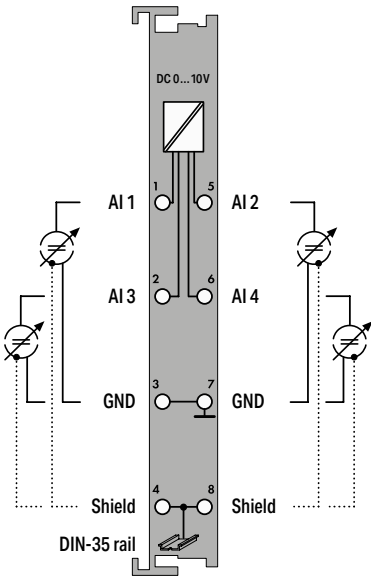


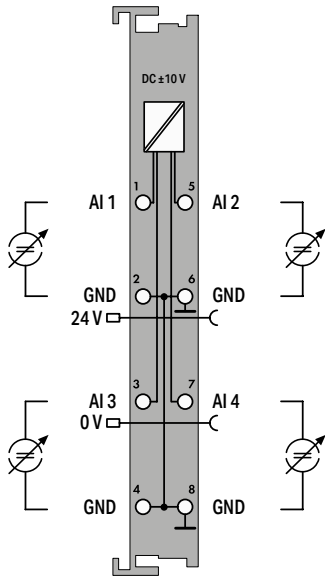
Item Description	2-Channel Analog Input; 4 ... 20 mA; Differential input; NE43
Version	Extreme
Item no.	750-492/040-001
Order text	2AI; 4-20mA; Diff; NE43; XTR
Technical Data	
Number of analog inputs	2
Signal type	3.8 ... 20.5 mA (NE43)
Signal characteristic	Differential
Resolution	13 bits
Conversion time	1 ms
Input resistance	< 270Ω / 20mA
Measuring error max., 25 °C	±0.1 % of the upper-range value
Temperature error max.	±0.01 % / K of the upper-range value
Current consumption – system supply (5 V)	80 mA
Rated surge voltage	1 kV
Data width	2 x 16-bit data; 2 x 8-bit control/status (optional)
Surrounding air temperature (operation)	-40 ... +70 °C
Dimensions W x H x D	12 x 67.8 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-492/040-001

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

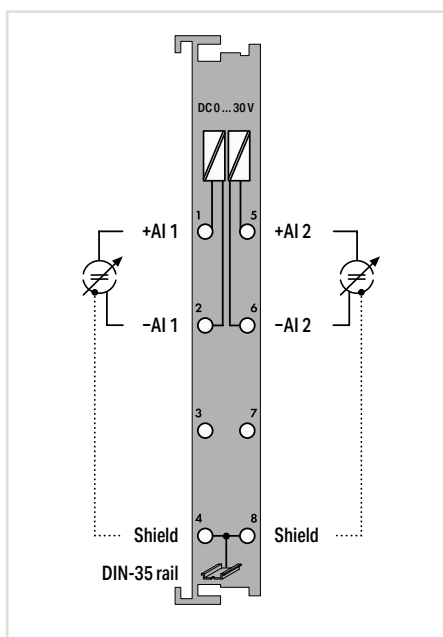
„ Approvals and corresponding ratings, see page 526 or www.wago.com

Analog Input; 0 ... 10 VDC or ±10 VDC

	
	
Item Description	4-Channel Analog Input; 0 ... 10 VDC; single-ended
Version	Extreme
Item no.	750-468/040-000
Order text	4AI; 0-10 VDC; SE; XTR
Technical Data	
Number of analog inputs	4
Signal type	0 ... 10 V
Signal characteristic	Single-ended
Resolution	12 bits
Conversion time	4 ms
Input resistance	133 kΩ
Input voltage (max.)	35 V
Measuring error max., 25 °C	±0.2 % of the upper-range value
Temperature error max.	±0.01 % / K of the upper-range value
Supply voltage (field)	
Current consumption – system supply (5 V)	60 mA
Rated surge voltage	1 kV
Data width	4 x 16-bit data; 4 x 8-bit control/status (optional)
Surrounding air temperature (operation)	–40 ... +70 °C
Dimensions W x H x D	12 x 67.8 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-468/040-000

	
Item Description	4-Channel Analog Input; ±10 VDC; single-ended
Version	Extreme
Item no.	750-457/040-000
Order text	4AI; ±10 VDC; SE; XTR
Technical Data	
Number of analog inputs	4
Signal type	±10 V
Signal characteristic	Single-ended
Resolution	12 bits
Conversion time	10 ms
Input resistance	> 100 kΩ
Input voltage (max.)	±40 V
Measuring error max., 25 °C	±0.1 % of the upper-range value
Temperature error max.	±0.01 % / K of the upper-range value
Supply voltage (field)	24 VDC (–25 ... 30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Specified values for surrounding air temperature: +15 ... +35 °C; for –40 ... +55 °C: 24 V (–25 ... +20 %); for +55 ... +70 °C: 24 V (–25 ... +10 %); Lower limit in all temperature ranges: –27.5 % (including 15 % residual ripple)
Current consumption – system supply (5 V)	65 mA
Rated surge voltage	1 kV
Data width	4 x 16-bit data; 4 x 8-bit control/status (optional)
Surrounding air temperature (operation)	–40 ... +70 °C
Dimensions W x H x D	12 x 67.8 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-457/040-000

Analog Input; 0 ... 30 VDC



Item Description	2-Channel Analog Input; 0 ... 30 VDC; Differential input
Version	Extreme
Item no.	750-483/040-000
Order text	2AI; 0-30 VDC; Diff; XTR
Technical Data	
Extended functionality	Time-synchronized measured value acquisition within the module
Number of analog inputs	2
Signal type	0 ... 30 V
Signal characteristic	Differential
Resolution	14 bits
Conversion time	1 ms
Internal resistance	1 MΩ
Measuring error max., 25 °C	±0.1 % of the upper-range value
Temperature error max.	±0.01 % / K of the upper-range value
Current consumption – system supply (5 V)	80 mA
Data width	2 x 16-bit data; 2 x 8-bit control/status (optional)
Rated surge voltage	1 kV
Surrounding air temperature (operation)	-40 ... +70 °C
Dimensions W x H x D	12 x 67.8 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
Data sheet and further information, see:	wago.com/750-483/040-000

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 526 or www.wago.com

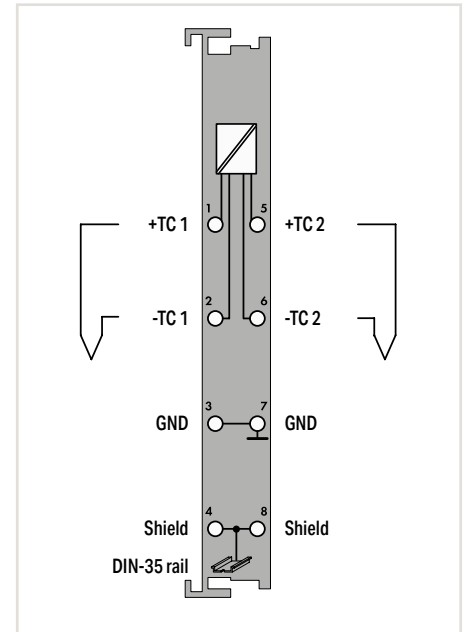
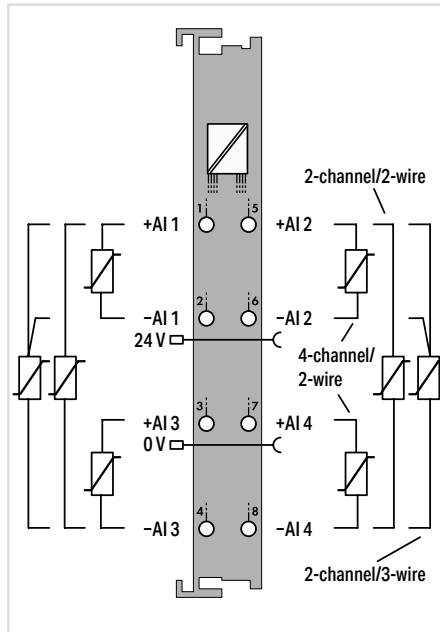
Analog Input; for Resistance Sensors or Thermocouples



Figure: 750-464/040-000

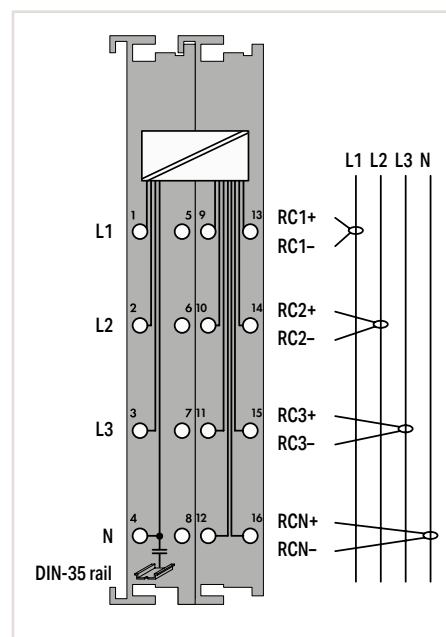
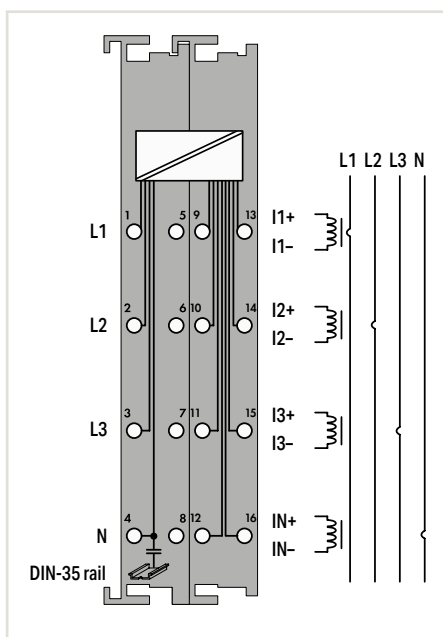


Figure: 750-469/040-000



Item Description	2/4-Channel Analog Input; Resistance measurement; adjustable	2-Channel Analog Input; Thermocouple; adjustable
Version	Extreme	Extreme
Item no.	750-464/040-000	750-469/040-000
Order text	2/4AI; RTD; Adjust; XTR	2AI; TC; Adjust; XTR
Technical Data		
Number of analog inputs	2/4	2
Signal type	Pt100; Configurable: Pt200; Pt500; Pt1000 (IEC 751); Ni100; Ni1000 (DIN 43760); Ni120 (Minco); Ni1000 (TK 5000); 2-channel operation: Potentiometer; Resistance measurement 10 ... 5000 Ω; 10 ... 1200 Ω	Type K; Configurable: J; E; S; T; L; N; U; B; R; -30 ... +30 mV; -60 ... +60 mV; -120 ... +120 mV
Sensor connection	2-wire; 3-wire	2-wire
Temperature range	-200 ... +850 °C (Pt100 ... Pt1000); -60 ... +300 °C (Ni100, Ni1000); -60 ... +250 °C (Ni1000 TK5000); -80 ... +260 °C (Ni120)	Sensor-specific
Resolution	0.1 °C	0.1 °C
Conversion time	320 ms	320 ms
Measured current (typ.)	≤ 350 µA per measurement circuit	
Measuring error max., 25 °C	1 K over entire temperature range; 0.5 K over limited temperature range (-30 °C ... +120 °C)	±6 K (voltage input ±2 K; cold junction compensation ±4 K)
Temperature error max.	20 ppm/K; typ. 5 ppm/K	±0.2 K/K
Cold junction compensation		Integrated or external
Supply voltage (field)	24 VDC (-25 ... 30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Specified values for surrounding air temperature: +15 ... +35 °C; for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple)	
Current consumption – system supply (5 V)	50 mA	65 mA
Rated surge voltage	1 kV	1 kV
Data width	4 (2) x 16-bit data; 4 (2) x 8-bit control/status (optional)	2 x 16-bit data; 2 x 8-bit control/status (optional)
Surrounding air temperature (operation)	-40 ... +70 °C	-40 ... +70 °C
Dimensions W x H x D	12 x 67.8 x 100 mm	12 x 67.8 x 100 mm
Approvals	CE, Marine; OrdLoc/HazLoc; ATEX/IECEx	CE, Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-464/040-000	wago.com/750-469/040-000

Analog Input; for 3-Phase Power Measurement

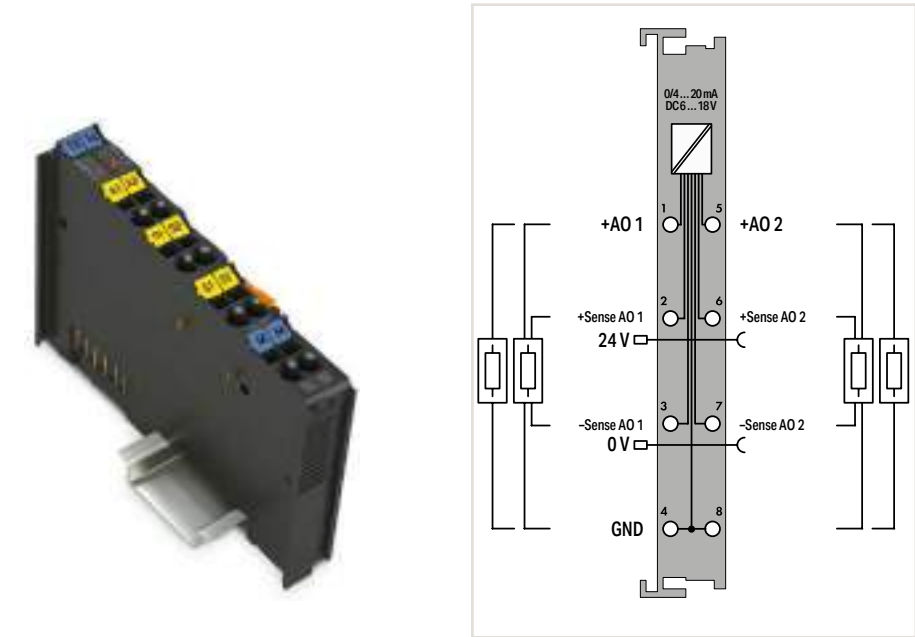


Item Description	3-Phase Power Measurement; 690 VAC 1 A	
Version	Extreme	690 VAC 5 A; extreme
Item no.	750-495/040-000	750-495/040-001
Order text	3-PHASE POM; 690VAC 1A; XTR	3-PHASE POM; 690VAC 5A; XTR

Technical Data	3-phase power measurement		3-phase power measurement
Signal type	Voltage; current; effective power; reactive power; apparent power; power consumption; frequency; cos phi; harmonics (up to the 41st harmonic); THD; current measurement in N-conductor; and more		Voltage; current; effective power; reactive power; apparent power; power consumption; frequency; cos phi; harmonics (up to the 41st harmonic); THD; current measurement in N-conductor; and more
Measured variables			
Number of measurement inputs	7 (3 voltage measurement inputs; 4 differential current measurement inputs)		7 (3 voltage measurement inputs; 4 differential current measurement inputs)
Rated voltage	$U_{LN} = 400 \text{ VAC/DC}; U_{LL} = 690 \text{ VAC}$		$U_{LN} = 277 \text{ VAC/DC}; U_{LL} = 480 \text{ VAC}$
Input resistance (voltage path) typ.	1429 k Ω		1429 k Ω
Measuring current (max.)	1 A	5 A	Rogowski coils
Input resistance (current path) typ.	22 m Ω	5 m Ω	44 k Ω
Resolution	24 bits		24 bits
Measuring error max., 25 °C	AC current/voltage: $\pm 0.5 \%$ of the upper-range value		AC current/voltage: $\pm 0.5 \%$ of the upper-range value
Frequency range (mains frequency)	45 ... 65 Hz		45 ... 65 Hz
Frequency range (harmonics analysis)	0 ... 3300 Hz		0 ... 3300 Hz
Limit frequency	15.9 kHz		15.9 kHz
Current consumption – system supply (5 V)	100 mA		100 mA
Rated surge voltage	5.0 kV (EN 60870-2-1 / Class VW3); 6.0 kV (UL 508); 6.0 kV (EN 60664-1 / to 4,000 m ASL); 4.0 kV (EN 60664-1 / > 4,000 m to 5,000 m ASL)		5.0 kV (EN 60870-2-1 / Class VW3); 6.0 kV (UL 508); 6.0 kV (EN 60664-1 / to 4,000 m ASL); 4.0 kV (EN 60664-1 / > 4,000 m to 5,000 m ASL)
Overvoltage category	Nominal voltage 400 V/690 V in a 3-phase system: III (EN 60664-1 / to 4,000 m ASL); II (EN 60664-1 / > 4,000 m up to 5,000 m ASL)		Nominal voltage 400 V/690 V in a 3-phase system: III (EN 60664-1 / to 4,000 m ASL); II (EN 60664-1 / > 4,000 m up to 5,000 m ASL)
Data width	2 x 128-bit data; 2 x 64-bit control/status		2 x 128-bit data; 2 x 64-bit control/status
Surrounding air temperature (operation)	-40 ... +70 °C		-40 ... +70 °C
Dimensions W x H x D	24 x 67.8 x 100 mm		24 x 67.8 x 100 mm
Approvals	CE; Marine; ATEX/IECEx		CE; Marine; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-495/040-000	wago.com/750-495/040-001	wago.com/750-495/040-002

Accessories	Item no.	Item no.
Split-core and plug-in current transformers	See Full Line Catalog, Volume 4	See Full Line Catalog, Volume 4
Rogowski coils		

Analog Output; Configurable 0/4 ... 20 mA; 6 ... 18 VDC

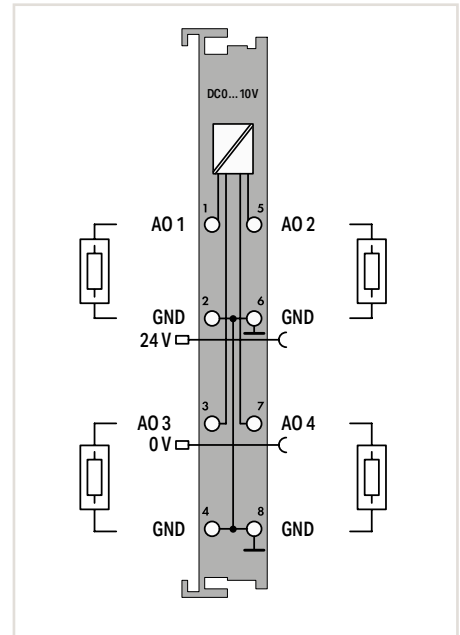
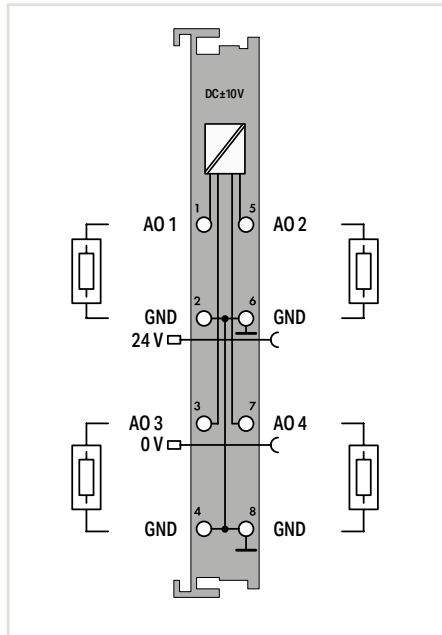


Item Description	2-Channel Analog Output; 0/4 ... 20 mA; 16 bits; 6 ... 18 VDC
Version	Extreme
Item no.	750-563/040-000
Order text	2AO; 0/4-20mA; 16Bit; 6-18 VDC; XTR
Technical Data	
Number of analog outputs	2
Signal type	0 ... 20 mA; 4 ... 20 mA; 6 ... 18 V
Load impedance	> 1.8 kΩ (voltage output); < 500 Ω (current output)
Resolution	16 bits
Conversion time	5 ms
Output error max., 25 °C	±0.05 % of the upper-range value
Temperature error max.	±100 ppm
Supply voltage (field)	24 VDC (-15 ... 30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Specified values for surrounding air temperatures: +15 ... +35 °C; for -40 ... +55 °C: 24 V (min. ... +20 %); for +55 ... +70 °C: 24 V (min. ... +10 %); Voltage range (min.): 21.6 V; Current range (min.): 20.4 V; Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple)
Current consumption – system supply (5 V)	80 ... 110 mA
Rated surge voltage	1 kV
Data width	2 x 16-bit data; 2 x 8-bit control/status (optional)
Surrounding air temperature (operation)	-40 ... +70 °C
Dimensions W x H x D	12 x 67.8 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
Data sheet and further information, see:	wago.com/750-563/040-000

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 526 or www.wago.com

Analog Output; ± 10 VDC or 0 ... 10 VDC

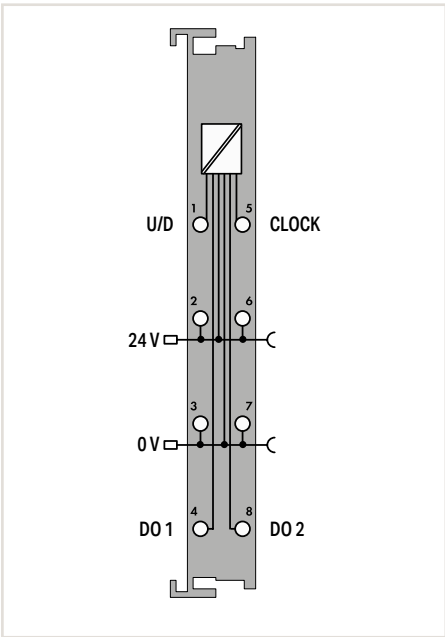


Item Description	4-Channel Analog Output; ± 10 VDC	4-Channel Analog Output; 0 ... 10 VDC
Version	Extreme	Extreme
Item no.	750-557/040-000	750-559/040-000
Order text	4AO; ± 10 V DC; XTR	4AO; 0-10V DC; XTR
Technical Data		
Number of analog outputs	4	4
Signal type	± 10 V	0 ... 10 V
Load impedance	$> 5 \text{ k}\Omega$	$> 5 \text{ k}\Omega$
Resolution	12 bits	12 bits
Conversion time	10 ms	10 ms
Output error max., 25 °C	$\pm 0.1 \%$ of the upper-range value	$\pm 0.1 \%$ of the upper-range value
Temperature error max.	$\pm 0.01 \%$ / K of the upper-range value	$\pm 0.01 \%$ / K of the upper-range value
Supply voltage (field)	24 VDC (-25 ... 30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Specified values for surrounding air temperature: +15 ... +35 °C; for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple)	24 VDC (-25 ... 30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Specified values for surrounding air temperature: +15 ... +35 °C; for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple)
Current consumption – system supply (5 V)	125 mA	125 mA
Rated surge voltage	1 kV	1 kV
Data width	4 x 16-bit data; 4 x 8-bit control/status (optional)	4 x 16-bit data; 4 x 8-bit control/status (optional)
Surrounding air temperature (operation)	-40 ... +70 °C	-40 ... +70 °C
Dimensions W x H x D	12 x 67.8 x 100 mm	12 x 67.8 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
Data sheet and further information, see:	wago.com/750-557/040-000	wago.com/750-559/040-000

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

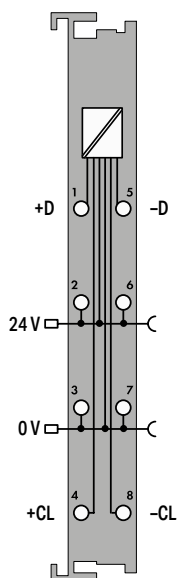
„ Approvals and corresponding ratings, see page 526, 527 or www.wago.com

Counter



Item Description	Counter; adjustable
Version	Extreme
Item no.	750-404/040-003
Order text	Counter; Adjust; XTR
Technical Data	
No. of outputs	2
Number of counters	1
Voltage range for signal (0)	–3 ... +5 VDC
Voltage range for signal (1)	15 ... 30 VDC
Output current	0.5 A; short-circuit-protected
Switching frequency (max.)	100 kHz
Pulse width (min.)Pulse width (min.)	10 µs
Input current (typ.)	7 mA
Counter depth	32 bits
Supply voltage (field)	24 VDC (–25 ... 30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Specified values for surrounding air temperature: +15 ... +35 °C; for –40 ... +55 °C: 24 V (–25 ... +20 %); for +55 ... +70 °C: 24 V (–25 ... +10 %); Lower limit in all temperature ranges: –27.5 % (including 15 % residual ripple)
Current consumption – system supply (5 V)	70 mA
Rated surge voltage	1 kV
Data width (internal)	32-bit data; 8-bit control/status
Operating modes	Up/down counter/100 kHz; Up counter/enable input; Peak-time counter; Frequency measurement: 0.1 Hz ... 100 kHz*; Up/down counter/signal outputs (DO); Two up counters/16 bits/5 kHz *Default setting
Surrounding air temperature (operation)	–40 ... +70 °C
Dimensions W x H x D	12 x 67.8 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
Data sheet and further information, see:	wago.com/750-404/040-003

SSI Transmitter Interface

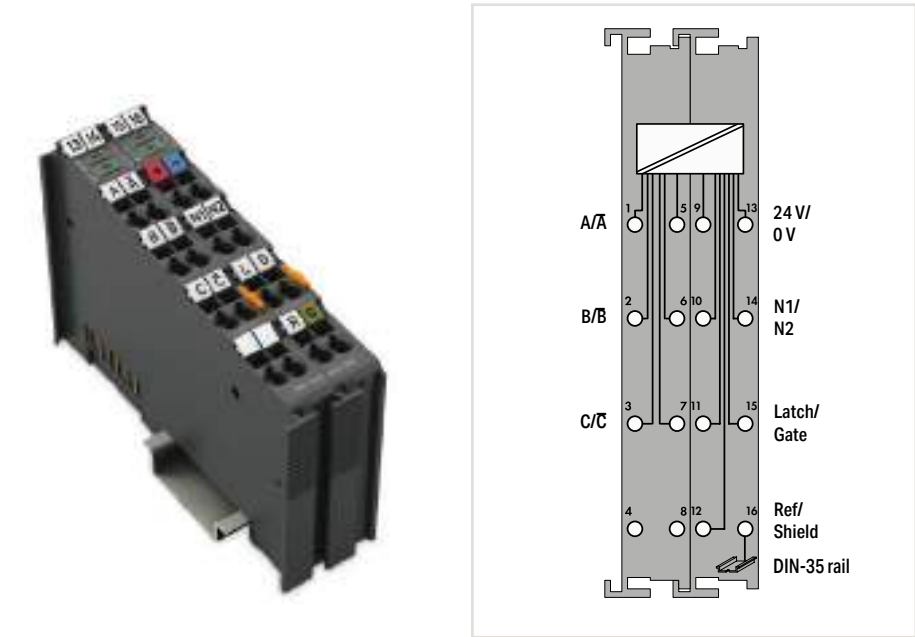


Item Description	SSI Transmitter Interface; adjustable
Version	Extreme
Item no.	750-630/040-001
Order text	SSI Interface; Adjust; XTR
Technical Data	
Transmitter connection	On + D; - D; Off + Cl; - Cl
Transmitter supply	24 VDC; via power jumper contacts
Baud rate	62.5 ... 250 kHz
Serial input	Data width: 1 ... 32 bits
Signal output	Differential signal (RS-422)
Signal input	Differential signal (RS-422)
Code	Gray code/binary code
Supply voltage (field)	24 VDC (-25 ... 30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Specified values for surrounding air temperature: +15 ... +35 °C; for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple)
Current consumption – system supply (5 V)	20 mA
Data width (internal)	1 x 32-bit; 1 x 8-bit control/status (optional) (24-bit data, 8 bits reserved)
Rated surge voltage	1 kV
Surrounding air temperature (operation)	-40 ... +70 °C
Dimensions W x H x D	12 x 67.8 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
Data sheet and further information, see:	wago.com/750-630/040-001

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

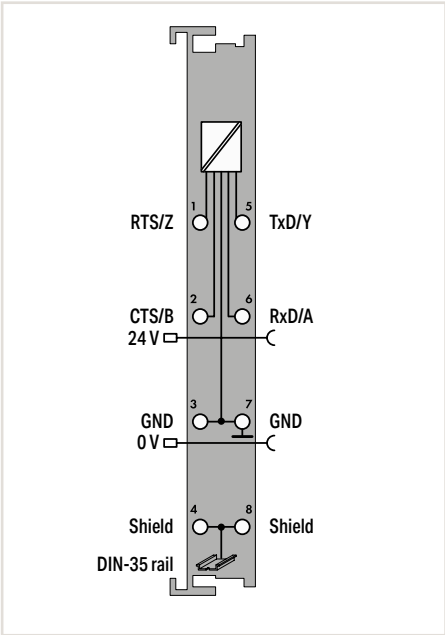
„ Approvals and corresponding ratings, see page 527 or www.wago.com

Incremental Encoder Interface



Item Description	Incremental Encoder Interface; 24 VDC; Differential input; 32 bits
Version	Extreme
Item no.	750-637/040-001
Order text	Inc. Encoder; 24 VDC; Diff; 32Bit; XTR
Technical Data	
Transmitter connection	A; /A; B; /B; C; /C (differential inputs)
Counter	32 bits (binary)
Limit frequency	250 kHz
Quadrature decoder	4x report
Zero impulse latch	32 bits
Commands	Reading; setting; activating
Current consumption (typ.)	35 mA; without transmitter
Output voltage	24 VDC
Output current (max.)	0.5 A; short-circuit-protected
Voltage range for signal (0)	(U _{ABC} - U _{ABC/}): -30 ... +15 VDC; Latch, Gate, Ref.: -3 ... +5 VDC
Voltage range for signal (1)	(U _{ABC} - U _{ABC/}): 15 ... 30 VDC; Latch, Gate, Ref.: 15 ... 30 VDC
Input current (typ.)	Latch 7 mA; gate 7 mA; ref. 7 mA
Current consumption – system supply (5 V)	110 mA
Data width (internal)	1 x 32-bit data; 2 x 8-bit control/status
Rated surge voltage	1 kV
Surrounding air temperature (operation)	-40 ... +70 °C
Dimensions W x H x D	24 x 67.8 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
Data sheet and further information, see:	wago.com/750-637/040-001

Serial Interface RS-232/485



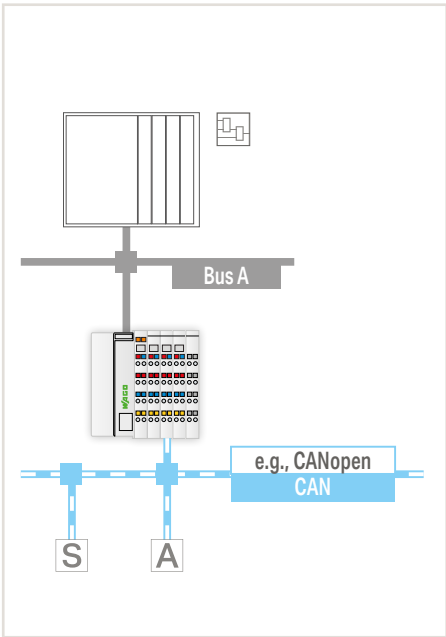
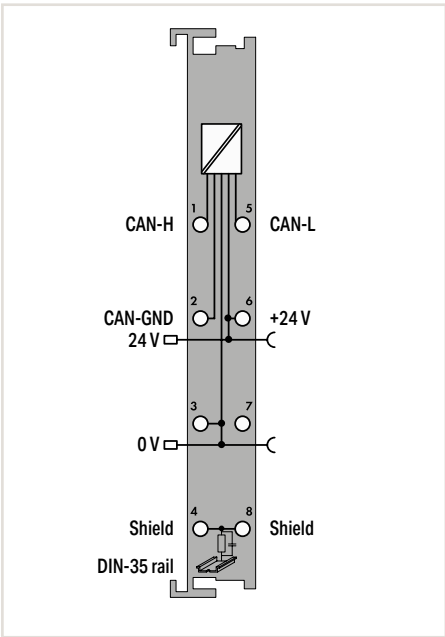
Item Description	Serial Interface RS-232/485
Version	Extreme
Item no.	750-652/040-000
Order text	RS232/485 Interface; XTR
Technical Data	
Signal type	RS-232; RS-422; RS-485
Transmission channels	1 Tx/D / 1 Rx/D; full-duplex; half-duplex
Baud rate	9600 Bd (default setting); 300 ... 115200 Bd
Parity	None/Odd/Even
Number of data bits	7/8; adjustable
Number of stop bits	1/2; adjustable
Buffer	2560 bytes for reception; 512 bytes for transmission
Supply voltage (field)	24 VDC (-25 ... 30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Specified values for surrounding air temperature: +15 ... +35 °C; for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple)
Current consumption – system supply (5 V)	85 mA
Rated surge voltage	1 kV
Data width (internal)	8, 24 or 48 bytes (parametrizable)
Surrounding air temperature (operation)	-40 ... +70 °C
Dimensions W x H x D	12 x 67.8 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
Data sheet and further information, see:	wago.com/750-652/040-000

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„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 527 or www.wago.com

CAN Gateway



Item Description	CAN Gateway
Version	Extreme
Item no.	750-658/040-000
Order text	CAN Gateway; XTR
Technical Data	
Number of CAN interfaces	1
Baud rate	10 kbit/s; 20 kbit/s; 50 kbit/s; 125 kbit/s; 250 kbit/s; 500 kbit/s; 800 kbit/s; 1 Mbit/s (auto-matic baud rate)
Data formats	Per 2.0 A standard (11-bit ID); Per 2.0 B extended (29-bit ID)
Operating modes	Sniffer mode; Transparent mode; Mapped mode
Current consumption – system supply (5 V)	50 mA
Supply voltage (field)	24 VDC; via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption (field supply) (module with no external load)	15 mA
Data transfer time	5 ms (at 32-bit I/O)
Data width (internal)	8, 12, 16, 20, 24, 32, 40, 48 bytes Configurable; including 1 control/status byte
Rated surge voltage	1 kV
Surrounding air temperature (operation)	–40 ... +70 °C
Dimensions W x H x D	12 x 67.8 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
Data sheet and further information, see:	wago.com/750-658/040-000

The CAN Gateway allows a CAN bus to be installed as a sub-bus beneath a fieldbus coupler or controller. It enables special sensors/ actuators that are only available with the widely spread CAN bus to also be integrated under other bus systems. Function blocks allow the gateway to read and write higher-protocol telegrams (e.g., CANopen).

- The module offers three different operating modes:
- Sniffer mode: Detailed analysis of the CAN bus through passive “snooping”
 - Transparent mode: Active CAN subscriber that can send and receive any type of CAN telegram
 - Mapped mode: Enables direct generation of CAN telegrams from the process image, or selective copying of process values from received CAN telegrams into the input process image (cyclic or event-based)

Power Supply; 24 VDC or 0 ... 230 VAC/DC

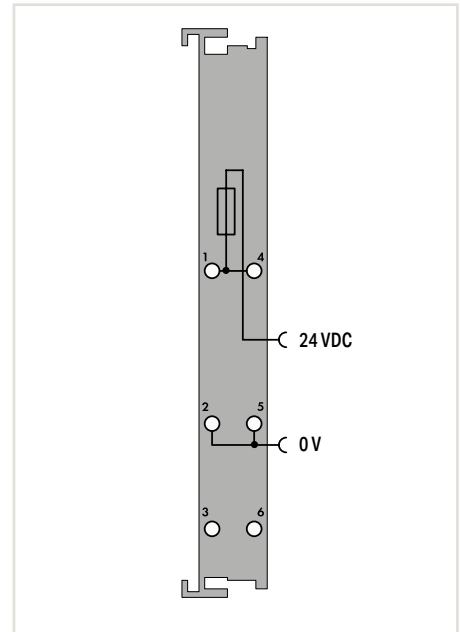
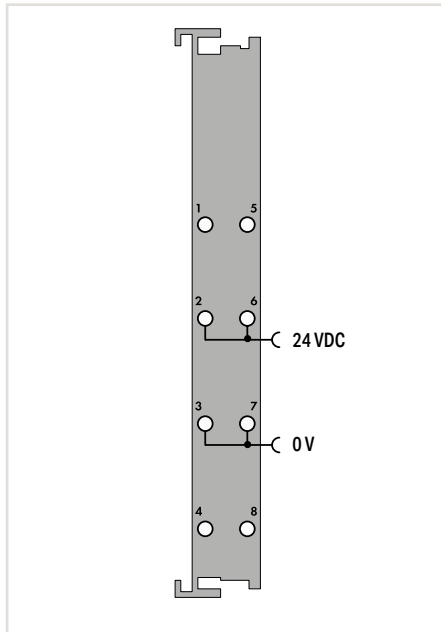
System Power Supply; 24 VDC



Figure: 750-602/040-000



Figure: 750-601/040-000



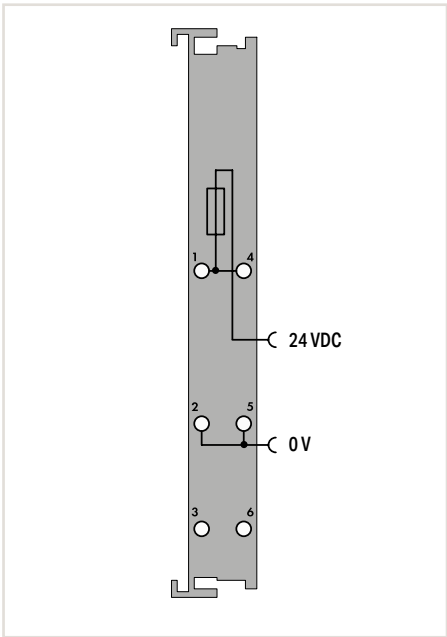
Item Description	Power Supply; 24 VDC	Power Supply; 24 VDC; Fuse holder
Version	Extreme	Extreme
Item no.	750-602/040-000	750-601/040-000
Order text	Power Supply; 24 VDC; XTR	Power Supply; 24 VDC; Fuse; XTR
Technical Data		
Supply voltage (system)	5 VDC; via data contacts	5 VDC; via data contacts
Input current (typ.) at nominal load (24 V)		
Total current (system supply)		
Supply voltage (field)	24 VDC (-25 ... 30 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact); Specified values for surrounding air temperatures: +15 ... +35 °C; for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple)	24 VDC (-25 ... 30 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact); Specified values for surrounding air temperatures: +15 ... +35 °C; for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple)
Current carrying capacity (power jumper contacts)	10 A	10 A
Fuse	5 x 20; T max. 6.3 A (not included)	
Diagnostics		
Current consumption – system supply (5 V)		
Data width (internal)		
Rated surge voltage	1 kV	1 kV
Overvoltage category		
Surrounding air temperature (operation)	-40 ... +70 °C	-40 ... +70 °C
Dimensions W x H x D	12 x 67.8 x 100 mm	12 x 67.8 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-602/040-000	wago.com/750-601/040-000

This I/O module provides the applied supply voltage to the field devices connected to downstream I/O modules.

This I/O module provides the applied supply voltage, protected by fuse, to the field devices connected to downstream I/O modules. A blown fuse is indicated by an LED.

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 527 or www.wago.com

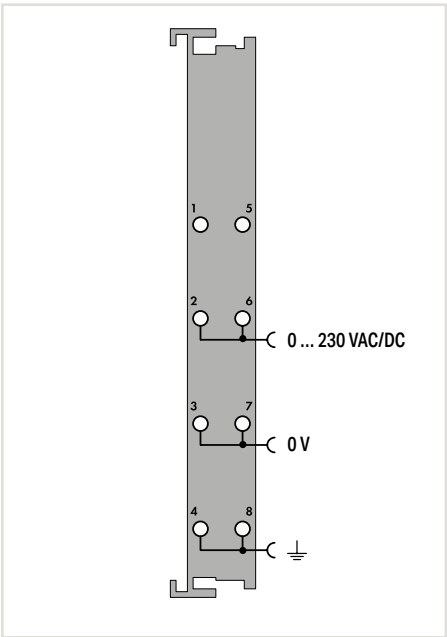


Power Supply; 24 VDC; Fuse holder; Diagnostics

Extreme

750-610/040-000

Power Supply; 24 VDC; Fuse Diagn; XTR

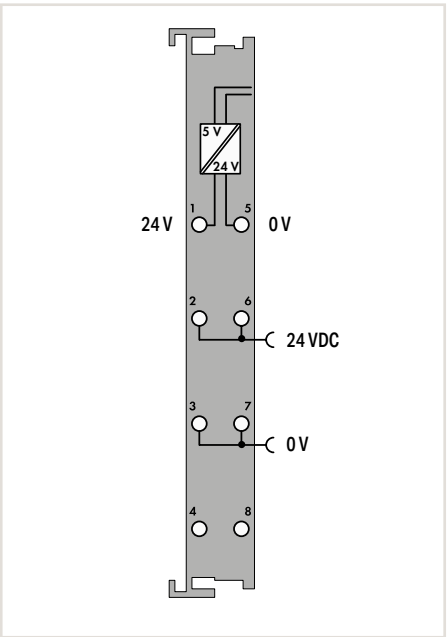


Power Supply; 0 ... 230 VAC/DC

Extreme

750-612/040-000

Power Supply; 0-230 VAC/VDC; XTR



System Power Supply; 24 VDC

Extreme

750-613/040-000

System Power Supply; 24 VDC; XTR

5 VDC; via data contacts

5 VDC; via data contacts

24 VDC (-25 ... +30 %); power supply and transmission via CAGE CLAMP® connection

24 VDC (-25 ... 30 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact); Specified values for surrounding air temperatures: +15 ... +35 °C; for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple)

0 ... 230 VAC/DC (-20 ... 25 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact)

24 VDC (-25 ... 30 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact); Specified values for surrounding air temperatures: +15 ... +35 °C; for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple)

6.3 A

6.3 A

500 mA

2000 mA

5 x 20; T max. 6.3 A (not included)

5.0 kV (EN 60870-2-1 / Class VW3); 6.0 kV (UL 508); 6.0 kV (EN 60664-1 / to 4,000 m ASL); 4.0 kV (EN 60664-1 / > 4,000 m to 5,000 m ASL)

10 A

Supply voltage (field): Detection "on" at > 15 VDC; Detection "off" at < 5 VDC

Nominal voltage 230 V: IV (EN 60664-1 / to 4,000 m ASL); III (EN 60664-1 / > 4,000 m to 5,000 m ASL)

1 kV

5 mA

2 bits (1 bit current monitoring; 1 bit fuse fault)

1 kV

-40 ... +70 °C

12 x 67.8 x 100 mm

CE; Marine; OrdLoc/HazLoc; ATEX/IECEx

CE; Marine; OrdLoc/HazLoc; ATEX/IECEx

CE; Marine; OrdLoc/HazLoc; ATEX/IECEx

-40 ... +70 °C

-40 ... +70 °C

-40 ... +70 °C

12 x 67.8 x 100 mm

12 x 67.8 x 100 mm

12 x 67.8 x 100 mm

CE; Marine; OrdLoc/HazLoc; ATEX/IECEx

CE; Marine; OrdLoc/HazLoc; ATEX/IECEx

CE; Marine; OrdLoc/HazLoc; ATEX/IECEx

wago.com/750-610/040-000

wago.com/750-612/040-000

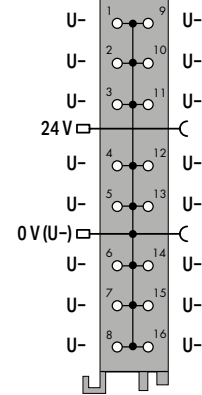
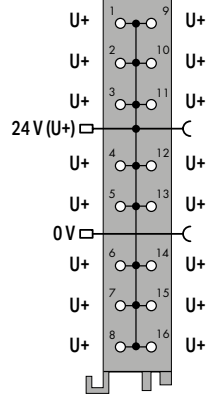
wago.com/750-613/040-000

This I/O module provides the applied supply voltage, protected by fuse, to the field devices connected to downstream I/O modules. A blown fuse is indicated by an LED. The fuse status can also be queried from the fieldbus coupler.

This I/O module provides the applied supply voltage to the field devices connected to downstream I/O modules.

This I/O module provides the applied supply voltage to the field devices connected to downstream I/O modules. It also serves as an additional system supply for large nodes, covering the power demands of the I/O modules themselves.

Potential Distribution

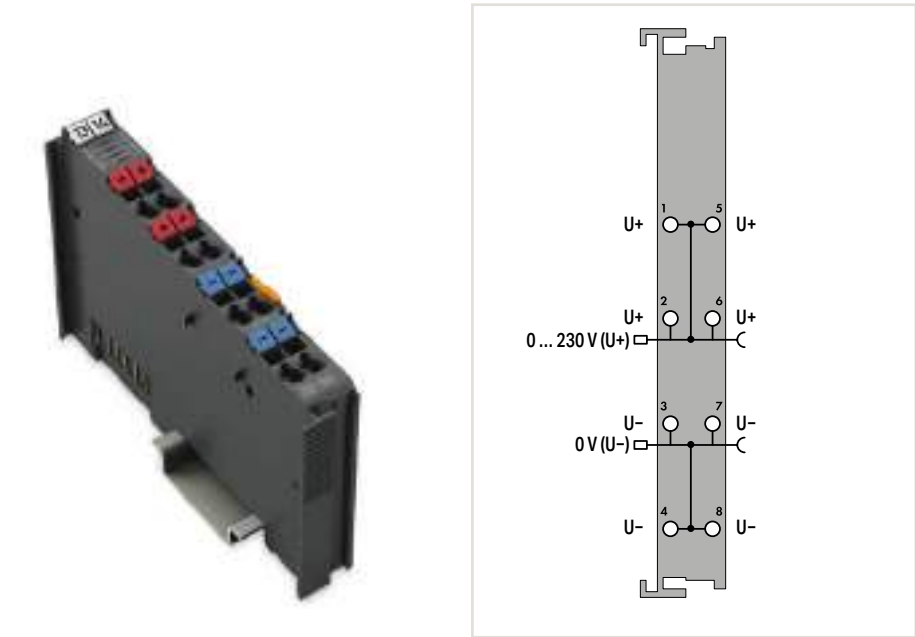


Item Description	Potential Distribution; 16x 24 V	Potential Distribution; 16x 0 V
Version	Extreme	Extreme
Item no.	750-1605/040-000	750-1606/040-000
Order text	Potential Distribution; 16*24V; XTR	Potential Distribution; 16*0V; XTR
Technical Data		
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Specified values for surrounding air temperatures: +15 ... +35 °C For –40 ... +55 °C: 24 V (–25 ... +20 %); For +55 ... +70 °C: 24 V (–25 ... +10 %); Lower limit in all temperature ranges: –27.5 % (including 15 % residual ripple)	24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Specified values for surrounding air temperatures: +15 ... +35 °C For –40 ... +55 °C: 24 V (–25 ... +20 %); For +55 ... +70 °C: 24 V (–25 ... +10 %); Lower limit in all temperature ranges: –27.5 % (including 15 % residual ripple)
Current carrying capacity (power jumper contacts)	10 A	10 A
Rated surge voltage	1 kV	1 kV
Surrounding air temperature (operation)	–40 ... +70 °C	–40 ... +70 °C
Dimensions W x H x D	12 x 69 x 100 mm	12 x 69 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-1605/040-000	wago.com/750-1606/040-000

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 527 or www.wago.com

Potential Distribution



Item Description	Potential Distribution
Version	Extreme
Item no.	750-614/040-000
Order text	Potential Distribution; XTR
Technical Data	
Supply voltage (field)	0 ... 230 VAC/DC; via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current carrying capacity (power jumper contacts)	10 A
Rated surge voltage	5.0 kV (EN 60870-2-1 / Class VW3); 6.0 kV (UL 61010); 6.0 kV (EN 60664-1 / to 4,000 m ASL); 4.0 kV (EN 60664-1 / > 4,000 m to 5,000 m ASL)
Surrounding air temperature (operation)	-40 ... +70 °C
Dimensions W x H x D	12 x 67.8 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
Data sheet and further information, see:	wago.com/750-614/040-000

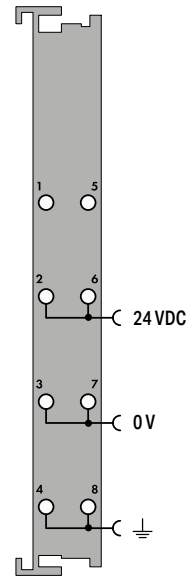
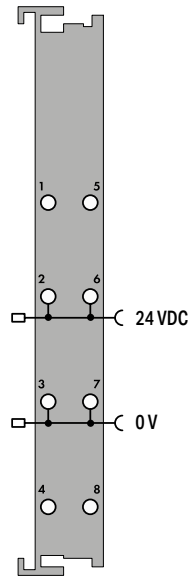
Field Supply Filter (Surge)



Figure: 750-624/040-000



Figure: 750-624/040-001

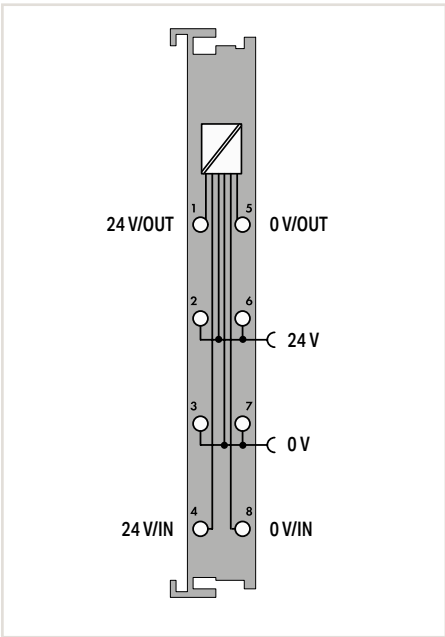


Item Description	Field Supply Filter (Surge); 24 VDC; Higher isolation	Field Supply Filter (Surge); 24 VDC; Higher isolation
Version	Extreme	Without power jumper contacts; extreme
Item no.	750-624/040-000	750-624/040-001
Order text	Field Supply Filter; 24 VDC; HI; XTR	Field Supply Filter; 24 VDC; HI; NC; XTR
Technical Data		
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact); Specified values for surrounding air temperatures: +15 ... +35 °C For –40 ... +55 °C: 24 V (–25 ... +20 %); For +55 ... +70 °C: 24 V (–25 ... +10 %); Lower limit in all temperature ranges: –27.5 % (including 15 % residual ripple)	24 VDC (–25 ... +30 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact); Specified values for surrounding air temperature: +15 ... +35 °C; For –40 ... +55 °C: 24 V (–25 ... +20 %); For +55 ... +70 °C: 24 V (–25 ... +10 %); Lower limit in all temperature ranges: –27.5 % (including 15 % residual ripple)
Current carrying capacity (power jumper contacts)	10 A	10 A
Rated surge voltage	1 kV	1 kV
Use	In marine and onshore/offshore applications, as well as in telecontrol and rail technology	In marine and onshore/offshore applications, as well as in telecontrol and rail technology
Surrounding air temperature (operation)	–40 ... +70 °C	–40 ... +70 °C
Dimensions W x H x D	12 x 67.8 x 100 mm	12 x 67.8 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
Data sheet and further information, see:	wago.com/750-624/040-000	wago.com/750-624/040-001

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

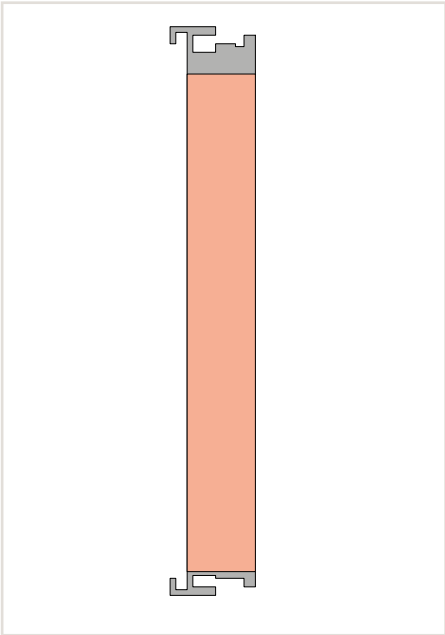
„ Approvals and corresponding ratings, see page 527 or www.wago.com

Supply Filter



Item Description	Supply Filter; 24 VDC; Higher isolation
Version	Extreme
Item no.	750-626/040-000
Order text	Supply Filter; 24 VDC; HI; XTR
Technical Data	
Supply voltage (system)	24 VDC (–25 ... +30 %); power supply and transmission via CAGE CLAMP® connection
Current via system voltage (max.)	1.5 A
Supply voltage (field)	24 VDC (–25 ... +30 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact) Specified values for surrounding air temperature: +15 ... +35 °C; For –40 ... +55 °C: 24 V (–25 ... +20 %); For +55 ... +70 °C: 24 V (–25 ... +10 %); Lower limit in all temperature ranges: –27.5 % (including 15 % residual ripple)
Current carrying capacity (power jumper contacts)	10 A
Rated surge voltage	1 kV
Use	In marine and onshore/offshore applications, as well as in telecontrol and rail technology
Surrounding air temperature (operation)	–40 ... +70 °C
Dimensions W x H x D	12 x 67.8 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-626/040-000

Distance Module



Item Description	Distance Module
Version	Extreme
Item no.	750-616/040-000
Order text	Distance Module; XTR
Technical Data	
Surrounding air temperature (operation)	–40 ... +70 °C
Dimensions W x H x D	12 x 69.8 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
Data sheet and further information, see:	wago.com/750-616/040-000

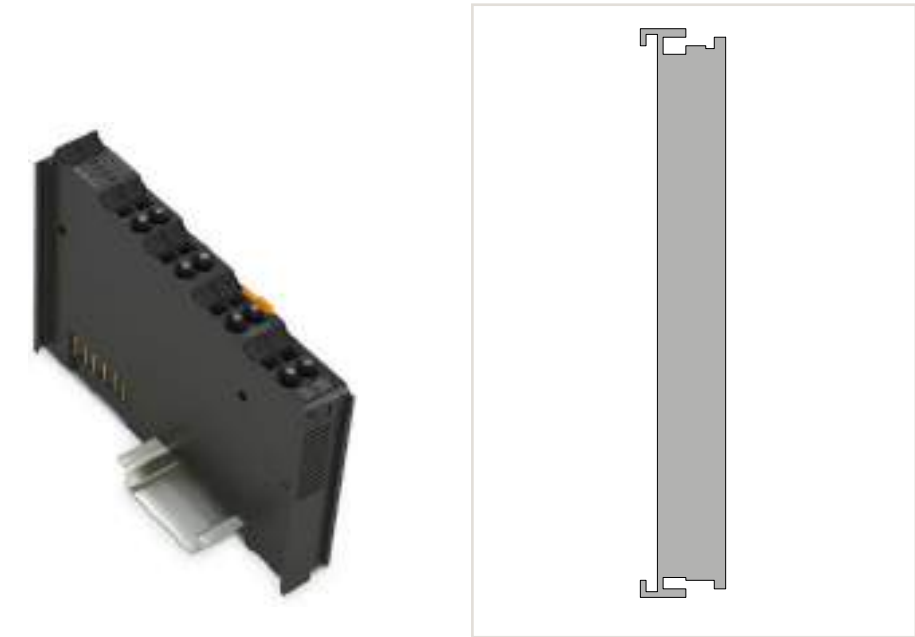
A distance module visually divides a fieldbus node into sections.

Notice:
Operation of the adjacent I/O modules requires a supply module.

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 527 or www.wago.com

End Module



Item Description	End Module
Version	Extreme
Item no.	750-600/040-000
Order text	End Module; XTR
Technical Data	
Surrounding air temperature (operation)	-40 ... +70 °C
Dimensions W x H x D	12 x 67.8 x 100 mm
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
Data sheet and further information, see:	wago.com/750-600/040-000

An end module must be snapped onto the assembly at the end of a fieldbus node.
The end module completes the internal data bus, ensuring flawless data transmission.

Intrinsically Safe XTR Modules



Specialty housing

Dimensions W x H x D	48 x 70.9 x 100
Height from upper-edge of DIN-rail	63.7 mm
Connection technology	CAGE CLAMP®
Conductor cross section	0.25 ... 1.5 mm² / 24 ... 14 AWG
Strip length	5 ... 6 mm / 0.22 inch

Housing design (750 Series)

Dimensions W x H x D	12 or 24 x 67.8 x 100 mm
Height from upper-edge of DIN-rail	60.6 mm
Connection technology	CAGE CLAMP®
Conductor cross section	0.25 ... 2.5 mm² / 24 ... 14 AWG
Strip length	8 ... 9 mm / 0.33 inch

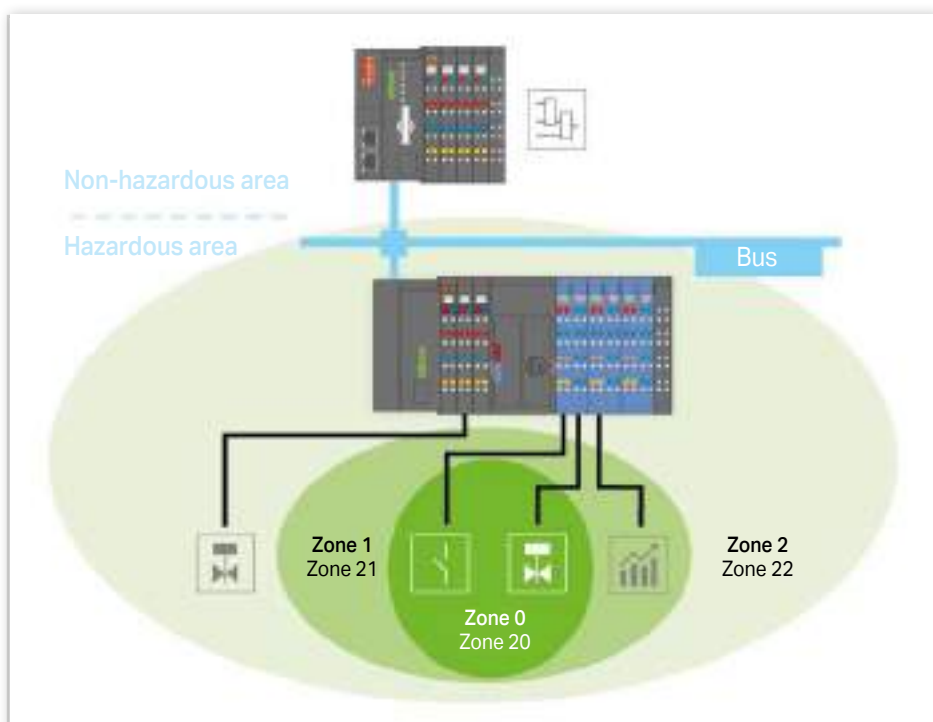


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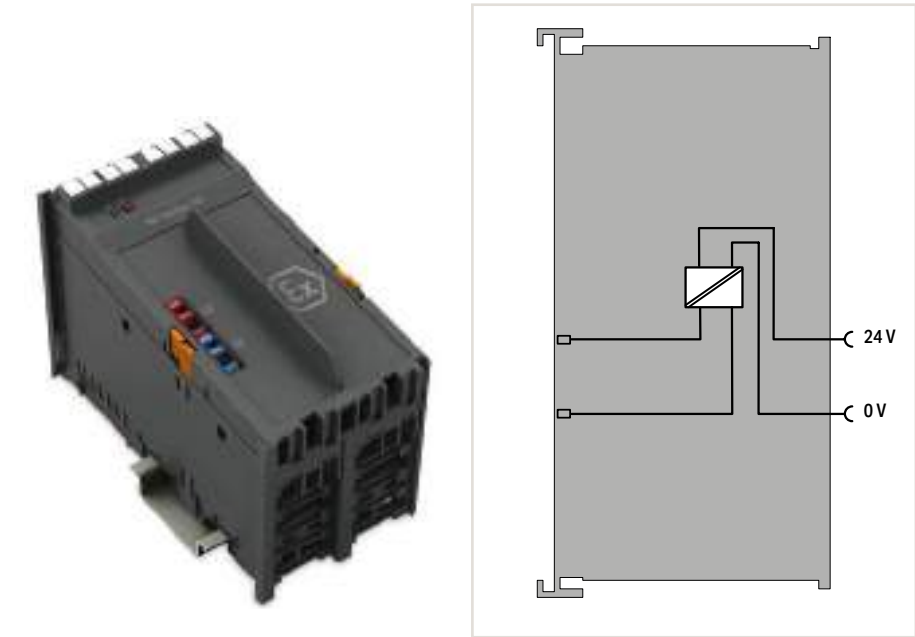
Use in Hazardous Locations in eXTReme Environments

In many plants across the oil and gas industry, along with those in the chemical and petrochemical industries and the process automation sector, installations are operated that process explosive gas- or dust-air mixtures under extreme conditions. This is why electrical equipment must be explosion-proof in order to avoid injuries to personnel and damage to facilities.

When used in hazardous areas of Zone 2/22, the WAGO-I/O-SYSTEM 750 XTR offers a safe, easy and economical connection to the sensors and actuators of Zones 0/20 and 1/21. Surrounding air temperatures from -40 to +70°C are permissible, as well as increased vibration loads up to 5g. The "blue" Ex i XTR I/O modules were specially developed for this purpose. They form an intrinsically safe section that can be integrated into a standard 750 XTR Series node, offering all the advantages of state-of-the-art fieldbus technology. The WAGO-I/O-SYSTEM 750 XTR is also approved for mining applications.



Power Supply; 24 VDC; Extreme; for Intrinsically Safe XTR Modules



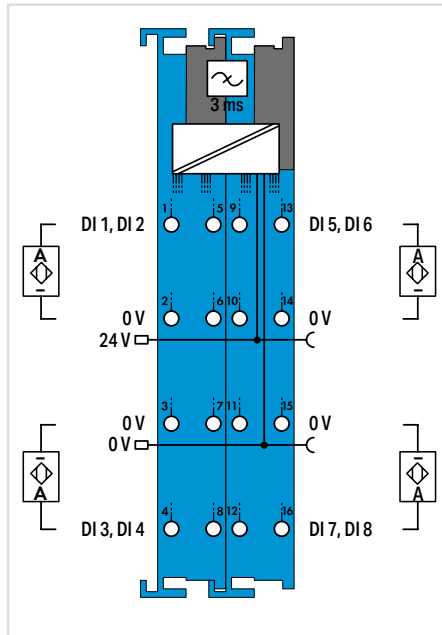
Item Description	Power Supply; 24 VDC; intrinsically safe
Version	Extreme
Item no.	750-606/040-000
Order text	Power Supply; 24 VDC; Ex i; XTR
Technical Data	
Current consumption – system supply (5 V)	7.5 mA
Supply voltage (field)	24 VDC; via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact); Specified values for surrounding air temperatures: +15 ... +35 °C; for –40 ... +55 °C: 24 V (–25 ... +20 %); for +55 ... +70 °C: 24 V (–25 ... +10 %); Lower limit in all temperature ranges: –27.5 % (including 15 % residual ripple)
Current carrying capacity (power jumper contacts)	1 ADC
Fuse	Electronic
Data width	2 bits (input voltage failure; fuse triggered)
Surrounding air temperature (operation)	–40 ... +70 °C
Dimensions W x H x D	24 x 70.9 x 100 mm
Explosion protection	
Power supply (input)	U _n = 24 VDC; P _{max} = 29 W; U _m = 253 V
Power supply (output)	U _o = 26.8 V (intrinsically safe output voltage per protection level ia); I _n = 1 A
Ex guideline	EN/IEC 60079-0, -7, -11
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
Marking	ATEX/IECEX: II 3G Ex ec IIC T4 Gc
Data sheet and further information, see:	wago.com/750-606/040-000

This supply module monitors power supply to the downstream Ex i segment and separates the intrinsically safe from the non-intrinsically safe section of the I/O system. Input and output sides are electrically isolated from each other.

Note: If, due to load conditions, more than one supply module is required per station, four distance modules (750-616/040-000) must be placed between the intrinsically safe sections.

General information (e.g., installation regulations) on explosion protection is available in the WAGO-I/O-SYSTEM 750 XTR manuals!

8-Channel Digital Input; NAMUR; Intrinsically Safe; Extreme



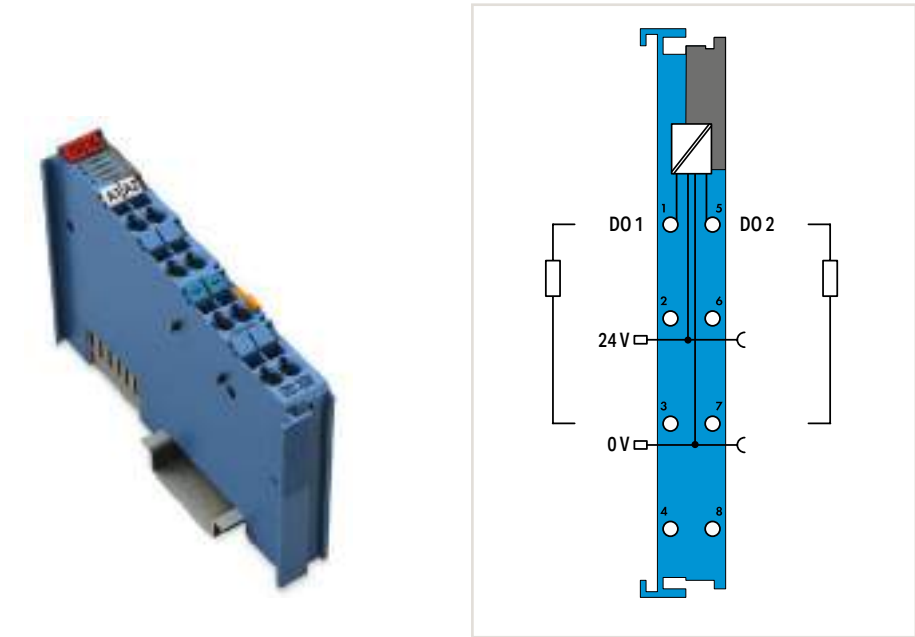
Item Description	8-Channel Digital Input; NAMUR; intrinsically safe
Version	Extreme
Item no.	750-439/040-000
Order text	8DI; NAMUR; Ex i; XTR
Technical Data	
Number of digital inputs	8
Signal type	NAMUR
Sensor connection	2-wire
Input characteristic	High-side switching
Input filter (digital)	3 ms
Open-circuit voltage	8.2 VDC
Diagnostics	Short circuit; wire break
Supply voltage (sensor)	8.2 VDC; short-circuit-protected; isolated channels
Supply voltage (field)	24 VDC (Ex i XTR power supply $U_o = \text{max. } 26.8 \text{ V}$); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	56 mA
Data width (internal)	2 x 16 bits
Isolation	$U_m = 300 \text{ VAC}$ system/supply
Surrounding air temperature (operation)	$-40 \dots +70 \text{ }^\circ\text{C}$
Dimensions W x H x D	24 x 67.8 x 100 mm
Explosion protection	
Safety-relevant data (circuit)	$U_o = 11.76 \text{ V}$; $I_o = 12.48 \text{ mA}$; $P_o = 36.67 \text{ mW}$; Linear characteristic curve
Reactances Ex ia IIC	$L_o = 100 \text{ mH}$; $C_o = 1.5 \text{ } \mu\text{F}$
Reactances Ex ia IIB	$L_o = 100 \text{ mH}$; $C_o = 9.9 \text{ } \mu\text{F}$
Reactances Ex ia IIA	$L_o = 100 \text{ mH}$; $C_o = 39 \text{ } \mu\text{F}$
Reactances Ex ia I	$L_o = 100 \text{ mH}$; $C_o = 38 \text{ } \mu\text{F}$
Ex guideline	EN/IEC 60079-0, -7, -11
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
Marking	ATEX/IECEX: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc II (1) D [Ex ia Da] IIC I (M1) [Ex ia Ma] I
Data sheet and further information, see:	wago.com/750-439/040-000

Reactances without accounting for the concurrence of capacitance (C_o) and inductance (L_o)

„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ Approvals and corresponding ratings, see page 526 or www.wago.com

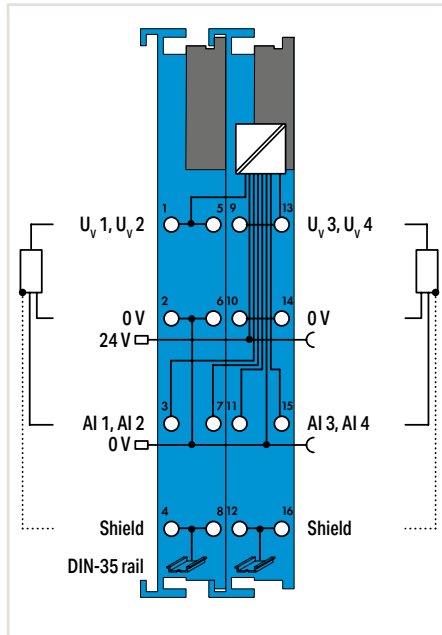
2-Channel Digital Output; 24 VDC; Intrinsically Safe; Extreme



Item Description	2-Channel Digital Output; 24 VDC; intrinsically safe
Version	Extreme
Item no.	750-535/040-000
Order text	2DO; 24 VDC; Ex i; XTR
Technical Data	
Number of digital outputs	2
Signal type	24 VDC
Output characteristic	High-side switching
Load type	Resistive; inductive; lamp load
Actuator connection	2-wire
Switching frequency (max.)	1 kHz
Actuator supply voltage	24 VDC
Supply voltage (field)	24 VDC (Ex i XTR power supply U _o = max. 26.8 V); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	7 mA
Data width (internal)	2 bits
Isolation	U _m = 300 VAC system/supply
Surrounding air temperature (operation)	–40 ... +70 °C
Dimensions W x H x D	12 x 67.8 x 100 mm
Explosion protection	
Safety-relevant data (circuit)	U _o = 26.8 V; I _o = 99.91 mA; P _o = 669.43 mW; Linear characteristic curve
Reactances Ex ia IIC	L _o = 1.1 mH; C _o = 0.092 µF
Reactances Ex ia IIB	L _o = 12 mH; C _o = 0.72 µF
Reactances Ex ia IIA	L _o = 21 mH; C _o = 2.37 µF
Reactances Ex ia I	L _o = 30 mH; C _o = 3.85 µF
Ex guideline	EN/IEC 60079-0, -7, -11
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx
Marking	ATEX/IECEx: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc II (1) D [Ex ia Da] IIIC I (M1) [Ex ia Ma] I
Data sheet and further information, see:	wago.com/750-535/040-000

Reactances without accounting for the concurrence of capacitance (C_o) and inductance (L_o)

4-Channel Analog Input; 0/4 ... 20 mA; NE43; Intrinsically Safe; Extreme



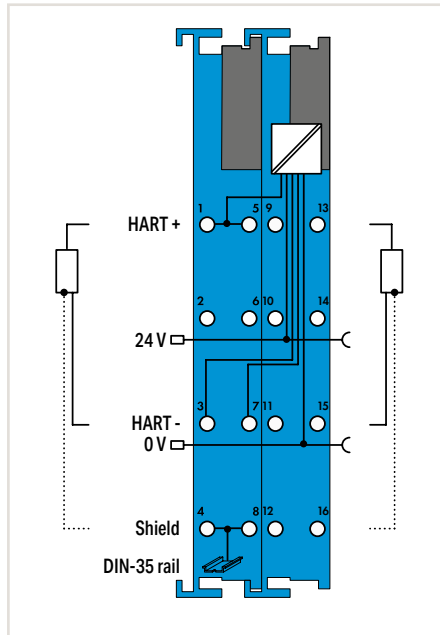
Item Description	4-Channel Analog Input; 0/4 ... 20 mA; intrinsically safe
Version	Extreme
Item no.	750-486/040-000
Order text	4AI; 0/4-20mA; Ex i; XTR
Technical Data	
Number of analog inputs	4
Signal type	0 mA ... 20 mA; 4 mA ... 20 mA; 3.6 ... 21 mA
Signal characteristic	Single-ended
Input resistance	< 200 Ω
Resolution	12 bits + sign bit
Conversion time	< 10 ms
Measuring error max., 25 °C	±0.1 % of the upper-range value
Temperature error max.	±0.01 %/K of the upper-range value
Supply voltage (field)	24 VDC (Ex i XTR power supply U_o = max. 26.8 V); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	45 mA
Transmitter supply	U_v = 15 V at 20 mA
Data width	4 x 16-bit data; 4 x 8-bit control/status (optional)
Isolation	U_m = 300 VAC system/supply
Surrounding air temperature (operation)	-40 ... +70 °C
Dimensions W x H x D	24 x 67.8 x 100 mm
Explosion protection	
Safety-relevant data (circuit)	U_o = 26.8 V; I_o = 92.72 mA; P_o = 621.27 mW; Linear characteristic curve
Reactances Ex ia IIC	L_o = 1.6 mH; C_o = 0.082 μF
Reactances Ex ia IIB	L_o = 15 mH; C_o = 0.71 μF
Reactances Ex ia IIA	L_o = 25 mH; C_o = 2.36 μF
Reactances Ex ia I	L_o = 36 mH; C_o = 3.84 μF
Ex guideline	EN/IEC 60079-0, -7, -11
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
Marking	ATEX/IECEX: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc II (1) D [Ex ia Da] IIIC I (M1) [Ex ia Ma] I
Data sheet and further information, see:	wago.com/750-486/040-000

Reactances without accounting for the concurrence of capacitance (C_o) and inductance (L_o)

„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ Approvals and corresponding ratings, see page 526 or www.wago.com

2-Channel Analog Input; 4 ... 20 mA HART; Intrinsically Safe; Extreme

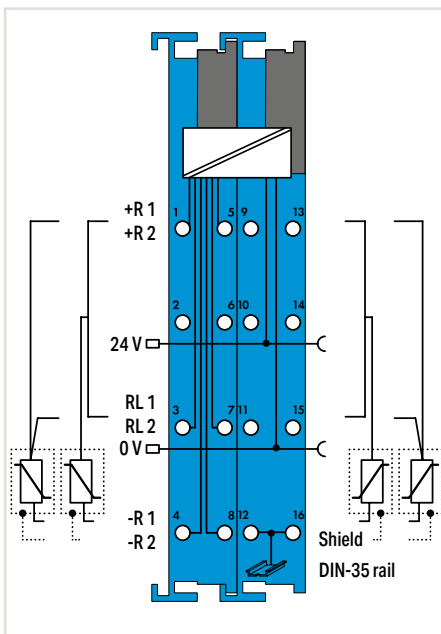


Item Description	2-Channel Analog Input; 4 ... 20 mA HART; intrinsically safe
Version	Extreme
Item no.	750-484/040-000
Order text	2AI; 4-20mA HART; Ex i; XTR
Technical Data	
Number of analog inputs	2
Signal type	4 ... 20 mA
Signal characteristic	Single-ended
Resolution	12 bits
Conversion time	10 ms
Measuring error max., 25 °C	0.2 % of the upper-range value
Temperature error max.	±0.01 %/K of the upper-range value
Supply voltage (field)	24 VDC (Ex i XTR power supply U_o = max. 26.8 V); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	25 mA
Transmitter supply	U_v = 16.5 V at 20 mA
Data width	2 x 2-byte data; 2 x 2-byte data + 2n x 4-byte data (n = number of dynamic variables); 2 x 2-byte data + 6-byte mailbox
Isolation	U_m = 300 VAC system/supply
Surrounding air temperature (operation)	-40 ... +70 °C
Dimensions W x H x D	24 x 67.8 x 100 mm
Explosion protection	
Safety-relevant data (circuit)	U_o = 26.8 V; I_o = 90.07 mA; P_o = 603.5 mW; Linear characteristic curve
Reactances Ex ia IIC	L_o = 1.8 mH; C_o = 0.092 µF
Reactances Ex ia IIB	L_o = 16 mH; C_o = 0.72 µF
Reactances Ex ia IIA	L_o = 27 mH; C_o = 2.37 µF
Reactances Ex ia I	L_o = 38 mH; C_o = 3.85 µF
Ex guideline	EN/IEC 60079-0, -7, -11
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEx
Marking	ATEX/IECEx: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc II (1) D [Ex ia Da] IIIC I (M1) [Ex ia Ma] I
Data sheet and further information, see:	wago.com/750-484/040-000

In addition to the analog signal processing, this product offers the option of HART communication for parameterizing or recording side variables.

Reactances without accounting for the concurrence of capacitance (C_o) and inductance (L_o)

2-Channel Analog Input; Resistance Measurement; Intrinsically Safe; Extreme



Item Description

2-Channel Analog Input; Resistance measurement; intrinsically safe

Version

Extreme

Item no.

750-481/040-000

Order text

2AI; RTD; Ex i; XTR

Technical Data

Number of analog inputs

2

Signal type

Resistance thermometers: Pt100, Pt200, Pt500, Pt1000, Ni100, Ni120, Ni1000;
Resistors: 1.2 k Ω , 5 k Ω ;
Potentiometer setting: 0 ... 100 % (1.2 k Ω , 5 k Ω)

Sensor connection

2-wire; 3-wire

Temperature range

-200 ... +850 °C (Pt);
-60 ... +250 °C (Ni);
-80 ... +320 °C (Ni120)

Resolution

0.1 °C; 0.1 Ω ; 0.0049 %

Conversion time

150 ... 500 ms (per channel)

Measuring error max., 25 °C

± 0.2 % of the upper-range value

Temperature error max.

± 0.01 %/K of the upper-range value

Supply voltage (field)

24 VDC (Ex i XTR power supply U_o = max. 26.8 V);
via power jumper contacts (power supply via blade contact; transmission via spring contact)

Current consumption – system supply (5 V)

25 mA

Data width

2 x 16-bit data; 2 x 8-bit control/status (optional)

Isolation

U_m = 300 VAC system/supply

Surrounding air temperature (operation)

-40 ... +70 °C

Dimensions W x H x D

24 x 67.8 x 100 mm

Explosion protection

Safety-relevant data (circuit)

U_o = 7.2 V; I_o = 5.8 mA; P_o = 10.5 mW;
Linear characteristic curve

Reactances Ex ia IIC

L_o = 100 mH; C_o = 13.5 μ F

Reactances Ex ia IIB

L_o = 100 mH; C_o = 240 μ F

Reactances Ex ia IIA

L_o = 100 mH; C_o = 1000 μ F

Reactances Ex ia I

L_o = 100 mH; C_o = 1000 μ F

Ex guideline

EN/IEC 60079-0, -7, -11

Approvals

CE; Marine; OrdLoc/HazLoc; ATEX/IECEx

Marking

Ⓢ ATEX/IECEx: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc
II (1) D [Ex ia Da] IIIC
I (M1) [Ex ia Ma] I

Data sheet and further information, see:

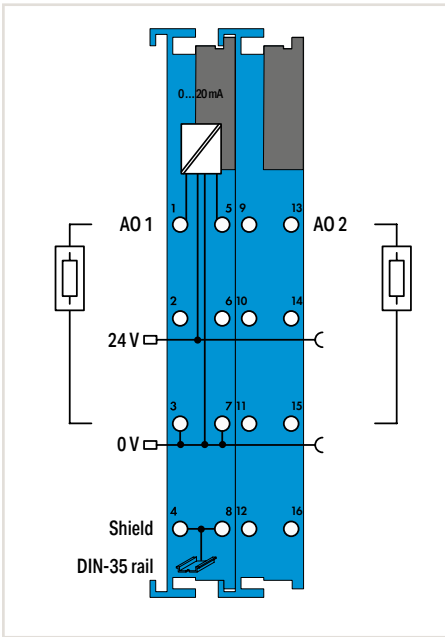
wago.com/750-481/040-000

Reactances without accounting for the concurrence of capacitance (C_o) and inductance (L_o)

„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ Approvals and corresponding ratings, see page 526 or www.wago.com

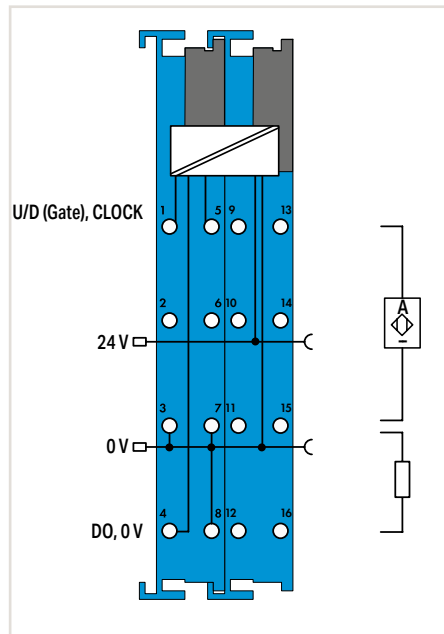
2-Channel Analog Output; 0 ... 20 mA; Intrinsically Safe; Extreme



Item Description	2-Channel Analog Output; 0 ... 20 mA; intrinsically safe
Version	Extreme
Item no.	750-585/040-000
Order text	2AO; 0-20mA; Ex i; XTR
Technical Data	
Number of analog outputs	2
Signal type	0 ... 20 mA
Signal characteristic	Single-ended
Load impedance	< 500 Ω
Resolution	12 bits
Conversion time	< 2 ms
Output error max., 25 °C	±0.2 % of the upper-range value
Temperature error max.	±0.01 %/K of the upper-range value
Supply voltage (field)	24 VDC (Ex i XTR power supply U_o = max. 26.8 V); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	21 mA
Data width	2 x 16-bit data
Isolation	U_m = 300 VAC system/supply
Surrounding air temperature (operation)	-40 ... +70 °C
Dimensions W x H x D	24 x 67.8 x 100 mm
Explosion protection	
Safety-relevant data (circuit)	U_o = 26.8 V; I_o = 56.4 mA; P_o = 378 mW; Linear characteristic curve
Reactances Ex ia IIC	L_o = 8.2 mH; C_o = 0.092 µF
Reactances Ex ia IIB	L_o = 46 mH; C_o = 0.72 µF
Reactances Ex ia IIA	L_o = 76 mH; C_o = 2.37 µF
Reactances Ex ia I	L_o = 100 mH; C_o = 3.85 µF
Ex guideline	EN/IEC 60079-0, -7, -11
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
Marking	ATEX/IECEX: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc II (1) D [Ex ia Da] IIIC I (M1) [Ex ia Ma] I
Data sheet and further information, see:	wago.com/750-585/040-000

Reactances without accounting for the concurrence of capacitance (C_o) and inductance (L_o)

Up/Down Counter; Intrinsically Safe; Extreme



Item Description	Up/Down Counter; intrinsically safe
Version	Extreme
Item no.	750-633/040-000
Order text	Up/Down Counter; Ex i; XTR
Technical Data	
Number of counters	1
No. of outputs	1
Sensor supply U_v	8.2 VDC
Input filter	10 μ s
Switching frequency	20 Hz ... 50 kHz
Counter depth	32 bits
Output voltage	24 VDC
Supply voltage (field)	24 VDC (Ex i XTR power supply U_o = max. 26.8 V); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	25 mA
Data width	1 x 32-bit data, 1 x 8-bit status/diagnostics
Isolation	U_m = 300 VAC system/supply
Surrounding air temperature (operation)	-40 ... +70 °C
Dimensions W x H x D	24 x 67.8 x 100 mm
Explosion protection	
Safety data – input	U_o = 12 V; I_o = 13.3 mA; P_o = 40.4 mW; Linear characteristic curve
Input reactances Ex ia IIC	L_o = 100 mH; C_o = 1.41 μ F
Input reactances Ex ia IIB	L_o = 100 mH; C_o = 9 μ F
Input reactances Ex ia IIA	L_o = 100 mH; C_o = 36 μ F
Input reactances Ex ia I	L_o = 100 mH; C_o = 35 μ F
Safety data – output	U_o = 26.8 V; I_o = 96.69 mA; P_o = 674.83 mW; Linear characteristic curve
Output reactances Ex ia IIC	L_o = 1.3 mH; C_o = 0.091 μ F
Output reactances Ex ia IIB	L_o = 13 mH; C_o = 0.719 μ F
Output reactances Ex ia IIA	L_o = 23 mH; C_o = 2.369 μ F
Output reactances Ex ia I	L_o = 33 mH; C_o = 3.849 μ F
Ex guideline	EN/IEC 60079-0, -7, -11
Approvals	CE; Marine; OrdLoc/HazLoc; ATEX/IECEX
Marking	ATEX/IECEX: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc II (1) D [Ex ia Da] IIC I (M1) [Ex ia Ma] I
Data sheet and further information, see:	wago.com/750-633/040-000

Reactances without accounting for the concurrence of capacitance (C_o) and inductance (L_o)

„ Mini-WSB marker card and mounting accessories,
see Section "Accessories and Tools"

„ Approvals and corresponding ratings,
see page 527 or www.wago.com



Industrial Switches

Industrial Switches

- Copper cables
- Fiber optic cables
- Ring redundancy

Industrial Switches
Contents



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Security					399
Redundancy					400
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	Managed	No. of Ports	Medium	Item No.	
Industrial Switches		5	100BASE-TX	852-101	402
		8	100BASE-TX	852-102	402
		8/2	100BASE-TX/ 100BASE-FX	852-103	403
		8	1000BASE-T	852-1102	404
		16	1000BASE-T	852-1106	405
Industrial Managed Switches	x	8/2	100BASE-TX/ 100BASE-FX/ 1000BASE-SX/LX	852-303	406
	x	8/4	1000BASE-T/ 1000BASE-SX/LX	852-1305	406
	x	8/4 8 PoE+	1000BASE-T/ 1000BASE-SX/LX	852-1505	407
Industrial Eco Switches		5	100BASE-TX	852-111	408
		8	100BASE-TX	852-112	408
		5	1000BASE-T	852-1111	409
		8	1000BASE-T	852-1112	409
		5 4 PoE+	1000BASE-T	852-1411	410
		5/2 4 PoE+	1000BASE-T/ 1000BASE-SX/LX	852-1417	410
Accessories					
SFP Modules, Mounting Adapters					412

Industrial Switches

General Product Information

Always the Right Solution

WAGO's range of switches ensures the scalability of your ETHERNET network infrastructure, while providing outstanding electrical and mechanical characteristics. These robust switches are designed for industrial use and are fully compliant with IEEE 802.3, IEEE 802.3u and IEEE 802.3ab.

Combinable with Fiber Optic Cables

ETHERNET via fiber optic cables offers a multitude of advantages for industrial applications.

High immunity to interference, electrical isolation and long ranges up to 80 km are extremely beneficial characteristics – and these benefits are a perfect fit with IT.

Scaled Offering

Unmanaged and managed switches in various designs are available for high-end applications. Our Eco Switches are ideal for cost-sensitive applications that do not require technical features such as redundancy. They are ideal for small- to medium-sized networks.

Modular and Expandable

Exchangeable SPF modules adapt WAGO's switches to various fiber optic cables (FOC) and the associated required distances and fibers.

There are SFP modules for multimode and single-mode fiber optic cables for ranges up to 80 km. With the exact combination of copper and fiber optic cables, you are prepared for a multitude of requirements.

Web-Based Management

WAGO's fully managed switches have integrated Web-based management. Any Web browser can be used to configure the switch.

Integrated Function Monitoring

For monitoring and error reporting, the managed switch has configurable functions such as e-mail alarm and SNMP traps. In addition, all switches (except for Eco versions) can monitor individual ports or the power supply via potential-free alarm contact. A DIP switch is used to configure this function.

Full Bandwidth on All Ports

The switches' internal bandwidth is designed so that all ports can communicate simultaneously – in full duplex without restrictions.

Security

Managed switches have built-in security features, such as:

- Authentication
- Access control lists
- DHCP snooping
- Port security

Data Transmission

Managed switches provide configuration options for data transfer, such as:

- VLAN
- IGMP snooping
- IP-based VLAN
- MAC-based VLAN

Availability, Redundancy

Select industrial switches have several options to build redundant network structures and guarantee secure communication – even when connections are faulty:

- Rapid Spanning Tree per IEEE 802.1w – compatible with IT standards
- Jet Ring – a simple ring protocol with switching time < 300 ms
- Xpress Ring – fast ring protocol with switching time < 20 ms
- ERPSv2 per ITU-T standard with switching time < 50 ms

In addition to communication link redundancy, a redundant power supply – which can also be monitored using an alarm relay – is integrated into the switches. If the power supply fails, communication is not interrupted.

Different Operating Modes

The unmanaged switches are ideal for direct plug-and-play use. Managed switches are available for applications where IP filtering or further interpretation of telegrams is required for the application.

Configurable Performance

Managed switches offer performance control features, such as:

- Storm control
- Bandwidth control
- Auto-provisioning
- Link aggregation

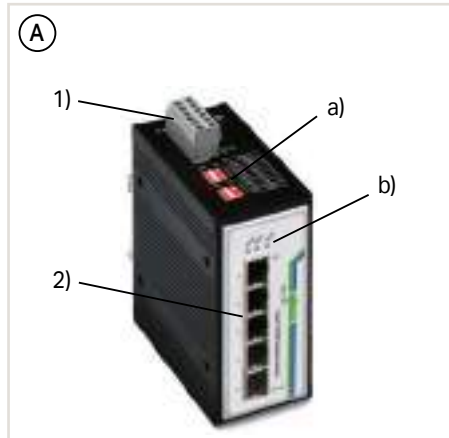
Bit-Based Configuration and Diagnostics

Modbus® can be used to diagnose managed switches. Configuration and diagnostics are also possible with standardized protocols such as SNMP.

Advantages:

- Adaptable to different transmission media
- Automatically adapts to
 - Speed (auto-negotiation)
 - Wiring (auto-crossover, MDI/MDIX)
- Optional redundancy
- Wide supply voltage range

Industrial Switches Interfaces and Types



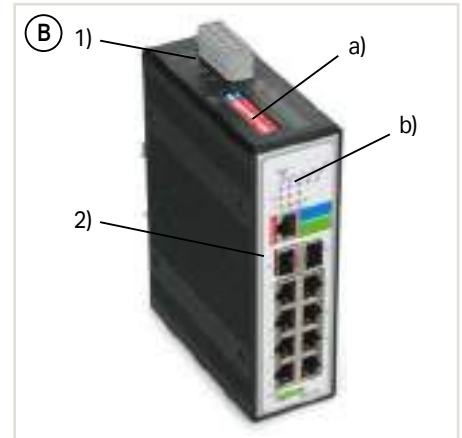
Power supply (1)
Technologically related differences on the connection level (2)

Housing Design (A)

- DIP switch for configuration (a)
- Diagnostic LEDs (b)
- W x H* x D (mm) 50 x 120 x 105

Housing Design (B)

- DIP switch for configuration (a)
- Diagnostic LEDs (b)
- W x H* x D (mm) 50 x 120 x 162

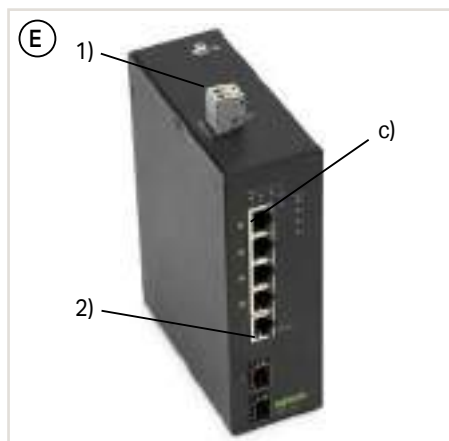
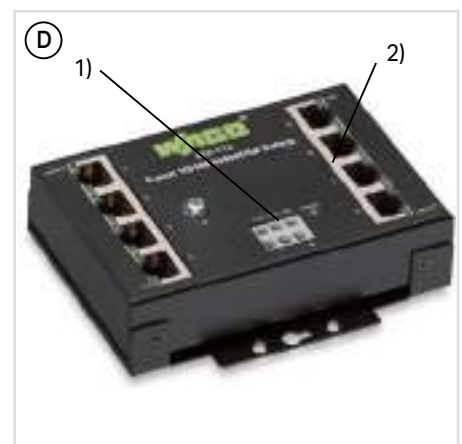


Housing Design Eco (C)

- W x H* x D (mm) 23.4 x 73.8 x 109.2 or 46 x 99.6 x 116
- DIN-35 rail
- wall-mount (852-111, 852-1111)

Housing Design Eco (D)

- W x H* x D (mm) 109.2 x 23.4 x 73.8
- DIN-35 rail or wall-mount



Housing Design PoE+ (E)

- Power over Ethernet (PoE+) Ports (c)
- W x H* x D (mm) 50 x 120 x 160

Housing Design (F)

- SFP module for connecting fiber optic cables
- LC connector
- W x H x D (mm) 13.4 x 13.3 x 56.6

*Height from upper edge of DIN-rail



Variants



Extended Temperature Range

Industrial automation technology is typically operated in temperatures ranging from 0°C to 55°C. However, there are applications that require an extended temperature range. Nearly all switches and SFP modules are available for an extended temperature range of -40°C to +70°C.

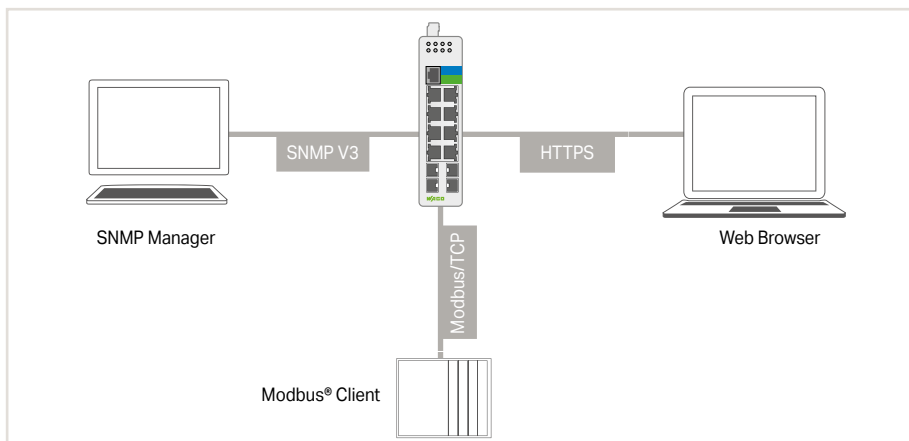
Industrial Switches

Configuration, Diagnostics and Performance

Configuration and Diagnostics

Several options:

- Configuration via Web-based management
- Configuration via command line (SSH, Telnet, RS-232)
- Network management via SNMP v1, v2c, v3
- Support of MIB standards (Management Information Base)
- Diagnostics via Modbus TCP:
Comprehensive diagnostic data available for easy diagnostics via Modbus®



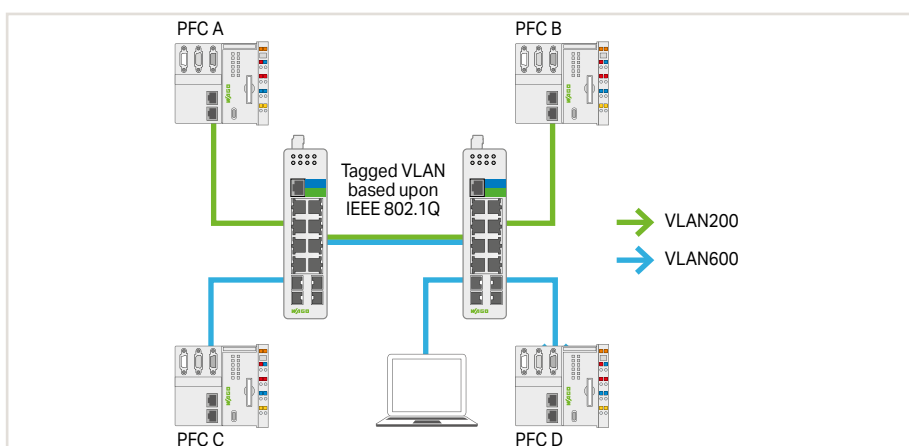
Configuration Interfaces

Logical Network Disconnection

VLAN (e.g., per IEEE 802.1Q)

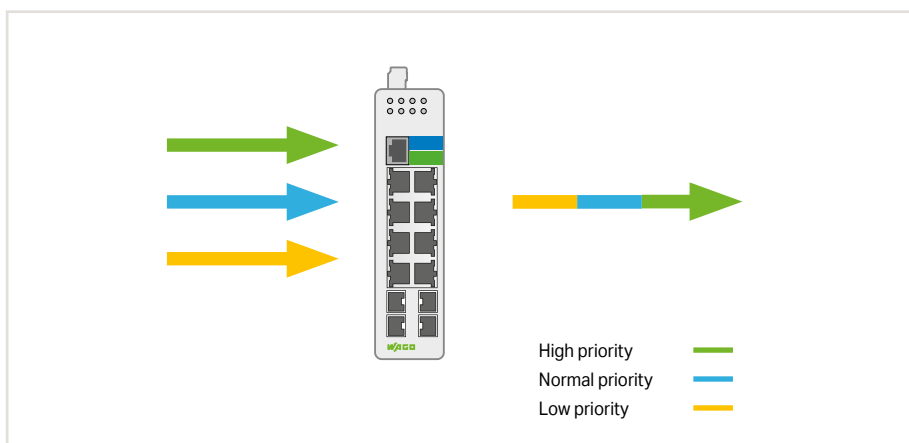
Segmentation into virtual networks:

- Broadcast limitation
- Security improvement
- Data flow prioritization
- Subdivision of machines and office networks, for example



Traffic Prioritization and Limitation

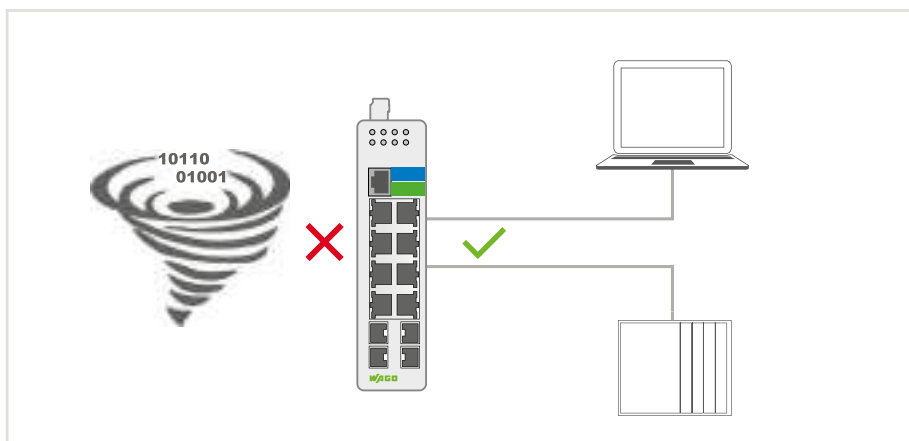
- Faster transfer of important data packets through the switch
- Prioritization of data packets per IEEE 802.1Q
- Limitation of the bandwidth or number of packets per unit of time per port
- Increase in data transmission quality



QoS

Mastering Data Traffic

- Stopping broadcast storms
- Ensuring network availability
- Limiting broadcast and multicast data flows (packets/time)



Storm Control

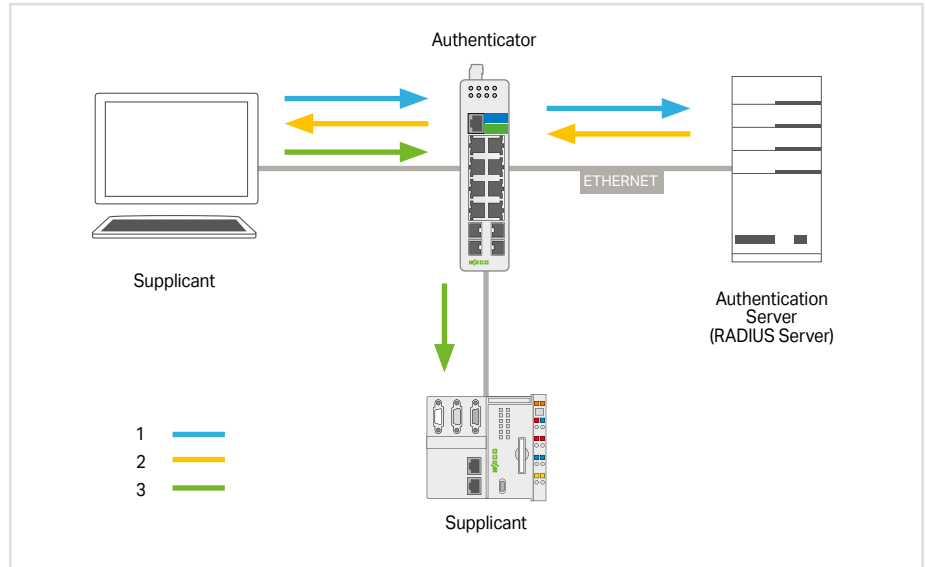
Industrial Switches Security

Authentication IEEE 802.1X

Secure authentication and authorization in ETHERNET networks (locally on the switch or via RADIUS server)

Process:

- Authentication of a subscriber is performed by the authenticator.
- The authenticator checks the authentication information of the subscriber (supplicant) with an authentication server.

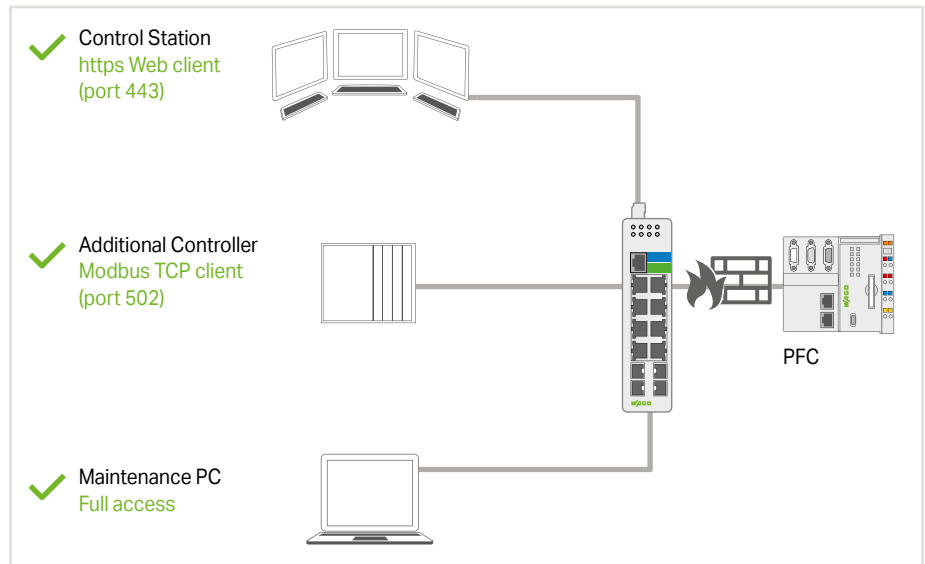


IEEE 802.1X

Firewall – Access Control List

Filtering data packets due to:

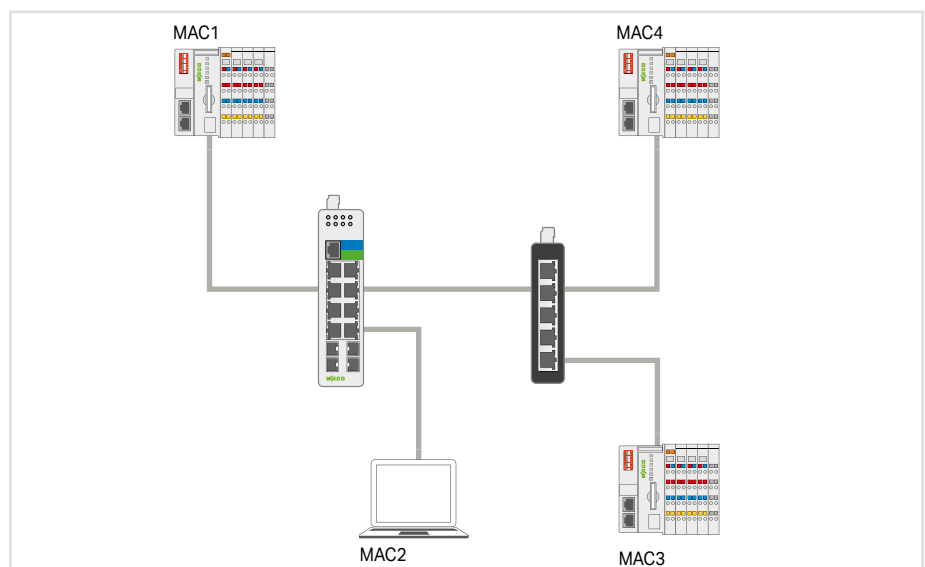
- a source MAC or source IP address
- a destination MAC or destination IP address
- a range of MAC or IP addresses
- UDP/TCP source or destination ports



Firewall

Port Security

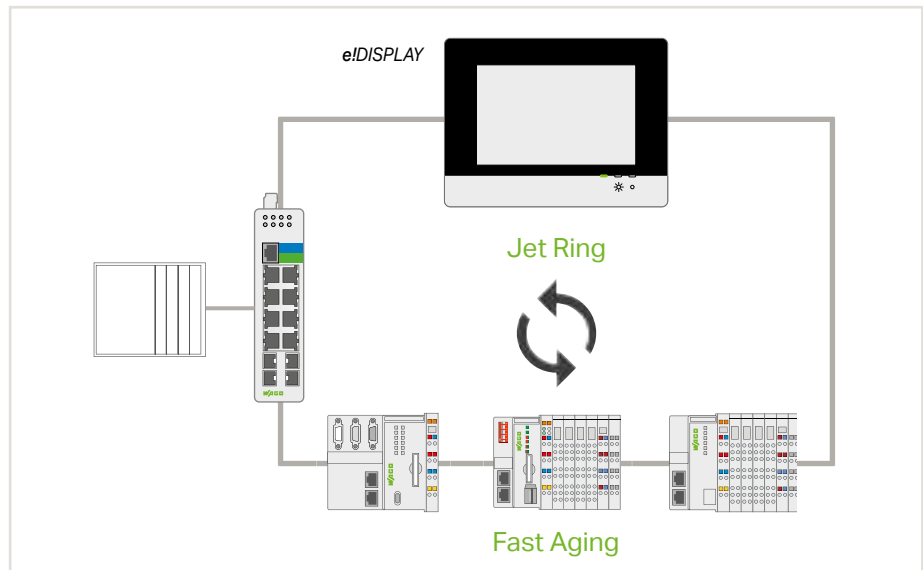
- Dynamically learns MAC addresses per port
- Limitation of MAC addresses per port
- MAC-based white/blacklist per port



Industrial Switches Redundancy

Jet Ring

- Typical switching time $< \sim 300$ ms (depends on the application)
- Extremely easy configuration
- Up to 20 participants (Fast Aging) in a Jet Ring



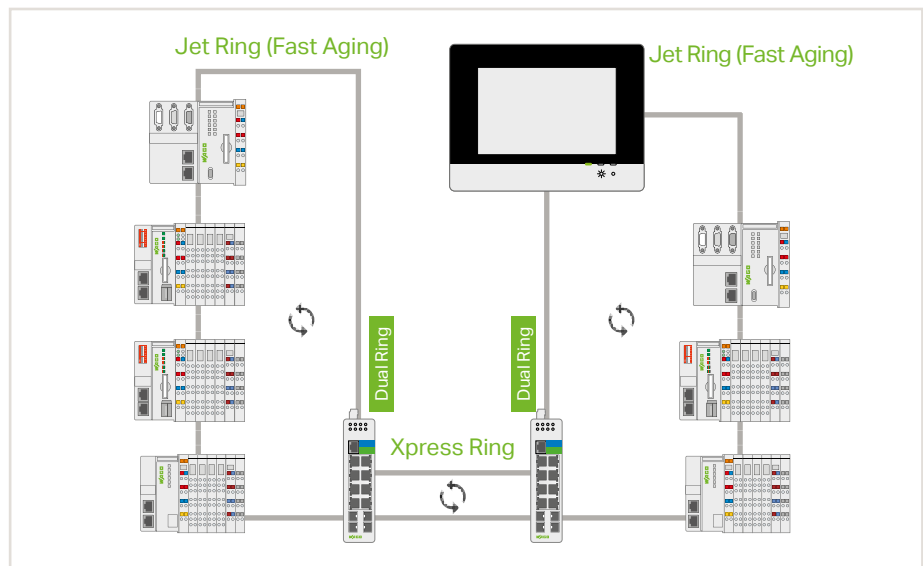
Jet Ring

Xpress Ring

- Switching time < 20 ms
- Easy configuration
- Up to 200 switches in one Xpress Ring
- 2 Xpress Rings per switch

Dual Ring

- Combination of both redundancy types
- 1 Jet Ring and 1 Xpress Ring per switch or 2 Xpress Rings per switch



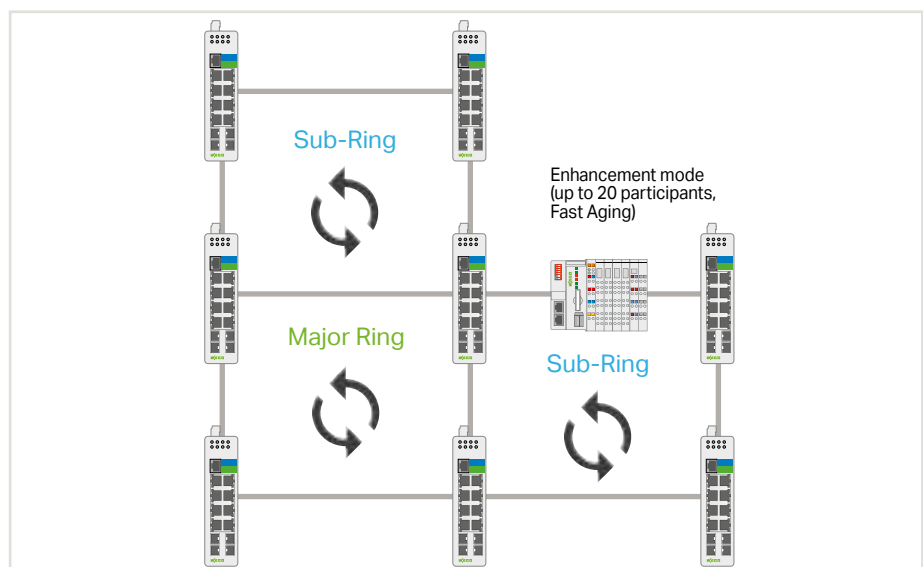
Xpress Ring and Dual Ring

ERPS: ETHERNET Ring Protection Switching

- Standardized and open technology
- Switching time < 50 ms
- Nested topologies with up to six rings per switch
- Realization of a one-fault tolerance (SPOF – Single Point of Failure)

ERPS – Enhancement Mode

- WAGO devices with an integrated switch and Fast Aging configuration
- Typical switching time $< \sim 300$ ms (depends on the application)

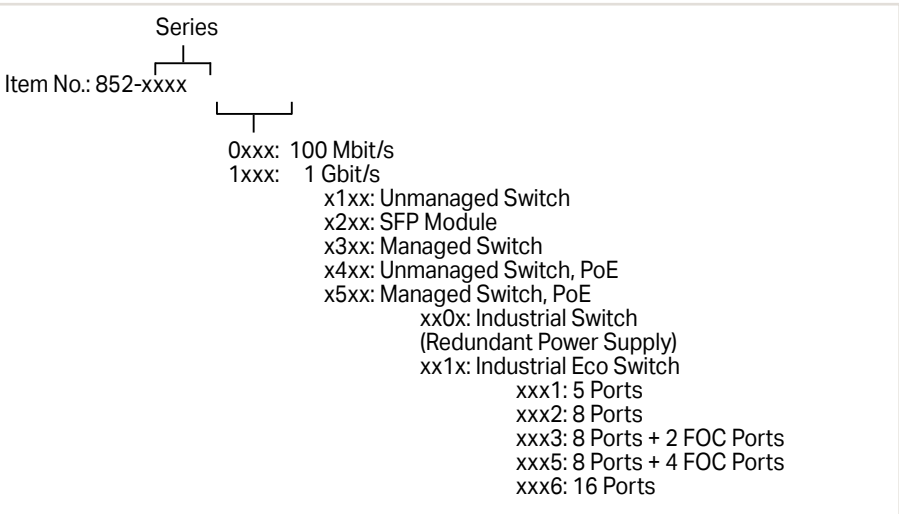


ERPS V2

Industrial Switches

Item Number Key

Explanation of an item number key's components



Standards and Rated Conditions

General Specifications

Packet throughput per port	10 Mbps port: 14,880 packages per second (pps) 100 Mbps port: 148,800 packages per second (pps) 1000 Mbps port: 1,488,000 packages per second (pps)
Surrounding air temperature (operation)	-40 ... +70 °C
Surrounding air temperature (storage)	-40 ... +80 °C
Relative humidity max.	95 % (non condensing)
Vibration resistance	4g per IEC 60068-2-6
Shock resistance	15g per IEC 60068-2-27
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4
Protection type	IP30
Mounting type	On DIN-35 rail, Eco version also for wall-mount
Mounting position	Any

Approvals

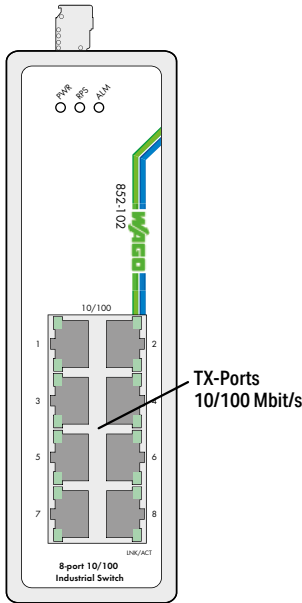
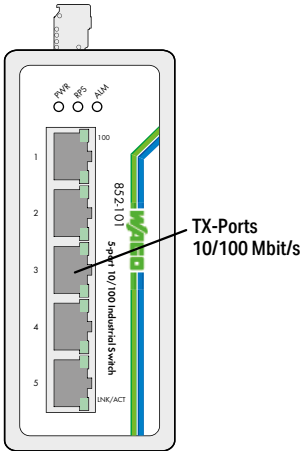
For approvals overview (item comparison), see Section 11 (Technical Section) or visit www.wago.com.



Industrial Switch



Figure: 852-101

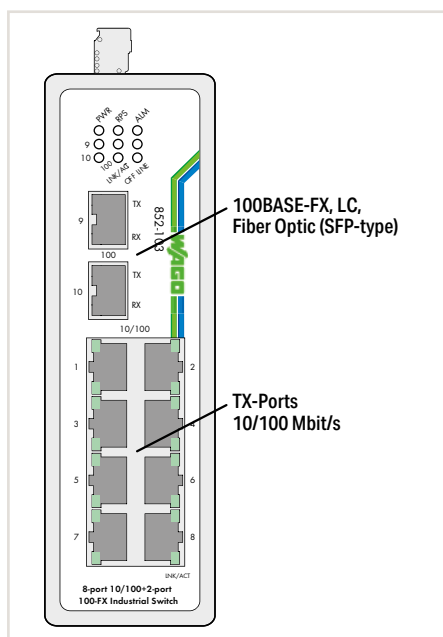


Item Description		Industrial Switch; 5-port 100BASE-TX	Industrial Switch; 8-port 100BASE-TX
Item No.		852-101	852-102
Order Text		Industrial Switch; 5Port	Industrial Switch; 8Port
Technical Data			
Switching mode		Store-and-forward, non-blocking	Store-and-forward, non-blocking
Number of copper ports		5 x 100BASE-TX	8 x 100BASE-TX
Communication standards		IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX; IEEE 802.3x Flow Control	IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX; IEEE 802.3x Flow Control
Redundancy functions		Redundant DC power supply	Redundant DC power supply
Configuration		DIP switch for signal contact	DIP switch for signal contact
Diagnostics		Signal contact	Signal contact
MAC table (large)		2000 addresses	2000 addresses
Jumbo frame size		1536 bytes	1516 bytes
Supply voltage		9 ... 48 VDC	9 ... 48 VDC
Power consumption (max.)		4 W	5.3 W
ESD (contact/air discharge)		8 KV / 15 KV	8 KV / 15 KV
Connection technology (communication)		5 x RJ-45	8 x RJ-45
Surrounding air temperature (operation)		-40 ... +70 °C	-40 ... +70 °C
Dimensions W x H x D		50 x 120 x 105 mm	50 x 120 x 162 mm
Approvals		CE, UL, OrdLoc	CE, UL, OrdLoc
Data sheet and further information, see:		wago.com/852-101	wago.com/852-102

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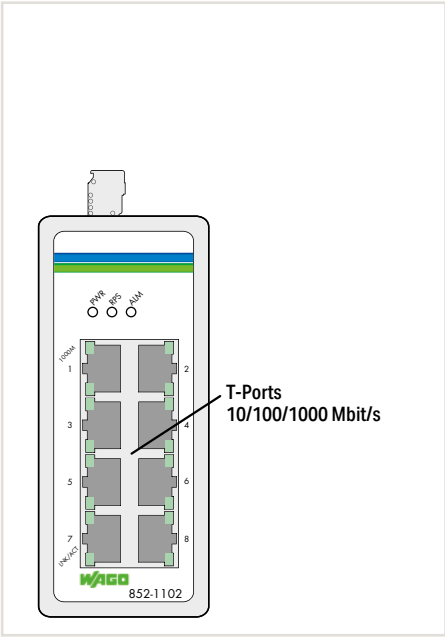
- „ SFP Modules, see page 412
- „ Passive ETHERNET components, see Section "Accessories and Tools"
- „ Approvals and corresponding ratings, see page 529 or www.wago.com

Industrial Switch



Item Description	Industrial Switch; 8-port 100BASE-TX; 2-slot 100BASE-FX
Item No.	852-103
Order Text	Industrial Switch; 8Port; 2-Slot 100BASE-FX
Technical Data	
Switching mode	Store-and-forward, non-blocking
Number of copper ports	8 x 100BASE-TX
Number of FOC ports	2 x 100BASE-FX
Communication standards	IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX/FX; IEEE 802.3x Flow Control
Redundancy functions	Redundant DC power supply
Configuration	DIP switch for signal contact
Diagnostics	Signal contact
MAC table (large)	2000 addresses
Jumbo frame size	1536 bytes
Supply voltage	9 ... 48 VDC
Power consumption (max.)	6.1 W
ESD (contact/air discharge)	8 KV / 15 KV
Connection technology (communication)	8 x RJ-45; 2 x SFP
Surrounding air temperature (operation)	-40 ... +70 °C
Dimensions W x H x D	50 x 120 x 162 mm
Approvals	CE,  ,  OrdLoc
Data sheet and further information, see:	wago.com/852-103

Industrial Switch



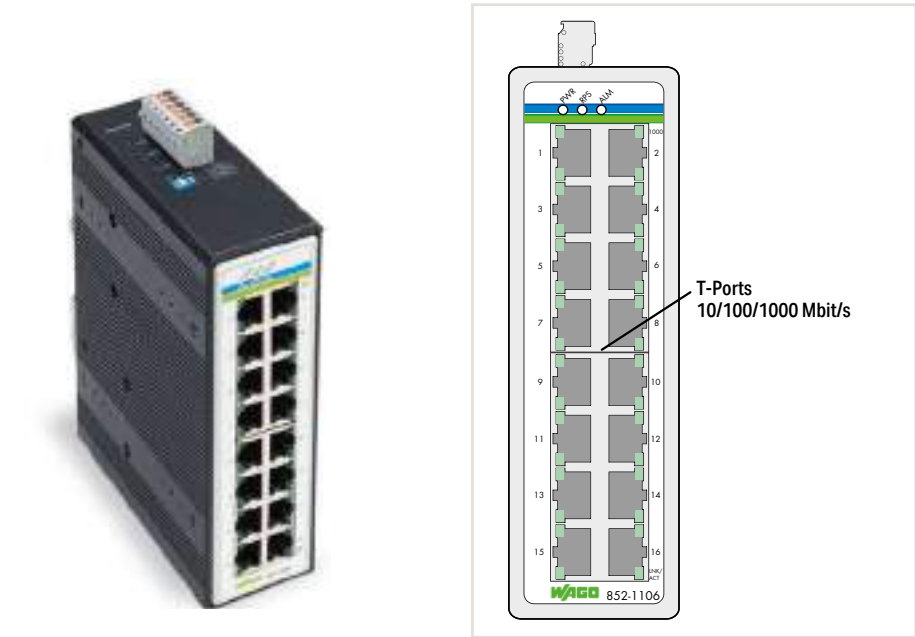
Item Description	Industrial Switch; 8-port 1000BASE-T
Item No.	852-1102
Order Text	Industrial Switch; 8-Port Gb
Technical Data	
Switching mode	Store-and-forward, non-blocking
Number of copper ports	8 x 1000BASE-T
Communication standards	IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX; IEEE 802.3ab 1000BASE-T; IEEE 802.3x Flow Control; IEEE 802.3az Energy Efficient Ethernet; IEEE 802.1p Prioritization
Redundancy functions	Redundant DC power supply
Configuration	DIP switch for signal contact
Diagnostics	Signal contact
MAC table (large)	8000 addresses
Jumbo frame size	9 kB
Supply voltage	9 ... 57 VDC
Power consumption (max.)	6 W
ESD (contact/air discharge)	8 KV / 15 KV
Connection technology (communication)	8 x RJ-45
Surrounding air temperature (operation)	-40 ... +70 °C
Dimensions W x H x D	50 x 120 x 105 mm
Approvals	CE; UL= OrdLoc*
Data sheet and further information, see:	wago.com/852-1102

*pending

„ Passive ETHERNET components,
see Section "Accessories and Tools"

„ Approvals and corresponding ratings,
see page 529 or www.wago.com

Industrial Switch



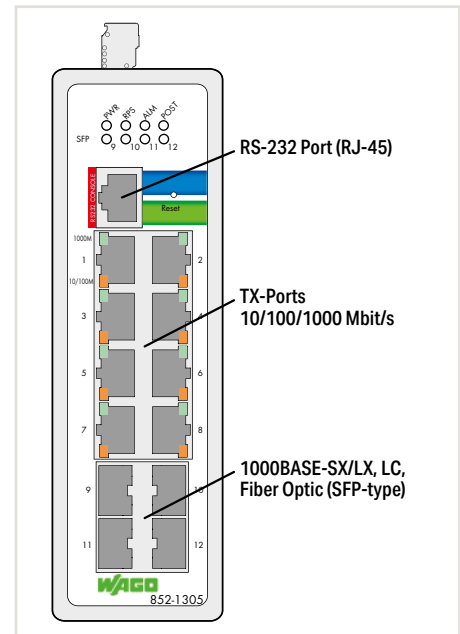
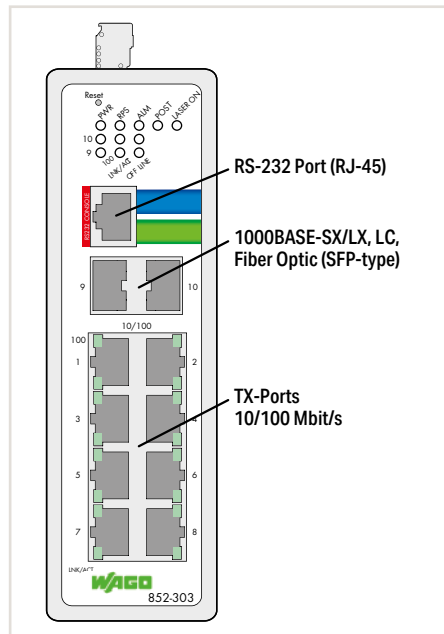
Item Description	Industrial Switch; 16-port 1000BASE-T
Item No.	852-1106
Order Text	Industrial Switch; 16-Port Gb
Technical Data	
Switching mode	Store-and-forward, non-blocking
Number of copper ports	16 x 1000BASE-T
Communication standards	IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX/FX; IEEE 802.3ab 1000BASE-T; IEEE 802.3x Flow Control; IEEE 802.3az Energy Efficient Ethernet; IEEE 802.1p Prioritization
Redundancy functions	Redundant DC power supply
Configuration	DIP switch for signal contact
Diagnostics	Signal contact
MAC table (large)	8000 addresses
Jumbo frame size	10 KB
Supply voltage	12 ... 60 VDC
Power consumption (max.)	12 W
Connection technology (communication)	16 x RJ-45
Surrounding air temperature (operation)	-40 ... +70 °C
Dimensions W x H x D	50 x 120 x 162 mm
Approvals	CE, UL, OrdLoc*
Data sheet and further information, see:	wago.com/852-1106

*pending

Industrial Managed Switch



Figure: 852-303



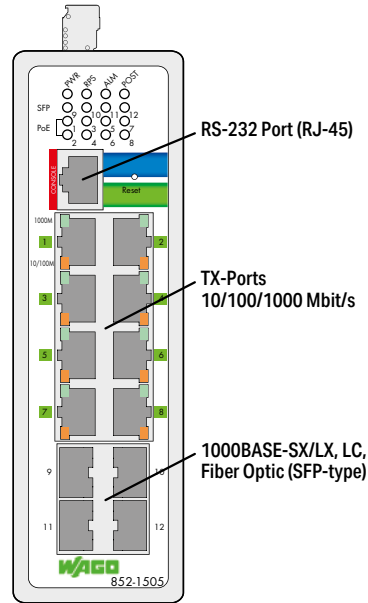
Item Description	Industrial Managed Switch; 8-port 100BASE-TX; 2-slot 1000BASE-SX/LX 852-303	Industrial Managed Switch; 8-port 1000BASE-T; 4-slot 1000BASE-SX/LX 852-1305
Item No.		
Order Text	Industrial Managed Switch; 8Port; 2-Slot 1000BASE-SX/LX	Industrial Managed Switch; 8-Port Gb; 4-Slot 1000BASE-SX/LX
Technical Data		
Switching mode	Store-and-forward, non-blocking	Store-and-forward, non-blocking
Number of copper ports	8 x 100BASE-TX	8 x 1000BASE-T
Number of FOC ports	2 x 100BASE-FX / 1000BASE-SX/LX	4 x 1000BASE-SX/LX
Communication standards	IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX/FX; IEEE 802.3z 1000BASE-SX/LX; IEEE 802.3x Flow Control; IEEE 802.1w Rapid Spanning Tree Protocol (RSTP); IEEE 802.1q VLAN Tagging; IEEE 802.1ab Link Layer Discovery Protocol (LLDP); IEEE 802.1p Prioritization; IEEE 802.1x Port Authentication; ITU-T G8032v1/v2 Ethernet Ring Protection Switching (ERPS)	IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX; IEEE 802.3ab 1000BASE-T; IEEE 802.3z 1000BASE-SX/LX; IEEE 802.3x Flow Control; IEEE 802.1w Rapid Spanning Tree Protocol (RSTP); IEEE 802.1q VLAN Tagging; IEEE 802.1ab Link Layer Discovery Protocol (LLDP); IEEE 802.1p Prioritization; IEEE 802.1x Port Authentication; ITU-T G8032v1/v2 Ethernet Ring Protection Switching (ERPS)
Redundancy functions	Redundant DC power supply; STP; RSTP; MSTP; Jet Ring < 300 ms; Xpress Ring < 20 ms; Dual Homing < 20 ms; Dual Ring; ERPSv2 < 50 ms; LCAP	Redundant DC power supply; STP; RSTP; MSTP; Jet Ring < 300 ms; Xpress Ring < 20 ms; Dual Homing < 20 ms; Dual Ring; ERPSv2 < 50 ms; LCAP
Configuration	DIP switch for signal contact; Web-Based-Management; Command Line Interface; SNMPv1/v2c/v3	DIP switch for signal contact; Web-Based-Management; Command Line Interface; SNMPv1/v2c/v3
Diagnostics	Signal contact; Modbus TCP; Port status; Port statistics; Port load; Traffic monitor; SFP information; Syslog; Mail alarm; SNMP traps	Signal contact; Modbus TCP; Port status; Port statistics; Port load; Traffic monitor; SFP information; Syslog; Mail alarm; SNMP traps
MAC table (large)	16,000 addresses	16,000 addresses
Jumbo frame size	10 KB	10 KB
Supply voltage	12 ... 60 VDC	12 ... 60 VDC
Power consumption (max.)	12 W	12 W
ESD (contact/air discharge)	8 KV / 15 KV	8 KV / 15 KV
Connection technology (communication)	8 x RJ-45; 2 x SFP; 1 x RJ-45 (RS-232)	8 x RJ-45; 4 x SFP; 1 x RJ-45 (RS-232)
Communication standards	IEEE802.3x (in full duplex mode)	IEEE802.3x (in full duplex mode)
Surrounding air temperature (operation)	-40 ... +70 °C	-40 ... +70 °C
Dimensions W x H x D	50 x 120 x 162 mm	50 x 120 x 162 mm
Approvals	CE; DNV GL; OrdLoc*	CE; DNV GL; DNV; OrdLoc*
Data sheet and further information, see:	wago.com/852-303	wago.com/852-1305

*pending

*pending

SFP Modules,
see page 412

Industrial Managed Switch



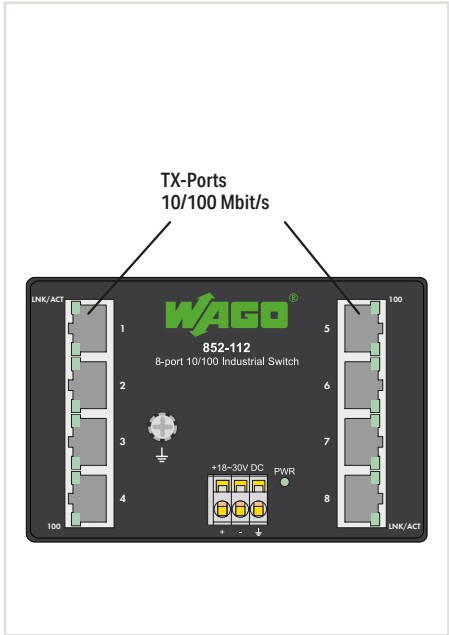
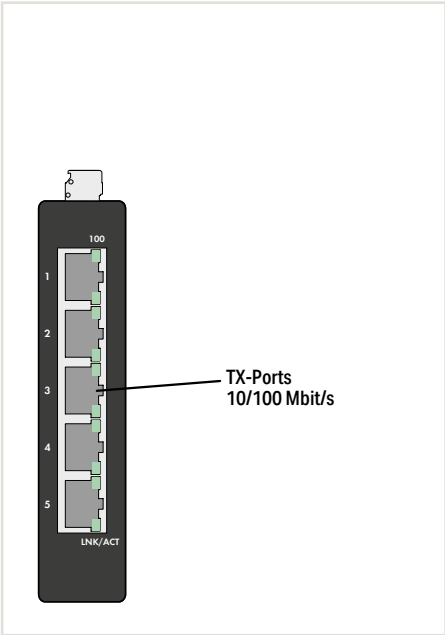
Item Description	Industrial Managed Switch; 8-port 1000BASE-T; 4-slot 1000BASE-SX/LX; Extended temperature; 8 * Power over Ethernet
Item No.	852-1505
Order Text	Industrial Managed Switch; 8-Port Gb; 4-Slot 1000BASE-SX/LX; EXT; 8PoE
Technical Data	
Switching mode	Store-and-forward, non-blocking
Number of copper ports	8 x 1000BASE-T; 8 x PoE+ (Power over Ethernet)
Number of FOC ports	4 x 1000BASE-SX/LX
Communication standards	IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX; IEEE 802.3ab 1000BASE-T; IEEE 802.3z 1000BASE-SX/LX; IEEE 802.3ad Port Trunk with LACP; IEEE 802.3x Flow Control; IEEE 802.1d Spanning Tree Protocol (STP); IEEE 802.1w Rapid Spanning Tree Protocol (RSTP); IEEE 802.1s Multiple Spanning Tree Protocol (MSTP); IEEE 802.1q VLAN Tagging; IEEE 802.1p Prioritization; IEEE 802.1x Port Authentication; IEEE 802.1ab Link Layer Discovery Protocol (LLDP); IEEE 802.3ad Port Trunk with LACP; IEEE 1588v2 Precision Time Protocol (PTP); IEEE 802.3af Power over Ethernet (PoE); IEEE 802.3at High Power over Ethernet (PoE+); ITU-T G8032v1/v2 Ethernet Ring Protection Switching (ERPS)
Redundancy functions	Redundant DC power supply; STP; RSTP; MSTP; Jet Ring < 300 ms; Xpress Ring < 20 ms; Dual Homing < 20 ms; Dual Ring; ERPSv2 < 50 ms; LCAP
Configuration	DIP switch for signal contact; Web-Based-Management; Command Line Interface; SNMPv1/v2c/v3
Diagnostics	Signal contact; Modbus TCP; Port status; Port statistics; Port load; Traffic monitor; SFP information; Syslog; Mail alarm; SNMP traps
MAC table (large)	16,000 addresses
Jumbo frame size	10 KB
Supply voltage	48 ... 57 VDC
Power consumption (max.)	18 W; 258 W with 8 PoE+
ESD (contact/air discharge)	8 KV / 15 KV
Connection technology (communication)	8 x RJ-45; 2 x SFP; 1 x RJ-45 (RS-232)
Communication standards	IEEE802.3x (in full duplex mode)
Surrounding air temperature (operation)	-40 ... +70 °C
Dimensions W x H x D	50 x 120 x 162 mm
Approvals	CE, RoHS, OrdLoc*
Data sheet and further information, see:	wago.com/852-1505

*pending

Industrial Eco Switch



Figure: 852-111



Item Description
Item No.
Order Text

Industrial Eco Switch; 5-port 100BASE-TX
852-111
Industrial Eco Switch; 5Port

Industrial Eco Switch; 8-port 100BASE-TX
852-112
Industrial Eco Switch; 8Port

Technical Data
Switching mode
Number of copper ports
Supported profiles
MAC table (large)
Jumbo frame size
Supply voltage
Power consumption (max.)
ESD (contact/air discharge)
Connection technology (communication)
Surrounding air temperature (operation)
Dimensions W x H x D

Store-and-forward, non-blocking
5 x 100BASE-TX
IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX; IEEE 802.3x Flow Control
2000 addresses
1536 bytes
18 ... 30 VDC
3 W
4 KV / 8 KV
5 x RJ-45
-40 ... +70 °C
24 x 74 x 110 mm

Store-and-forward, non-blocking
8 x 100BASE-TX
IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX; IEEE 802.3x Flow Control
2000 addresses
1536 bytes
18 ... 30 VDC
3 W
4 KV / 8 KV
8 x RJ-45
-40 ... +70 °C
110 x 24 x 74 mm

Approvals
Data sheet and further information, see:

CE; DNV GL; DNV (only with DNV mounting adapter); OrdLoc
wago.com/852-111

CE; DNV GL; OrdLoc
wago.com/852-112

Accessories
DNV mounting adapter

Item No.	Page
852-9101	413

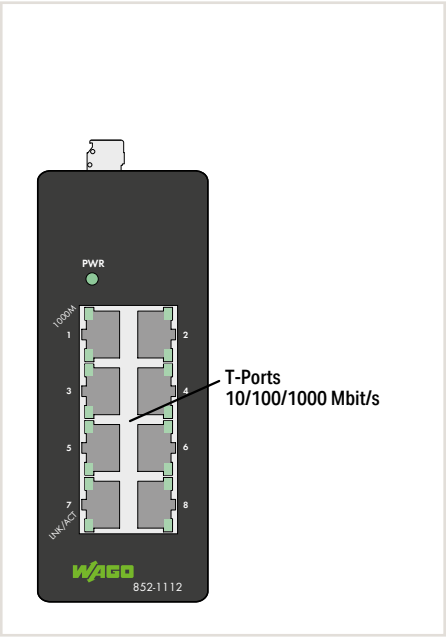
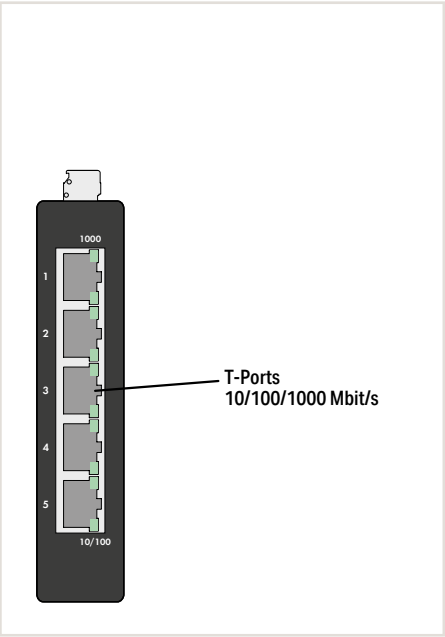
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- „ DNV mounting adapter, see page 413
- „ Passive ETHERNET components, see Section "Accessories and Tools"
- „ Approvals and corresponding ratings, see page 529 or www.wago.com

Industrial Eco Switch



Figure: 852-1112



Item Description		Industrial Eco Switch; 5-port 1000BASE-T		Industrial Eco Switch; 8-port 1000BASE-T	
Item No.		852-1111		852-1112	
Order Text		Industrial Eco Switch; 5-Port Gb		Industrial Eco Switch; 8-Port Gb	
Technical Data					
Switching mode		Store-and-forward, non-blocking		Store-and-forward, non-blocking	
Number of copper ports		5 x 1000BASE-T		8 x 1000BASE-T	
Supported profiles		IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX; IEEE 802.3ab 1000BASE-T; IEEE 802.3x Flow Control; IEEE 802.3az Energy Efficient Ethernet; IEEE 802.1p Prioritization		IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX; IEEE 802.3ab 1000BASE-T; IEEE 802.3x Flow Control; IEEE 802.3az Energy Efficient Ethernet; IEEE 802.1p Prioritization	
MAC table (large)		8000 addresses		8000 addresses	
Jumbo frame size		9 kB		9 kB	
Supply voltage		9 ... 48 VDC		9 ... 57 VDC	
Power consumption (max.)		3 W		6 W	
ESD (contact/air discharge)		4 kV / 8 kV		8 kV / 15 kV	
Connection technology (communication)		5 x RJ-45		8 x RJ-45	
Surrounding air temperature (operation)		-40 ... +70 °C		0 ... +60 °C	
Dimensions W x H x D		24 x 74 x 110 mm		50 x 100 x 116 mm	
Approvals (*pending)		CE; DNV GL; DNV (only with DNV mounting adapter); OrdLoc*		CE; OrdLoc*	
Data sheet and further information, see:		wago.com/852-1111		wago.com/852-1112	
Accessories		Item No.	Page		
DNV mounting adapter		852-9101	413		

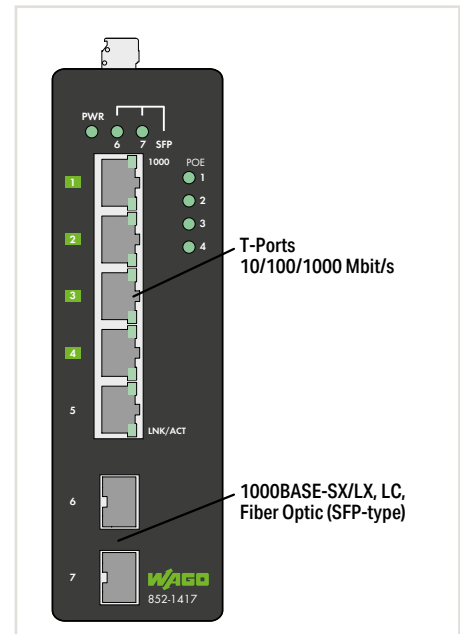
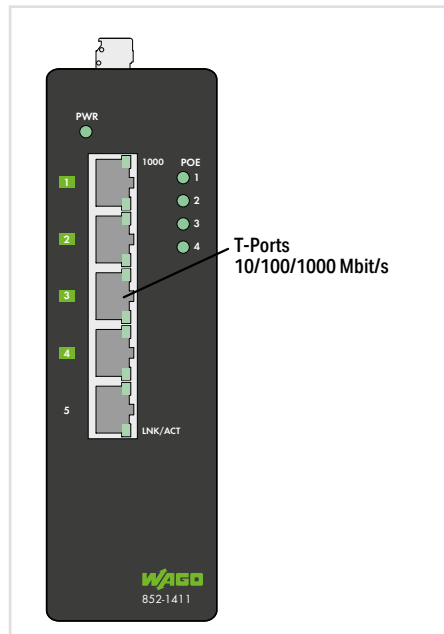
*pending

*pending

Industrial Eco Switch



Figure: 852-1417



Item Description	Industrial Eco Switch; 5-port 1000BASE-T; Extended temperature; 4 * Power over Ethernet	Industrial Eco Switch; 5-port 1000BASE-T; 2-slot 1000BASE-SX/LX; Extended temperature; 4 * Power over Ethernet
Item No.	852-1411	852-1417
Order Text	Industrial Eco Switch; 5Port Gb; EXT; 4PoE	Industrial Eco Switch; 5Port Gb; 2-Slot 1000BASE-SX/LX; EXT; 4PoE
Technical Data		
Number of copper ports	5 x 1000BASE-T; 8 x PoE+ (Power over Ethernet)	5 x 1000BASE-T; 8 x PoE+ (Power over Ethernet)
Number of FOC ports		2 x 1000BASE-SX/LX
Supported profiles	IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX; IEEE 802.3ab 1000BASE-T; IEEE 802.3x Flow Control; IEEE 802.3af Power over Ethernet (PoE); IEEE 802.3at High Power over Ethernet (PoE+); IEEE 802.1p Prioritization	IEEE 802.3 10BASE-T; IEEE 802.3u 100BASE-TX/FX; IEEE 802.3ab 1000BASE-T; IEEE 802.3z 1000BASE-SX/LX; IEEE 802.3x Flow Control; IEEE 802.3af Power over Ethernet (PoE); IEEE 802.3at High Power over Ethernet (PoE+); IEEE 802.1p Prioritization
Topology	Star	Star
Jumbo frame size	10 KB	10 KB
MAC table (large)	8000 addresses	8000 addresses
Supply voltage	24 ... 57 VDC	24 ... 57 VDC
Power consumption (max.)	13 W; 133 W with 4 PoE	14 W; 134 W with 4 PoE
Connection technology (communication)	5 x RJ-45	5 x RJ-45; 2 x SFP
Surrounding air temperature (operation)	-40 ... +70 °C	-40 ... +70 °C
Dimensions W x H x D	50 x 120 x 160 mm	50 x 120 x 160 mm
Approvals	CE, OrdLoc*	CE, OrdLoc*
Data sheet and further information, see:	wago.com/852-1411	wago.com/852-1417

*pending

*pending

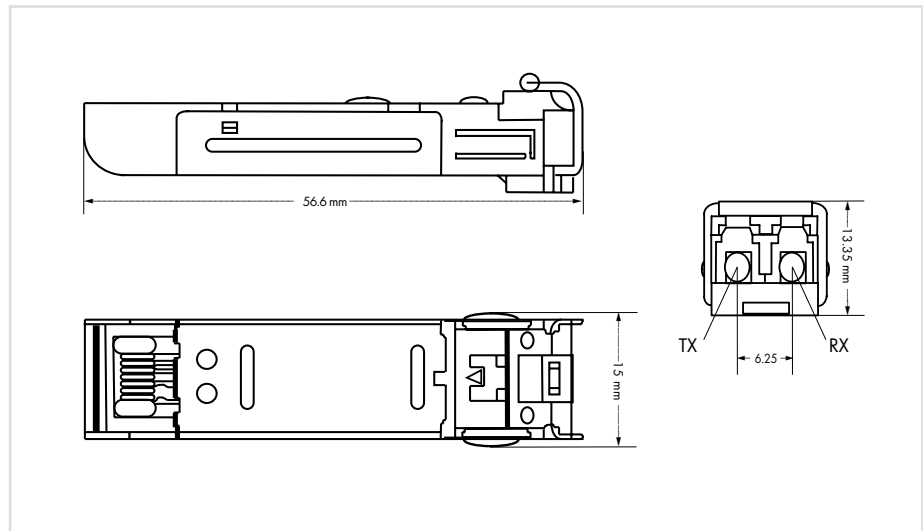
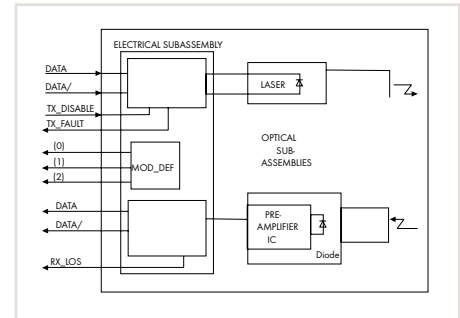
„ SFP Modules,
see page 412„ Passive ETHERNET components,
see Section "Accessories and Tools"„ Approvals and corresponding ratings,
see page 529 or www.wago.com

Industrial Switches – Accessories

SFP Modules

Features:

- Duplex LC optical connector
- Small Form-Factor Pluggable (SFP) industry-standard design
- Compliant with Fast ETHERNET standard and Gigabit ETHERNET standard IEEE802.3z
- Differential LVPECL inputs and outputs
- Supply voltage: 3.3 V
- TTL signal detect indicator
- Hot-pluggable capability

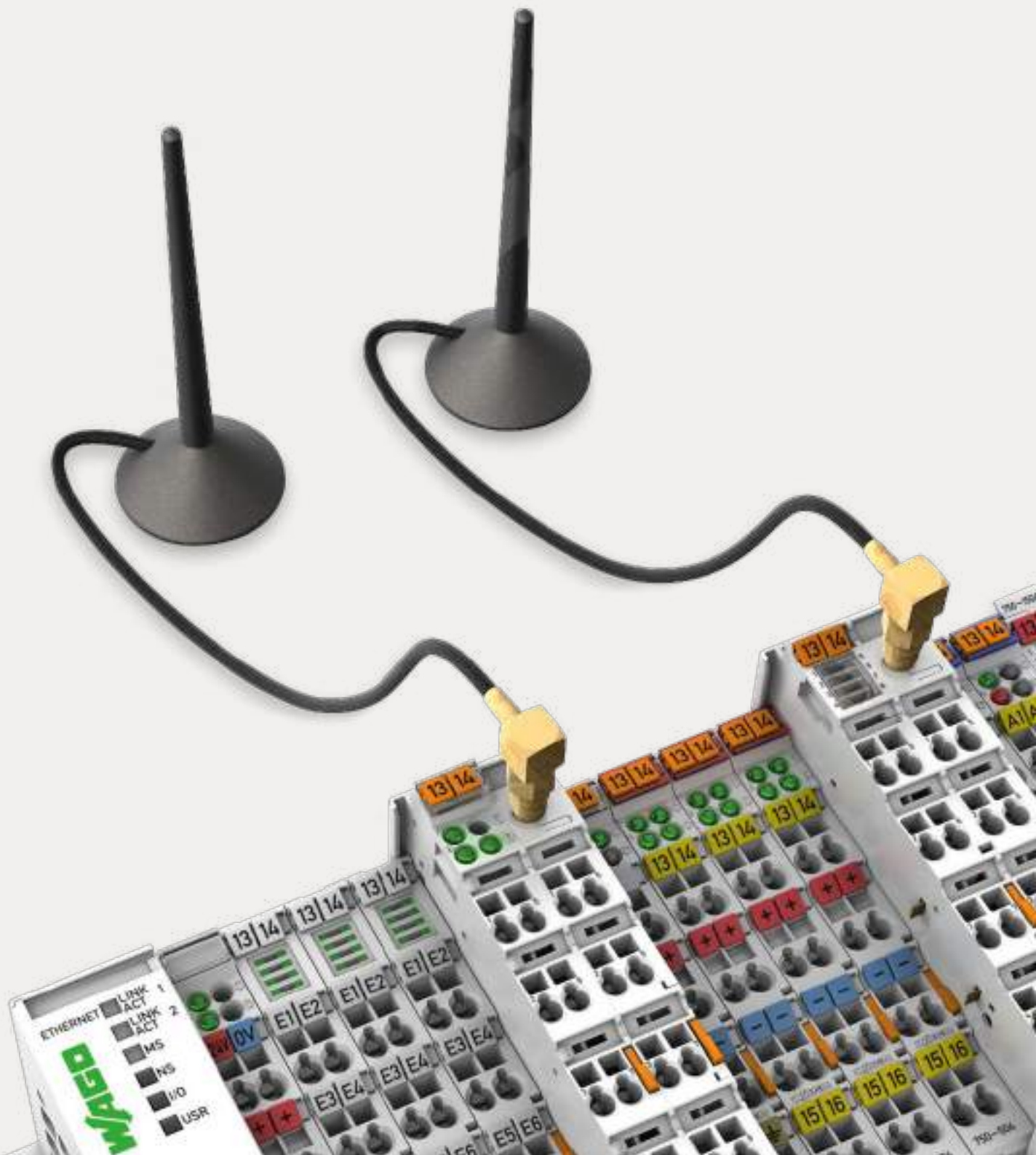


Item Description	SFP Module; 100BASE		SFP Module 1000BASE; Extended temperature; DDM	
Version	FX Multi-Mode 1310 nm LC; 2 km		SX Multi-Mode 850 nm LC; 0.55 km	
Item No.	852-201/107-002		852-1200	
Order Text	SFP Module 2: 1310nm; 100BASE-FX Multi-Mode LC; 2 km		SFP Module 1000BASE; SX Multi-Mode 850 nm LC; 0.55 km; EXT; DDM	
Technical Data				
Wavelength	1310 nm		850 nm	
Multi-mode fiber	62.5/125 µm; 50/125 µm		62.5/125 µm; 50/125 µm	
Lengths (max.)	2 km		300 m; 550 m	
Laser type	Laser class 1 per EN 60825-1		Laser class 1 per EN 60825-1	
Other			Supports "Digital Diagnostics Monitoring"	
Surrounding air temperature (operation)	-40 ... +70 °C		-40 ... +85 °C	
Dimensions W x H x D	13.4 x 13.3 x 56.6 mm		13.4 x 13.3 x 56.6 mm	
Data sheet and further information, see:	wago.com/852-201/107-002		wago.com/852-1200	
Item Description	SFP Module; 100BASE		SFP Module 1000BASE; Extended temperature; DDM	
Version	FX Single-Mode 1310 nm LC; 30 km		LX Single-Mode 1310 nm LC; 10 km	ZX Single-Mode 1550 nm LC; 80 km
Item No.	852-201/107-030		852-1210	852-1280
Order Text	SFP Module 30: 1310nm; 100BASE-FX Single-Mode LC; 30 km		SFP Module 1000BASE; LX Single-Mode 1310 nm LC; 10 km; EXT; DDM	SFP Module 1000BASE; ZX Single-Mode 1550 nm LC; 80 km; EXT; DDM
Technical Data				
Wavelength	1310 nm		1310 nm	1550 nm
Single-mode fiber	9/125 µm		9/125 µm	
Lengths (max.)	30 km		10 km	80 km
Laser type	Laser class 1 per EN 60825-1		Laser class 1 per EN 60825-1	
Other			Supports "Digital Diagnostics Monitoring"	
Surrounding air temperature (operation)	0 °C ... +60 °C		-40 ... +85 °C	
Dimensions W x H x D	13.4 x 13.3 x 56.6 mm		13.4 x 13.3 x 56.6 mm	
Data sheet and further information, see:	wago.com/852-201/107-030		wago.com/852-1210	wago.com/852-1280

Industrial Switches – Accessories
DNV Mounting Adapter with Marine Approval



Item Description	DNV Mounting Adapter; for 852-111/852-1111 Industrial Switches with maritime approval		
Item No.	852-9101		
Order Text	DNV Mounting Adapter; Switches		
Technical Data			
Dimensions W x H x D	20 x 9.6 x 102.2 mm		
Weight	32.8 g		
Data sheet and further information, see:	wago.com/852-9101		



Radio Technology

Radio Technology

- Bluetooth®
- WLAN
- EnOcean®

Wireless Technology – Bluetooth®, WLAN and EnOcean® Components

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 		Wireless ETHERNET Gateway	758-918
		WAGO Radio Adapter	750-921
		I/O System 750, Communication Module, EnOcean Radio Receiver	750-642
		Radio Transmitter, EnOcean® easyfit PTM 250 2-Channel Lighting Control 4-Channel Lighting Control 2-Channel Blind Control 4-Channel Blind Control	423 758-940/001-000 758-940/003-000 758-940/002-000 758-940/004-000
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Radio Technology

General Product Information

Wireless Technology in the Industrial Environment

Wireless technology can support wired applications or enable completely new applications.

In mobile or movable systems, wireless technology is the first choice when greater distances or obstacles must be overcome. It is an alternative for applications in which wired solutions are not economical or technically feasible.

Various wireless technologies can be used depending on the application.



**Bluetooth® – Robust,
Flexible, High-Performance**

Well-known in consumer electronics, *Bluetooth®* technology is also well-suited to industrial use with its internationally approved frequency range, a very robust transmission technology (frequency hopping), real-time response and a range of up to 400 m. It makes wireless process data communication between two stations possible (point-to-point communication), and also enables the setup of a piconet in which a *Bluetooth®* master can communicate with up to seven slaves, e.g., decentralized mobile sensors. In addition, *Bluetooth®* can be used as the radio system for commissioning.

Features:

- Secure transmission (encrypted)
- AFH (Adaptive Frequency Hopping)
- Adaptive transmission power
- Uses the license-free 2.4 GHz frequency band



**WLAN – Full
IT Integration**

WLAN makes it easy to setup a wireless transmission link for ETHERNET protocols. This can be standard ETHERNET protocols, e.g., for communication between a smartphone and automation components. Industrial fieldbus protocols such as PROFINET, Modbus TCP or Ethernet/IP can also be used to link mobile equipment with stationary equipment. Ranges up to 400 m are possible depending on the transmission technology used.



enocean®

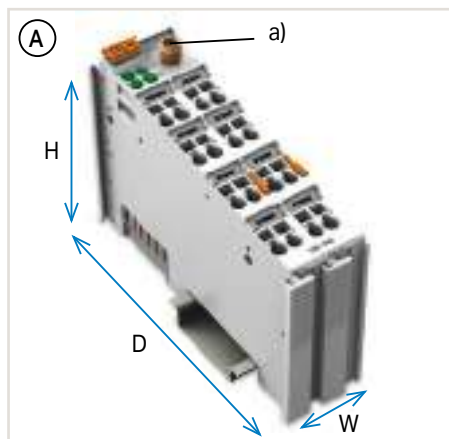
**EnOcean® – The Radio
Standard in Building
Automation**

Wireless switches and sensors based on EnOcean® technology harvest available energy to power themselves, e.g., kinetic energy from actuating a switch or sensors powered by ambient light. This energy harvesting completely eliminates maintenance of the radio transmitter at a range of up to 300 m in open air (30 m in buildings).

Advantages:

- Branch and application-specific – always the right radio system
- Industrial design: high-performance, rugged and safe
- Tightly integrated into WAGO automation technology

Radio Technology Interfaces and Types

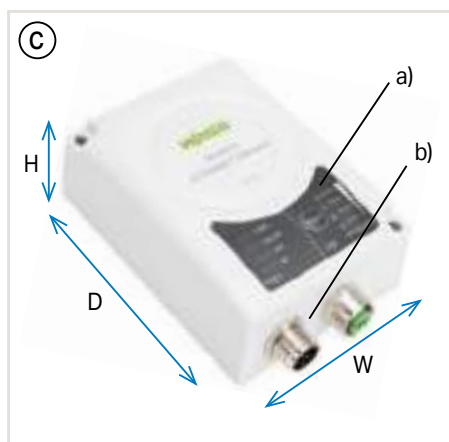
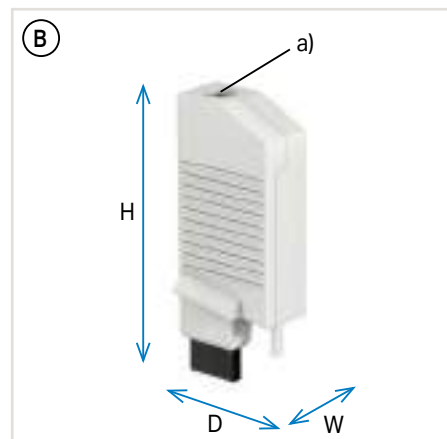


Communication Module for I/O System (A)

- For use with:
 - Controller (PFC)
 - Fieldbus coupler (FC), 750 Series I/O System
- Antenna connection (a)
- W x H x D (mm) 24 x 72 x 100, plus approx. 6.5 mm of excess length with antenna socket

Radio Adapter (B)

- For use with:
 - PFC, 750 XTR Series PFC, FC, 750 XTR Series FC
 - Signal Conditioners, 2857 and 857 Series
- Integrated antenna
- Diagnostic LED (a)
- W x H x D (mm) 15 x 50 x 19



ETHERNET Gateway (C)

- Integrated converter from ETHERNET protocols to radio technology
- Integrated antenna
- Diagnostic LEDs (a)
- Connections with M12 connectors (b)
- Protection class: IP65
- W x H x D (mm) 66 x 36.2 x 91

Switch Inserts (D)

- Universal switch inserts for standard switch series in building automation
- Compatible with manufacturer programs from BERKER, GIRA, JUNG, MERTEN

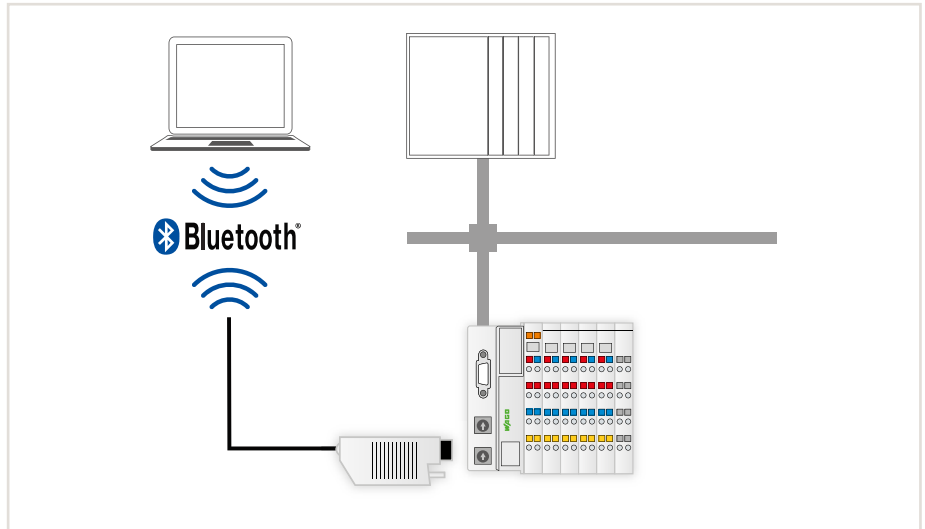


Radio Technology

Application and Installation Instructions

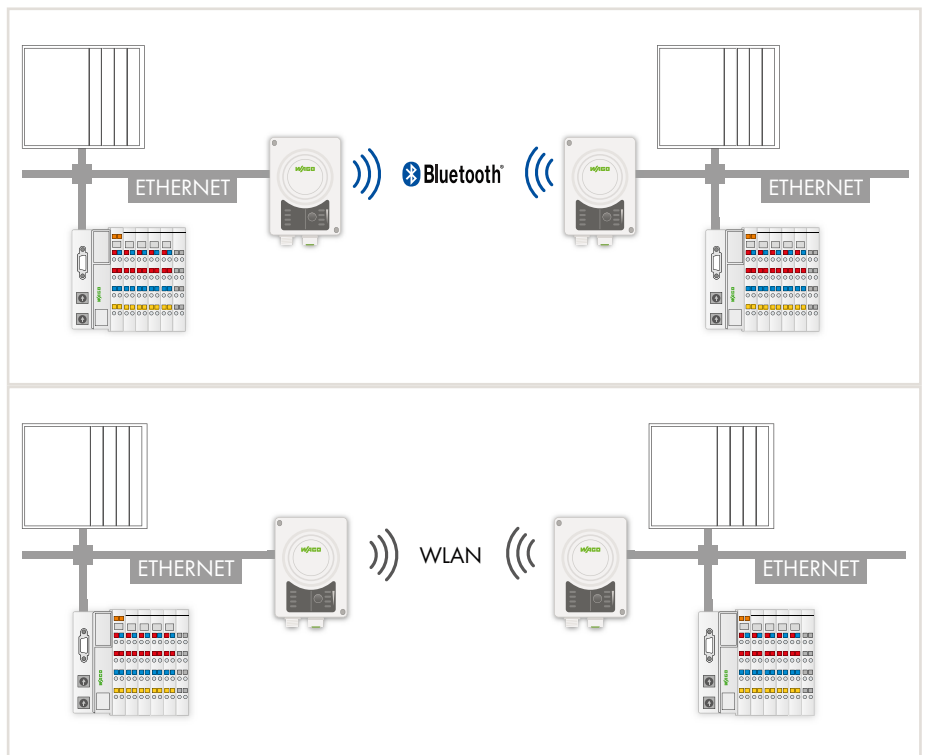
Wireless Engineering

- Commissioning, maintenance
- Connect WAGO software on a PC/notebook to a product's service interface
- Controllers
- Controllers XTR
- Fieldbus couplers, I/O System 750
- Fieldbus couplers, I/O System 750 XTR
- Temporary install via compact *Bluetooth*® Adapter



Tunneling ETHERNET Fieldbuses

- Point-to-point connection (between two nodes), e.g., for connecting mobile units to a central controller or for connecting stationary stations
- Tunneling PROFINET, Modbus TCP, Ethernet/IP, etc., via *Bluetooth*® wireless technology or WLAN
- Process data coupling
- Range: up to 400 m in open air

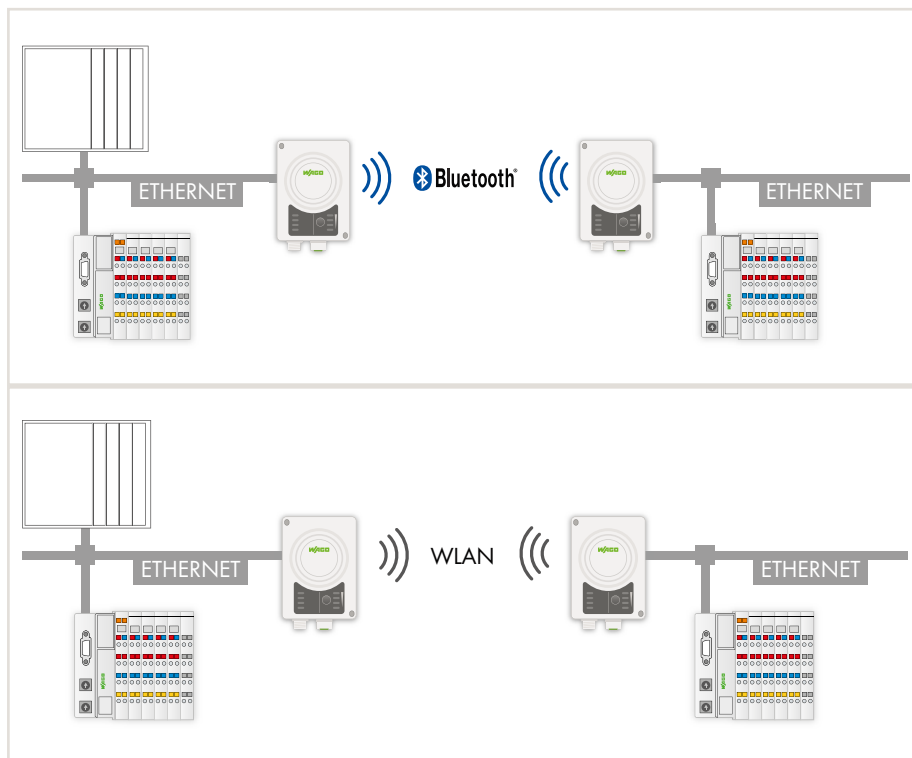


Radio Technology

Application and Installation Instructions

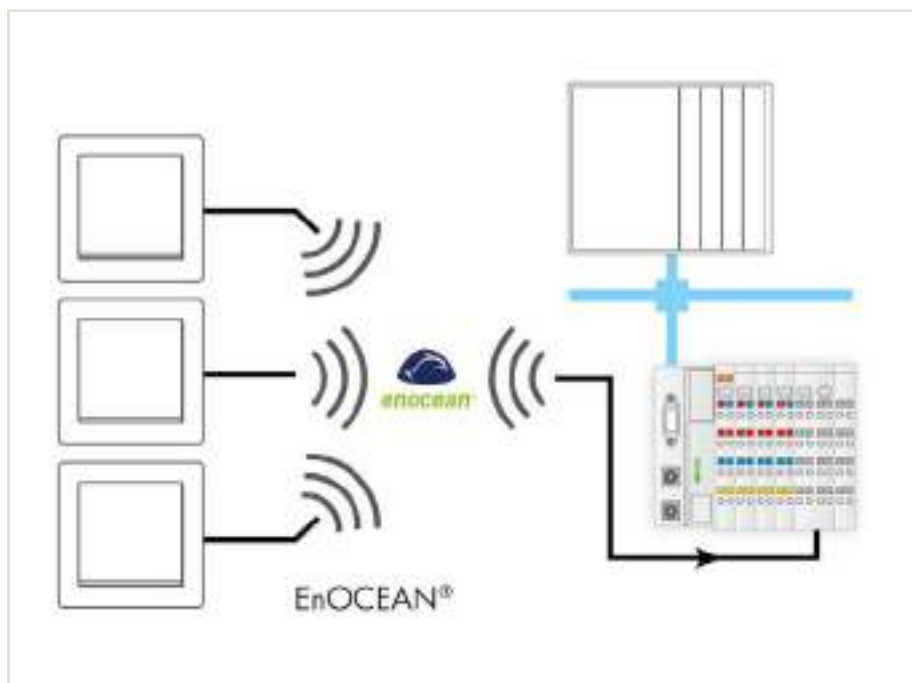
Connecting Mobile Systems

- Tunneling ETHERNET telegrams via *Bluetooth®* radio technology or WLAN
- Point-to-point connection (between two nodes), e.g., for coupling a mobile unit with a stationary basic system
- Process data coupling
- Range: up to 400 m in open air



Integration into the WAGO-I/O-SYSTEM via EnOcean Radio Technology

- Radio receiver in the I/O module
- Operation on:
 - Controllers
 - Fieldbus couplers
- Range: Up to 300 m in open air, approx. 30 m in buildings



WLAN ETHERNET Gateway



Power connector:

M12 plug, A-coded



- 1: Vin + (9 ... 30 VDC)
- 2: Digital input GND
- 3: Vin GND (0 V)
- 4: Digital input + (9 ... 30 VDC)
- 5: Functional ground

ETHERNET connector:

M12 socket, D-coded



- 1: Transmit +
- 2: Receive +
- 3: Transmit -
- 4: Receive -

Item Description	Wireless ETHERNET Gateway
Item No.	758-918
Order Text	Wireless ETHERNET Gateway
Technical Data	
Radio technology	<i>Bluetooth</i> ®: 4.0; WLAN: 802.11a/b/g/d/e/i/h
Topology	Peer-to-peer connection
Security authentication	WLAN: WPA/WPA2 PSK; LEAP; PEAP
Security encryption	WLAN: none; WEP64; WEP128; TKIP; AES/CCMP
Frequency band	ISM band; 2.4 GHz (<i>Bluetooth</i> ®, WLAN); ISM band; GHz (WLAN)
Transmission range	Up to 400 m*
Antenna	Internal directional antenna
Supply voltage	24 VDC (9 ... 30 V)
Connectors	- ETHERNET: M12 connector, D-coded, - Supply: M12 connector, A-coded
Configuration	Simple push-button operation and Web-Based Management
Number of inputs	1 (trigger input: 9 ... 30 VDC)
Surrounding air temperature (operation)	-30 ... +65 °C
Dimensions W x H x D	67.8 x 33.2 x 92.7
Protection type	IP65
Approvals	CE
Data sheet and further information, see:	wago.com/758-918

*The maximum range in the field decreases with use in buildings and changes depending on the building materials used and the spatial geometry. Therefore, range specifications within buildings can only represent typical values which can normally be achieved. More detailed information is available in the manual.

The Wireless ETHERNET Gateway simplifies creation of a wireless transmission link for ETHERNET protocols (e.g., PROFINET, MODBUS/TCP, Ethernet/IP).

The gateway is used as a cable substitute to create a robust, industry-proven *Bluetooth*® or WLAN link between two automation devices.

The gateway supports various configurations and can therefore also be operated as an access point.

Both IP65 housing and internal directional antenna allow the gateway to be used in harsh industrial environments. Simple push-button operation rapidly connects two Wireless ETHERNET Gateways.

Additional settings can be made via Web-Based Management.

Note:

Two Wireless ETHERNET Gateways of the same type are required to establish a peer-to-peer connection.

„ Marking strips, felt-tip pen,
see Section "Accessories and Tools"

„ IP67 cables and pluggable connectors,
see Section "Accessories and Tools"

Bluetooth® Adapter



Item Description	Bluetooth® Adapter
Item No.	750-921
Order Text	Bluetooth® Adapter
Technical Data	
Transmission range	20 m in open air (Class 2)*
Data transmission rate	9600 ... 115,000 bit/s
Frequency range	ISM band; 2402 ... 2483 MHz
Type of communication	Peer-to-peer connection
Supported profiles	Serial Port Profile (SPP)
Radio technology	Bluetooth® 2.1
Antenna	Integrated
Connectors	4-pole service connectors
Configuration	AT commands (e.g., via HyperTerminal)
Function	Master or slave
LED	Operating mode
Security encryption	128-bit encryption
Surrounding air temperature (operation)	-20 ... +60 °C
Dimensions W x H x D	15 x 50 x 19 mm
Approvals	Bluetooth® approval; CE
Data sheet and further information, see:	wago.com/750-921

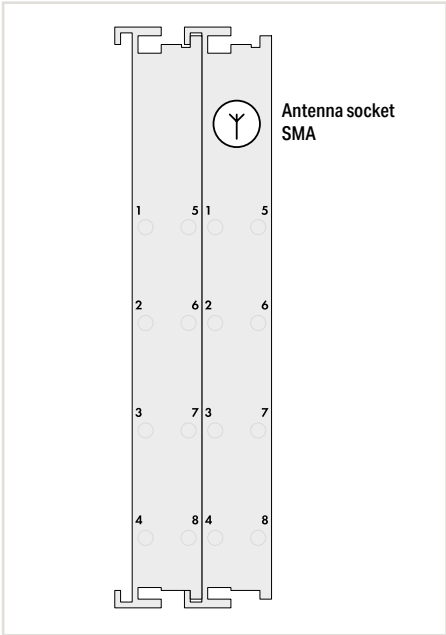
The *Bluetooth®* Adapter wirelessly connects a notebook computer with *Bluetooth®* functionality to the service interface of the fieldbus coupler/ controller. It also provides an active connection to a controller.

As a cable substitute, the *Bluetooth®* Adapter allows communication between two controllers, as well as between fieldbus couplers/controllers via WAGO Software Tools.

The adapter is supplied via both service interface and power supply of the coupler/controller.

*The maximum range in the field decreases with use in buildings and changes depending on the building materials used and the spatial geometry. Therefore, range specifications within buildings can only represent typical values which can normally be achieved. More detailed information is available in the manual.

Radio Receiver EnOcean



Item Description
Version
Item No.
Order Text

Radio Receiver EnOcean
Standard
750-642
Radio Receiver EnOcean

Technical Data
Antenna
Frequency band
Transmission range
Transmission protocol (radio telegram)
Supply voltage (system)
Current consumption – system supply (5 V)
Data width (internal)
Surrounding air temperature (operation)
Dimensions W x H x D
Approvals
Data sheet and further information, see:

External via SMA socket
868.3 MHz
Up to 300 m in open field (30 m typical in buildings, see manual)*
EnOcean
5 VDC; via data contacts
80 mA
1 x 24-bit input/output (3-byte user data); 1 x 8-bit control/status
0 ... +55 °C
24 x 72 x 100 mm
CE, RoHS, OrdLoc/HazLoc, ATEX/IECEx
wago.com/750-642

Accessories
External antenna

Item No.	Page
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This radio receiver obtains radio telegrams from maintenance-free, self-powered and wireless switches/sensors based on EnOcean radio technology.

The energy required for switch or sensor operation is produced by converting one type of energy (heat, solar or mechanical energy) into usable electrical energy.

The LED (RSSI) indicates a sufficient input level.

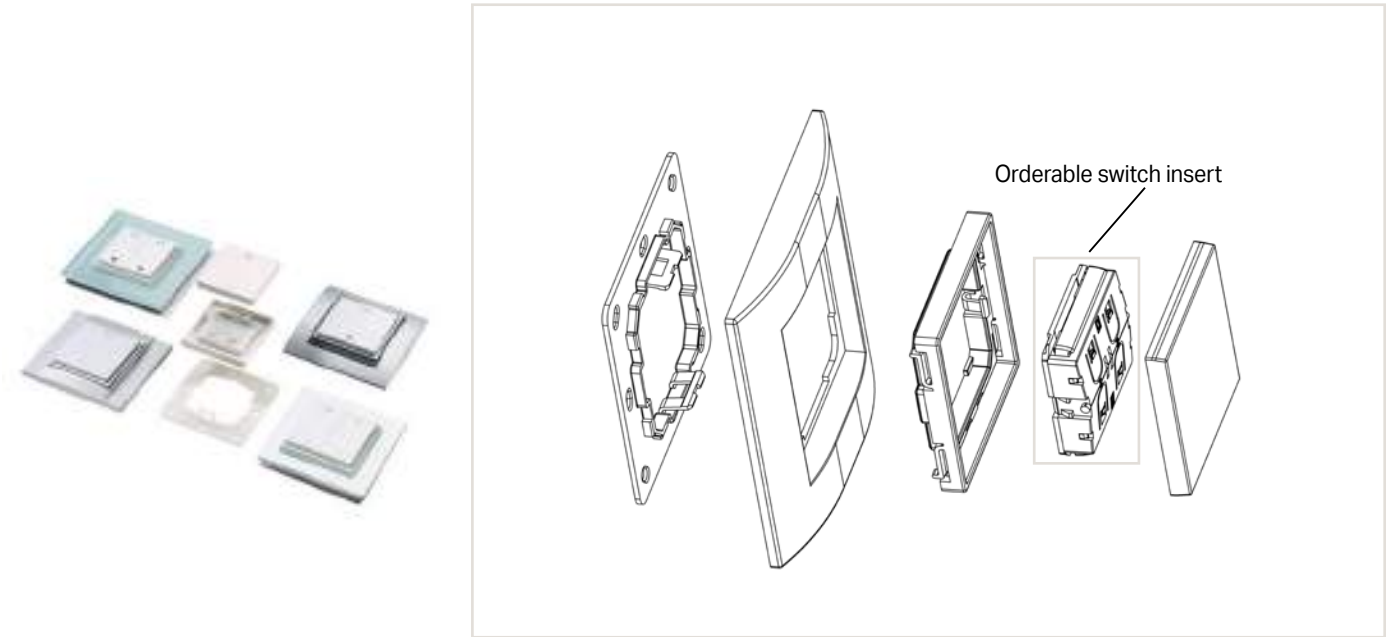
Preprogrammed function blocks for WAGO Controllers make integration easy.

*The maximum range in the field decreases with use in buildings and changes depending on the building materials used and the spatial geometry. Therefore, range specifications within buildings can only represent typical values which can normally be achieved. More detailed information is available in the manual.

„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 522 or www.wago.com

Radio Transmitter; EnOcean easyfit PTM 250



Item Description		Radio Transmitter; EnOcean easyfit PTM 250			
Version		2-channel lighting control	4-channel lighting control	2-channel blind control	4-channel blind control
Item No.		758-940/001-000	758-940/003-000	758-940/002-000	758-940/004-000
Order Text		Radio Transmitter; En-Ocean easyfit PTM 250; 2-Channel Light	Radio Transmitter; En-Ocean easyfit PTM 250; 4-Channel Light	Radio Transmitter; En-Ocean easyfit PTM 250; 2-Channel Sunblind	Radio Transmitter; En-Ocean easyfit PTM 250; 4-Channel Sunblind
Technical Data					
Integrated radio transmitter		EnOcean PTM 200			
Radio technology		EnOcean 868 MHz; RPS type 2			
Range		300 m in open air; 30 m (typ.) within buildings*			
Antenna		Integrated			
Total installation height		14 mm (frame lies directly on surface)			
Dimensions of rocker/frame cut-out/center plate		50 x 50 mm / 55 x 55 mm / 71 x 71 mm			
Assembly		Flat surface; glued (double-sided mounting film enclosed) or screwed			
Color		Pure white			
Rocker switch variant		Rocker switch with neutral middle position	Series rocker switch	Rocker switch with neutral middle position	Series rocker switch
Relative humidity		95 % (non condensing)			
Surrounding air temperature (operation)		-25 ... +65 °C			
Compatibility		BERKER, GIRA, JUNG, MERTEN			
Approvals		R&TTE, CE			
Data sheet and further information, see:		wago.com/758-940			

PTM 250 is a universal, extremely flat function switch insert with maintenance-free energy generator. The universal switch insert fits in numerous frame programs from various installation material suppliers. The base plate can be glued or screwed into position for easy attachment to glass as well as plaster. Integration into the frame is similar to universal inserts for antenna sockets.

Delivered without frame; frames must be ordered separately from the desired manufacturer program!

*The maximum range in the field decreases with use in buildings and changes depending on the building materials used and the spatial geometry. Therefore, range specifications within buildings can only represent typical values which can normally be achieved. More detailed information is available in the manual.

External Antenna



Item Description	Magnetic-Mount Antenna, GSM 900/1800; External antenna	Magnetic-Mount Antenna, WLAN/ <i>Bluetooth</i> [®] 2.4 GHz; External antenna
Item No.	758-910	758-912
Order Text	Magnetic-Mount Antenna, GSM 900/1800; External antenna	Magnetic-Mount Antenna, WLAN/ <i>Bluetooth</i> [®] ; External antenna
Technical Data		
Frequency band	870 ... 960 MHz; 1710 ... 1880 MHz	2400 ... 2485 MHz
VSWR	< 1.5	
Gain	0 dB	2 dBi
Power (max.)	20 W	
Cable length	250 cm	250 cm
Connector	SMA angled plug + ferrite bead	SMA angled plug
Data sheet and further information, see:	wago.com/758-910	wago.com/758-912

- Notes on operating the antenna with WAGO EnOcean Radio Receivers:
- The antenna is to be mounted on a plate measuring at least 25 x 25 cm.
 - The distance of interfering sources to the antenna and antenna line must be at least 30 cm and the free space between the antenna and the next wall must be at least 35 cm.
 - The antenna cable should, under no circumstances, be bent sharply, since irreversible damage may result to the antenna line (RG174 bending radius > 15 mm).



Sensor/Actuator Boxes

Sensor/Actuator Boxes

- M8 and M12 sensor/actuator boxes
- Passive signal acquisition and output at the machine level
- Fully encapsulated

Sensor/Actuator Boxes

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M12 Sensor/Actuator Boxes with Cable Connection	M12 Sensor/Actuator Box; 4-way, 4-pole; 5 m connecting cable	757-244/000-005	432
	M12 Sensor/Actuator Box; 4-way, 4-pole; 10 m connecting cable	757-244/000-010	
	M12 Sensor/Actuator Box; 6-way, 4-pole; 5 m connecting cable	757-264/000-005	432
	M12 Sensor/Actuator Box; 6-way, 4-pole; 10 m connecting cable	757-264/000-010	
	M12 Sensor/Actuator Box; 8-way, 4-pole; 5 m connecting cable	757-284/000-005	433
	M12 Sensor/Actuator Box; 8-way, 4-pole; 10 m connecting cable	757-284/000-010	
	M12 Sensor/Actuator Box; 8-way, 4-pole; 25 m connecting cable	757-284/000-025	434
	M12 Sensor/Actuator Box; 4-way, 5-pole; 5 m connecting cable	757-245/000-005	
	M12 Sensor/Actuator Box; 4-way, 5-pole; 10 m connecting cable	757-245/000-010	
	M12 Sensor/Actuator Box; 6-way, 5-pole; 5 m connecting cable	757-265/000-005	434
	M12 Sensor/Actuator Box; 6-way, 5-pole; 10 m connecting cable	757-265/000-010	
	M12 Sensor/Actuator Box; 8-way, 5-pole; 5 m connecting cable	757-285/000-005	435
	M12 Sensor/Actuator Box; 8-way, 5-pole; 10 m connecting cable	757-285/000-010	
	M12 Sensor/Actuator Box; 8-way, 5-pole; 25 m connecting cable	757-285/000-025	
M12 Sensor/Actuator Boxes with M23 Connector	M12 Sensor/Actuator Box; 4-way; 4-pole; M23 connector	757-144	436
	M12 Sensor/Actuator Box; 6-way; 4-pole; M23 connector	757-164	436
	M12 Sensor/Actuator Box; 8-way; 4-pole; M23 connector	757-184	437
	M12 Sensor/Actuator Box; 4-way; 5-pole; M23 connector	757-145	438
	M12 Sensor/Actuator Box; 6-way; 5-pole; M23 connector	757-165	438
	M12 Sensor/Actuator Box; 8-way; 5-pole; M23 connector	757-185	439
	M12 Sensor/Actuator Box; 8-way; 5-pole; M23 connector; without LED	757-185/100-000	
M8 Sensor/Actuator Boxes with Cable Connection	M8 Sensor/Actuator Box; 4-way, 3-pole; 2 m connecting cable	757-443/000-002	440
	M8 Sensor/Actuator Box; 4-way, 3-pole; 5 m connecting cable	757-443/000-005	
	M8 Sensor/Actuator Box; 4-way, 3-pole; 10 m connecting cable	757-443/000-010	440
	M8 Sensor/Actuator Box; 6-way, 3-pole; 5 m connecting cable	757-463/000-005	
	M8 Sensor/Actuator Box; 6-way, 3-pole; 10 m connecting cable	757-463/000-010	441
	M8 Sensor/Actuator Box; 8-way, 3-pole; 5 m connecting cable	757-483/000-005	
	M8 Sensor/Actuator Box; 8-way, 3-pole; 10 m connecting cable	757-483/000-010	
	M8 Sensor/Actuator Box; 10-way, 3-pole; 5 m connecting cable	757-403/000-005	441
	M8 Sensor/Actuator Box; 10-way, 3-pole; 10 m connecting cable	757-403/000-010	
M8 Sensor/Actuator Boxes with M16 Connector	M8 Sensor/Actuator Box; 4-way; 3-pole; M16 connector	757-343	442
	M8 Sensor/Actuator Box; 6-way; 3-pole; M16 connector	757-363	442
	M8 Sensor/Actuator Box; 8-way; 3-pole; M16 connector	757-383	443
	M8 Sensor/Actuator Box; 10-way; 3-pole; M16 connector	757-303	443
Accessories			444
Marking cards, marking strips, protective caps, spacer modules, interconnecting cables			

Sensor/Actuator Boxes

General Product Information

For Signal Acquisition at the Machine Level

Passive M8/M12 sensor/actuator boxes are placed close to the process and acquire signals at the machine level. They can be used under very harsh environmental conditions and establish the connection between sensors/actuators and the controller via molded or detachable cables. Use of standardized pluggable connections supports sensor and actuator plug & play, while the use of trunk cables replaces the individual wiring of I/O signals to automation components in the control cabinet. Cabling is well-organized and minimized.

Signal Acquisition in Exceptionally Harsh Conditions

WAGO's sensor/actuator boxes with molded cable (72 hours at 1 m water depth) have an extremely robust design and meet both IP67 and IP68 protection standards. This design makes them ideal for applications where signals must be recorded in extreme environments (temperature, shock, vibration) without a control cabinet. They're also excellent alternatives when the use of an active IP67 I/O system would not be cost-effective due to a low signal count or the simple signal conditions (only digital signal acquisition/output).

Plug-&Play Connection Technology

The IP67 sensor/actuator boxes with a removable connecting cable (M16 or M23 pluggable connector) are ideal for areas where frequent easy disconnection and reconnection are required (e.g., transport, modification, service).

Fixed Trunk Cable

The IP68 sensor/actuator boxes with molded cables are preferred when challenging cable paths do not allow the use of preassembled M16/M23 cables.

Extreme Mechanical Performance

A system/machine is exposed to severe mechanical and thermal influences. It is important to process its signals despite severe vibrations and shocks. The sensor/actuator boxes are used at the machine level. Full encapsulation safeguards system operation, so that even extreme vibration and temperature loads do not degrade signal acquisition and power supply via the connecting cable to the controller or other automation components located in the non-critical control cabinet area.

Flexible Assembly

The sensor/actuator boxes can be mounted directly on the machine. Extensive engineering ensures compliance with standardized specifications from CNOMO guidelines regarding the spacing of assembly drill holes that are often used in passive distribution boxes or sensor/actuator boxes. An optional adapter is available that can be used to mount two modules seamlessly side by side. This has the advantage of maintaining a defined distance for proper routing of the sensor/actuator cables and of avoiding contamination points.

Advantages:

- Rugged, simple and compact extension for IP20 automation components
 - For stricter requirements on environmental conditions
 - For plug-and-play connector technology when needed
 - For simpler cable installation in the form of trunk cables
- High-quality PUR connection cables (drag chains compatible, halogen-free)
- Fully encapsulated (resistance and leak-proof)
- Flange sockets (metal design)
- Surrounding air temperature (operation): -25 ... +80°C
- Status LEDs

Sensor/Actuator Boxes

Item Number Key

Explanation of item number key's components

Series

Item No.: 757-abc/x00-0yy

a: Design

1: M12 sensor/actuator box with M23 connector
2: M12 sensor/actuator box with cable connector
3: M8 sensor/actuator box with M16 connector
4: M8 sensor/actuator box with cable connector

b: Number of M8/M12 connectors

4: 4 ea.
6: 6 ea.
8: 8 ea.
0: 10 ea.

c: Pole number

3: 3-pole
4: 4-pole
5: 5-pole

x00: Status LEDs
100: Without status LEDs

0yy: Length of connecting cable
002: 2 m
005: 5 m
010: 10 m
025: 25 m

Standards and Rated Conditions

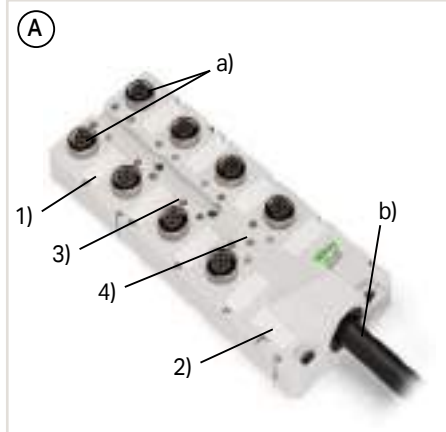
General Specifications	
Electrical Data	
Contact resistance (max.)	10 mΩ
Supply voltage	10 ... 30 VDC
Current carrying capacity (signal connections)	2 A
Current carrying capacity (supply connections)	9 A (M12) or 6 A (M8)
Signal characteristic	PNP
Mechanical Data	
Protection type	
Sensor/actuator boxes with cable connection	IP68 (72 hours at 1 m water depth)
Sensor/actuator boxes with M16/M23 connection	IP67
Surrounding air temperature (operation)	-25 ... +80 °C
Mounting	Screw mount
Mounting position	Any
Vibration resistance	5g per IEC 60068-2-6
Shock resistance	49g per IEC 60068-2-27
Material Data	
Housing material	PA 66 (UL 94 V0); RAL 7035; silicon and halogen free
Encapsulation	Fully encapsulated with conformal coating (UL 94 V0)
Connecting cable	Suitable for drag chains

Approvals

Overview of the approvals in the item comparison in Section 11, Technical Section, or online at www.wago.com



Sensor/Actuator Boxes Interfaces and Types



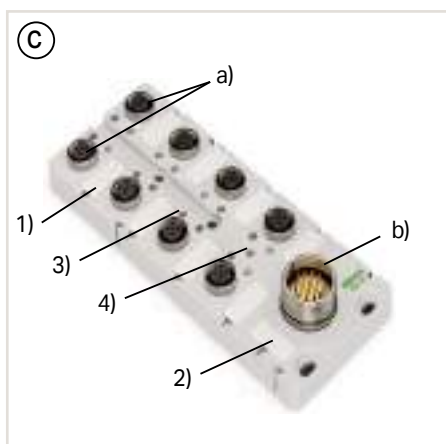
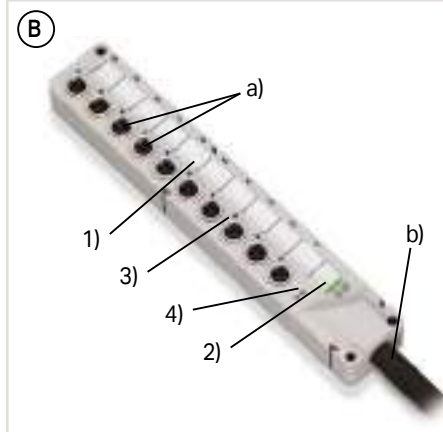
- (1) Sensor/actuator marking
(2) Module marking
(3) LED status indicator (by channel), yellow
(4) LED operating indicator module, green

Housing design (A)

- M12 sensor/actuator box with cable connection
- Sensor/actuator M12 sockets (a)
- Connection technology (trunk cable): Fixed connecting cable (b)

Housing design (B)

- M8 sensor/actuator box with cable connection
- Sensor/actuator M8 sockets (a)
- Connection technology (trunk cable): Fixed connecting cable (b)

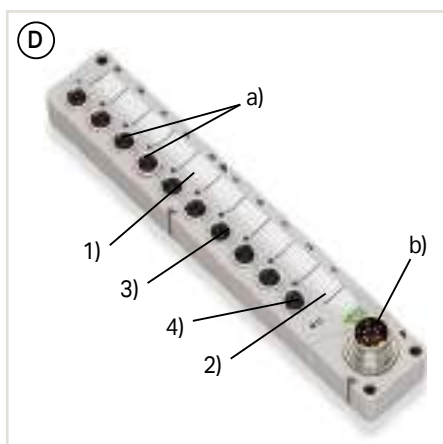


Housing design (C)

- M12 sensor/actuator box with M23 connector
- Sensor/actuator connections M12 (a)
- Connection technology (trunk cable): M23 plug (b)

Housing design (D)

- M8 sensor/actuator box with M16 connector
- Sensor/actuator connections M8 (a)
- Connection technology (trunk cable): M16 plug (b)



Spacer module (E)

- Optional accessory
- For seamless assembly of two side-by-side sensor/actuator boxes
- Defined distance for proper cable connection
- Covers contamination points
- W x H x D (mm):
10-way: 20 x 16 x 175
8-way: 20 x 16 x 152
6-way: 20 x 16 x 123
4-way: 20 x 16 x 117

Protection class (F)

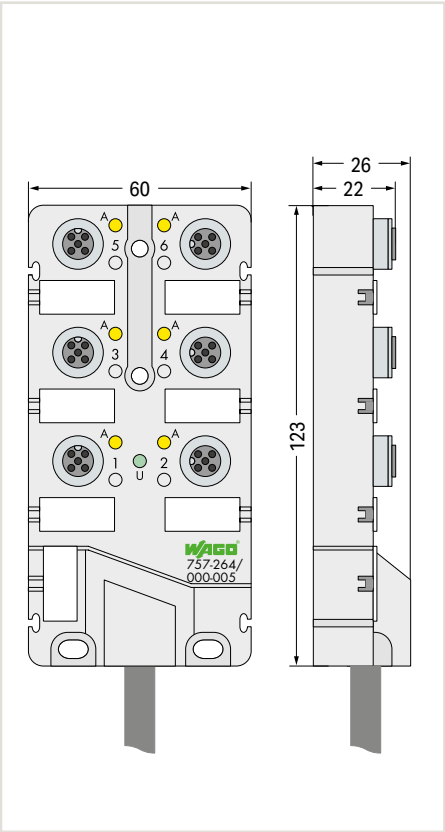
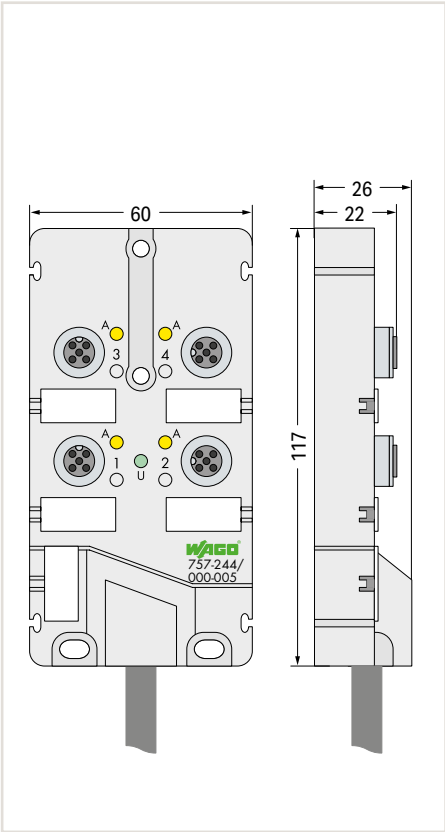
- All modules are fully encapsulated
- IP67/68 protection class
- Printing on back of module details pin assignment



M12 Sensor/Actuator Box; 4-Pole; With Connecting Cable



Figure: 757-284/000-005



Item Description
Version
Item No.
Order Text

M12 Sensor/Actuator Box; 4-port; 4-pole	
5 m connecting cable	10 m connecting cable
757-244/000-005	757-244/000-010
M12 S/A-Box; 4port; 4pole; 5m	M12 S/A-Box; 4port; 4pole; 10m

M12 Sensor/Actuator Box; 6-port; 4-pole	
5 m connecting cable	10 m connecting cable
757-264/000-005	757-264/000-010
M12 S/A-Box; 6port; 4pole; 5m	M12 S/A-Box; 6port; 4pole; 10m

Technical Data
Connection technology: inputs/outputs
Number of poles
Connection technology: trunk cable
Length of connecting cable
Dimensions W x H x D
Approvals
Data sheet and further information, see:

4 x socket M12; 4-pole; including GND	
4 (1 signal per contact)	
Fixed connecting cable	
5 m	10 m
60 x 26 x 117 mm	
E 175199; UL 508; Class 2 Equipment	
These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585.	
wago.com/757-244	

6 x socket M12; 4-pole; including GND	
4 (1 signal per contact)	
Fixed connecting cable	
5 m	10 m
60 x 26 x 123 mm	
E 175199; UL 508; Class 2 Equipment	
These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585.	
wago.com/757-264	

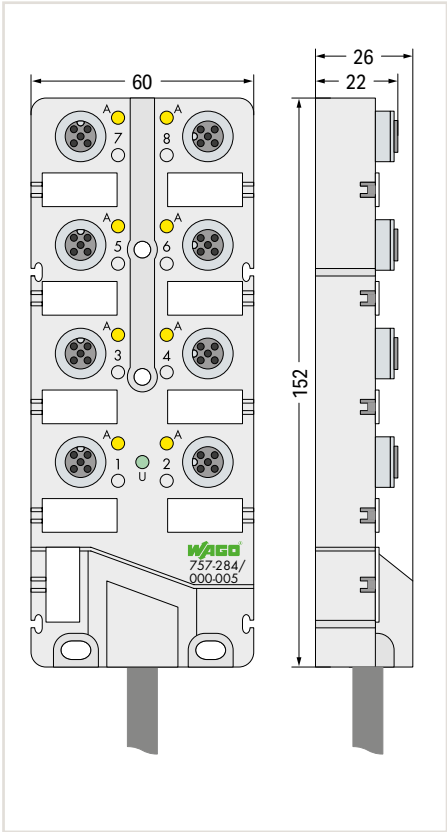
Accessories
Marker card
Felt-tip pen
Spacer module
M12 protective cap

Item No.	Page
757-011	444
210-110	444
757-040	444
756-8102	444

Item No.	Page
757-011	444
210-110	444
757-060	444
756-8102	444

„ IP67 cables and pluggable connectors, see Section "Accessories and Tools"

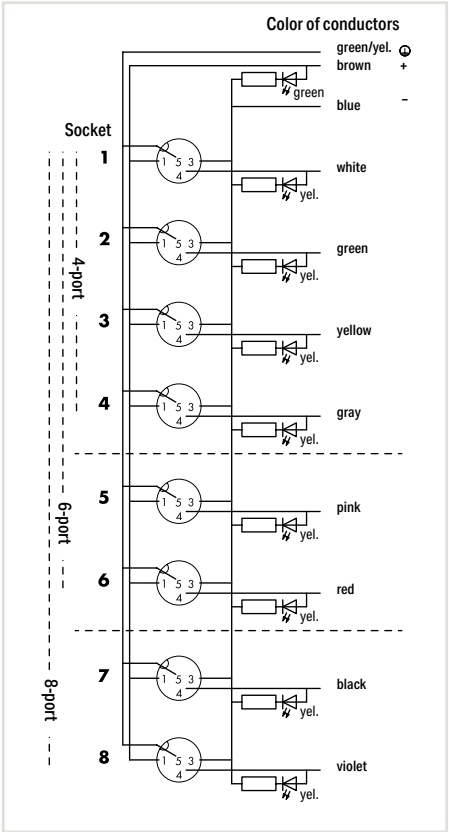
„ Approvals and corresponding ratings, see page 529 or www.wago.com



M12 Sensor/Actuator Box; 8-port; 4-pole		
5 m connect- ing cable	10 m connect- ing cable	25 m connect- ing cable
757-284/000-005	757-284/000-010	757-284/000-025
M12 S/A-Box; 8port; 4pole; 5m	M12 S/A-Box; 8port; 4pole; 10m	M12 S/A-Box; 8port; 4pole; 25m

8 x socket M12; 4-pole; including GND 4 (1 signal per contact)		
Fixed connecting cable		
5 m	10 m	25 m
60 x 26 x 152 mm		
E 175199; UL 508; Class 2 Equipment These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585.		
wago.com/757-284		

Item No.	Page
757-011	444
210-110	444
757-080	444
756-8102	444

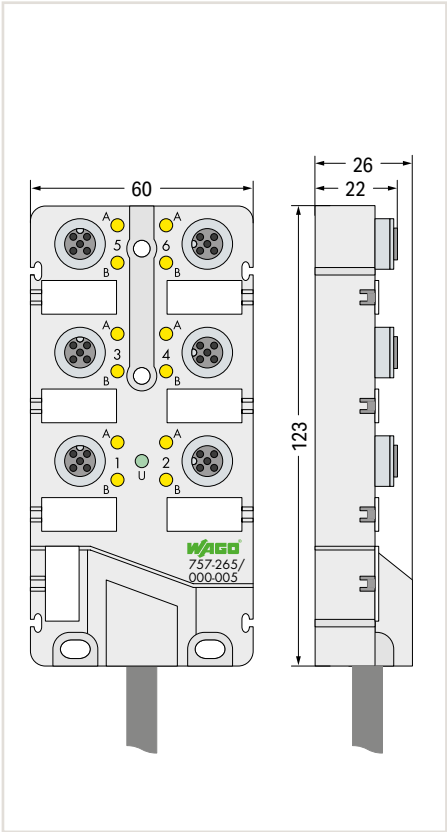
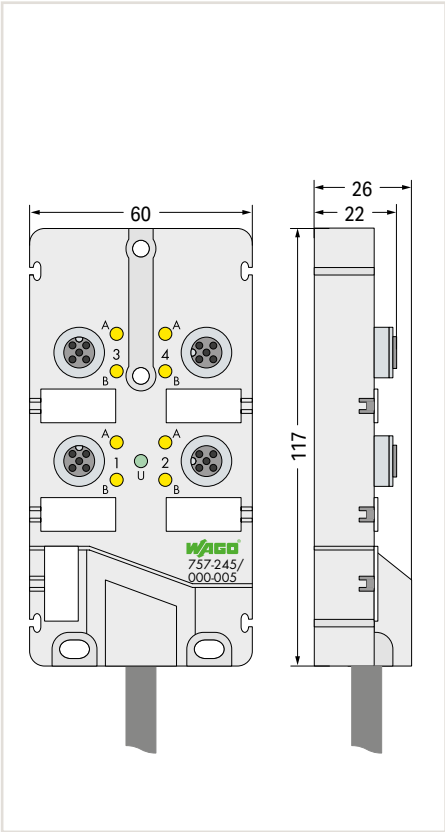


Circuit Diagram: Sensor/Actuator Box; 4-Pole

M12 Sensor/Actuator Box; 5-Pole; With Connecting Cable



Figure: 757-285/000-005



Item Description
Version
Item No.
Order Text

M12 Sensor/Actuator Box; 4-port; 5-pole	
5 m connecting cable	10 m connecting cable
757-245/000-005	757-245/000-010
M12 S/A-Box; 4port; 5pole; 5m	M12 S/A-Box; 4port; 5pole; 10m

M12 Sensor/Actuator Box; 6-port; 5-pole	
5 m connecting cable	10 m connecting cable
757-265/000-005	757-265/000-010
M12 S/A-Box; 6port; 5pole; 5m	M12 S/A-Box; 6port; 5pole; 10m

Technical Data
Connection technology: inputs/outputs
Number of poles
Connection technology: trunk cable
Length of connecting cable
Dimensions W x H x D
Approvals

4 x socket M12; 5-pole; including GND	
5 (2 signals per contact)	
Fixed connecting cable	
5 m	10 m
60 x 26 x 117 mm	
E 175199; UL 508; Class 2 Equipment	
These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585.	
wago.com/757-245	

6 x socket M12; 5-pole; including GND	
5 (2 signals per contact)	
Fixed connecting cable	
5 m	10 m
60 x 26 x 123 mm	
E 175199; UL 508; Class 2 Equipment	
These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585.	
wago.com/757-265	

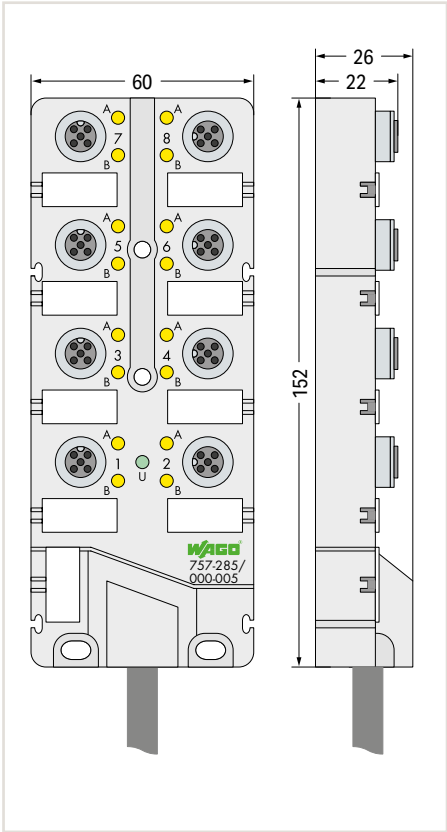
Accessories
Marker card
Felt-tip pen
Spacer module
M12 protective cap

Item No.	Page
757-011	444
210-110	444
757-040	444
756-8102	444

Item No.	Page
757-011	444
210-110	444
757-060	444
756-8102	444

„ IP67 cables and pluggable connectors, see Section "Accessories and Tools"

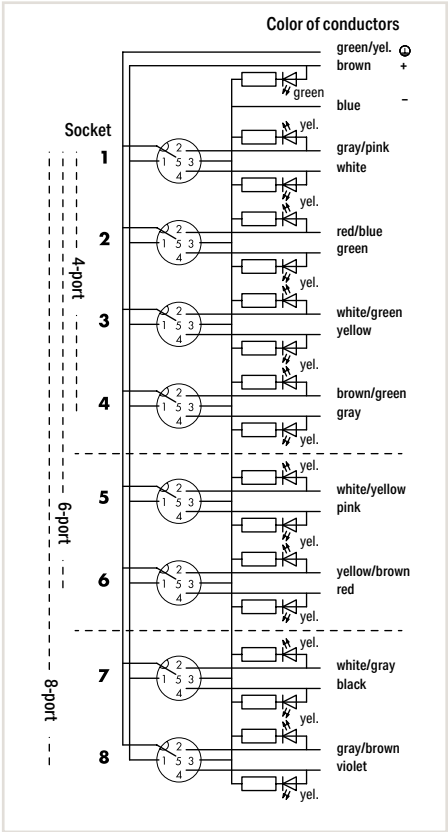
„ Approvals and corresponding ratings, see page 529 or www.wago.com



M12 Sensor/Actuator Box; 8-port; 5-pole		
5 m connect- ing cable	10 m connect- ing cable	25 m connect- ing cable
757-285/000-005	757-285/000-010	757-285/000-025
M12 S/A-Box; 8port; 5pole; 5m	M12 S/A-Box; 8port; 5pole; 10m	M12 S/A-Box; 8port; 5pole; 25m

8 x socket M12; 5-pole; including GND		
5 (2 signals per contact)		
Fixed connecting cable		
5 m	10 m	25 m
60 x 26 x 152 mm		
E 175199; UL 508; Class 2 Equipment		
These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585.		
wago.com/757-285		

Item No.	Page
757-011	444
210-110	444
757-080	444
756-8102	444

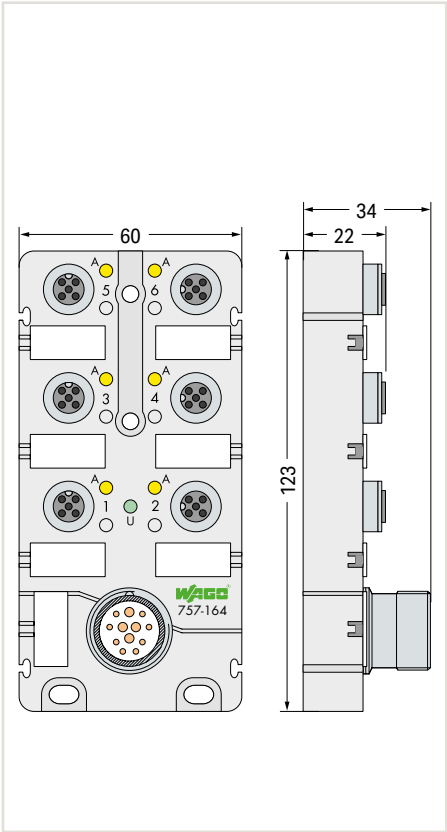
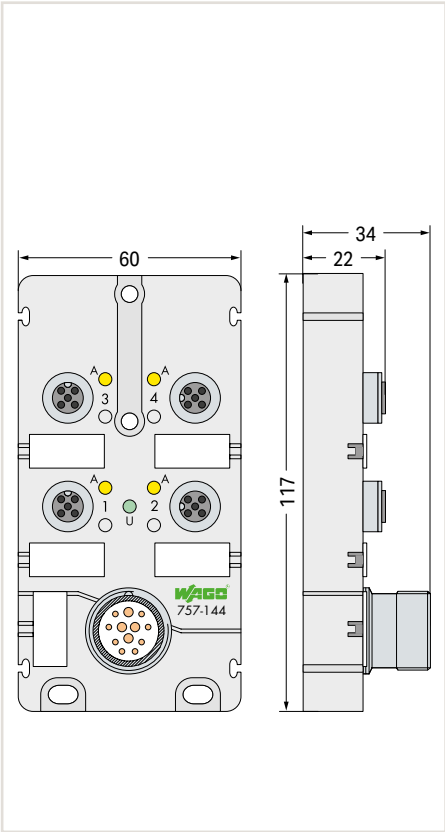


Circuit Diagram: Sensor/Actuator Box; 5-Pole

M12 Sensor/Actuator Box; 4-Pole; With M23 Connector



Figure: 757-184

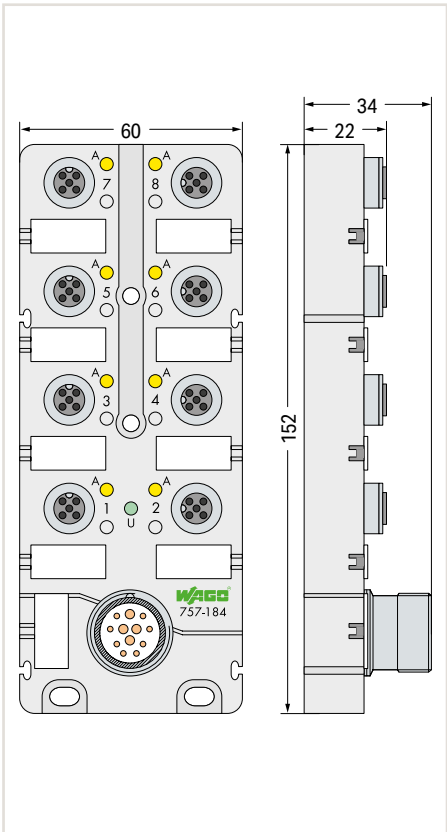


Item Description	M12 Sensor/Actuator Box; 4-port; 4-pole; M23 connector		M12 Sensor/Actuator Box; 6-port; 4-pole; M23 connector	
Item No.	757-144		757-164	
Order Text	M12 S/A-Box; 4port; 4pole; M23		M12 S/A-Box; 6port; 4pole; M23	
Technical Data	4 x socket M12; 4-pole; including GND		6 x socket M12; 4-pole; including GND	
Connection technology: inputs/outputs	4 (1 signal per contact)		4 (1 signal per contact)	
Number of poles	M23 plug; 12-pole		M23 plug; 12-pole	
Connection technology: trunk cable	60 x 34 x 117 mm		60 x 34 x 123 mm	
Dimensions W x H x D	E 175199; UL 508; Class 2 Equipment		E 175199; UL 508; Class 2 Equipment	
Approvals	These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585.		These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585.	
Data sheet and further information, see:	wago.com/757-144		wago.com/757-164	
Accessories	Item No.	Page	Item No.	Page
Marker card	757-011	444	757-011	444
Felt-tip pen	210-110	444	210-110	444
Spacer module	757-040	444	757-060	444
M12 protective cap	756-8102	444	756-8102	444

„ Interconnecting cables, M23 socket, see page 445

„ IP67 cables and pluggable connectors, see Section "Accessories and Tools"

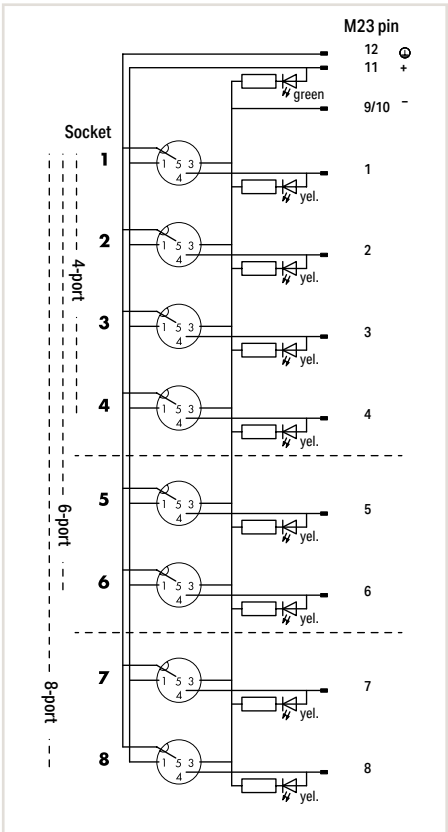
„ Approvals and corresponding ratings, see page 529 or www.wago.com



M12 Sensor/Actuator Box; 6-port; 4-pole; M23 connector
757-184
M12 S/A-Box; 8port; 4pole; M23

8 x socket M12; 4-pole; including GND 4 (1 signal per contact)
M23 plug; 12-pole 60 x 34 x 152 mm
E 175199; UL 508; Class 2 Equipment These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585. wago.com/757-184

Item No.	Page
757-011	444
210-110	444
757-080	444
756-8102	444

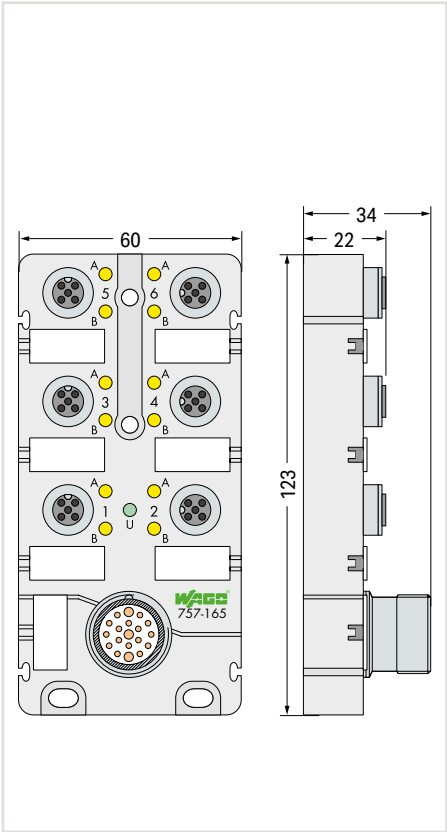
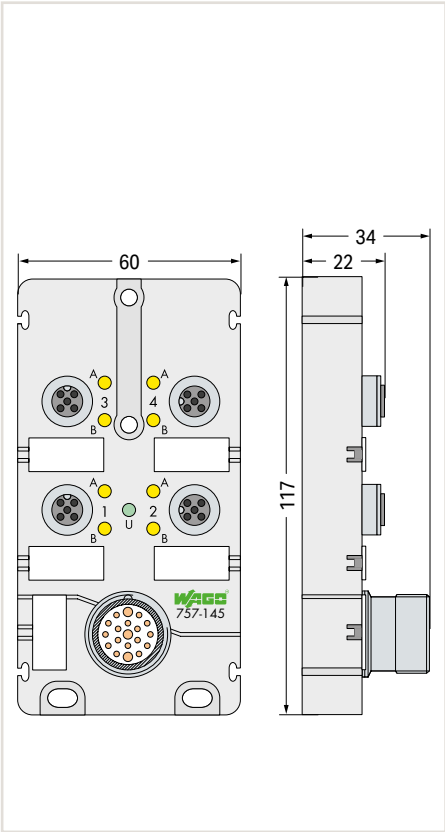


Circuit Diagram: Sensor/Actuator Box; 4-Pole

M12 Sensor/Actuator Box; 5-Pole; With M23 Connector

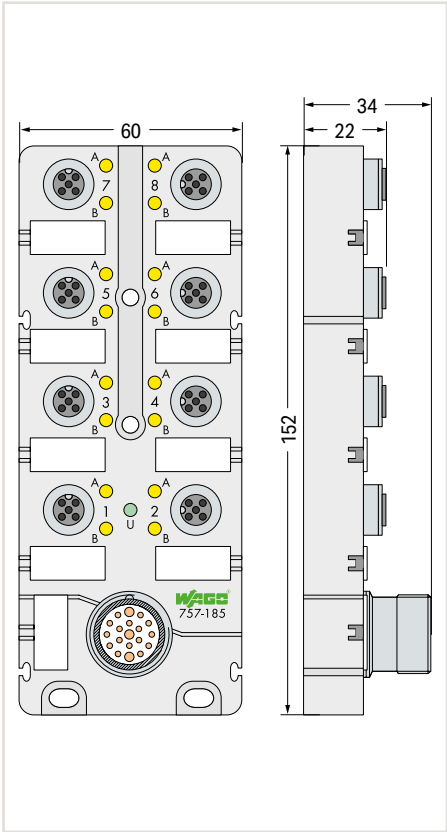


Figure: 757-185



Item Description	M12 Sensor/Actuator Box; 4-port; 5-pole; M23 connector		M12 Sensor/Actuator Box; 6-port; 5-pole; M23 connector	
Version				
Item No.	757-145		757-165	
Order Text	M12 S/A-Box; 4port; 5pole; M23		M12 S/A-Box; 6port; 5pole; M23	
Technical Data				
Connection technology: inputs/outputs	4 x socket M12; 5-pole; including GND		6 x socket M12; 5-pole; including GND	
Number of poles	5 (2 signals per contact)		5 (2 signals per contact)	
Connection technology: trunk cable	M23 plug; 19-pole		M23 plug; 19-pole	
Dimensions W x H x D	60 x 34 x 117 mm		60 x 34 x 123 mm	
Approvals	E 175199;  UL 508; Class 2 Equipment These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585.		E 175199;  UL 508; Class 2 Equipment These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585.	
Data sheet and further information, see:	wago.com/757-145		wago.com/757-165	
Accessories	Item No.	Page	Item No.	Page
Marker card	757-011	444	757-011	444
Felt-tip pen	210-110	444	210-110	444
Spacer module	757-040	444	757-060	444
M12 protective cap	756-8102	444	756-8102	444

- „ Interconnecting cables, M23 socket, see page 445
- „ IP67 cables and pluggable connectors, see Section "Accessories and Tools"
- „ Approvals and corresponding ratings, see page 529 or www.wago.com

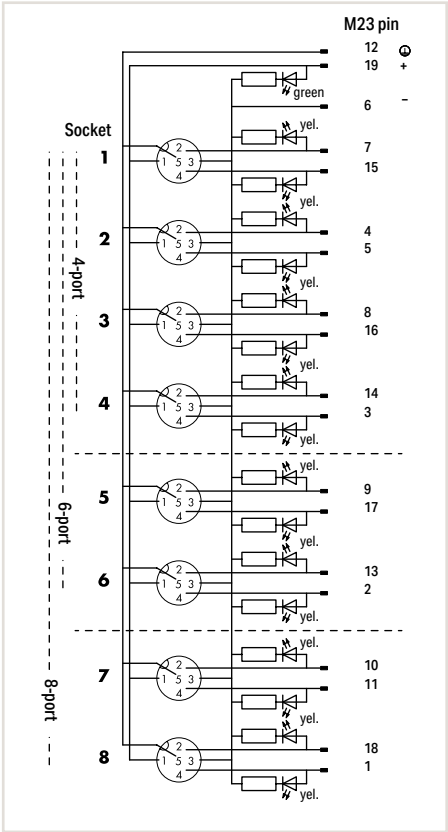


M12 Sensor/Actuator Box; 8-port; 5-pole; M23 connector	
	without LED
757-185	757-185/100-000
M12 S/A-Box; 8port; 5pole; M23	M12 S/A-Box; 8port; 5pole; M23; NL

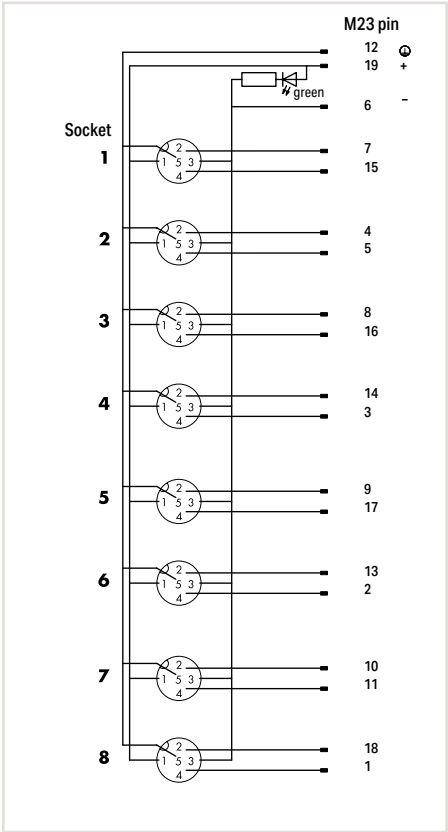
8 x socket M12; 5-pole; including GND 5 (2 signals per contact)	
M23 plug; 19-pole 60 x 34 x 152 mm	
E 175199; UL 508; Class 2 Equipment These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585.	
wago.com/757-185	wago.com/757-185/100-000

Item No.	Page
757-011	444
210-110	444
757-080	444
756-8102	444

The 757-185/100-000 Module has no status LEDs and can therefore also transmit analog signals!



Circuit Diagram: Sensor/Actuator Box; 5-Pole

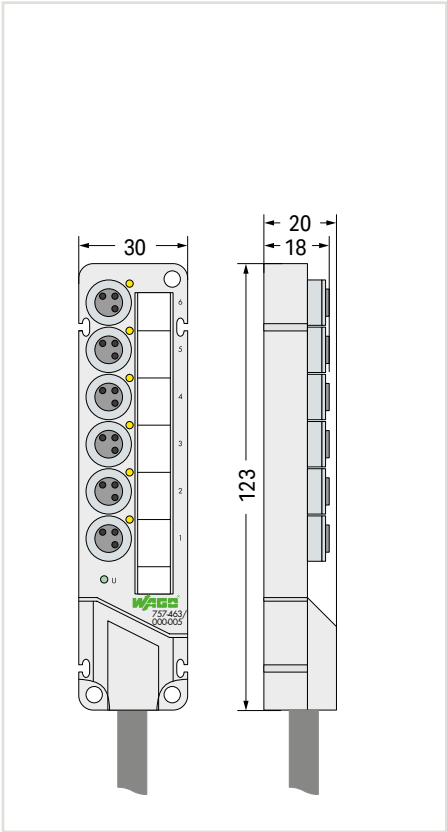
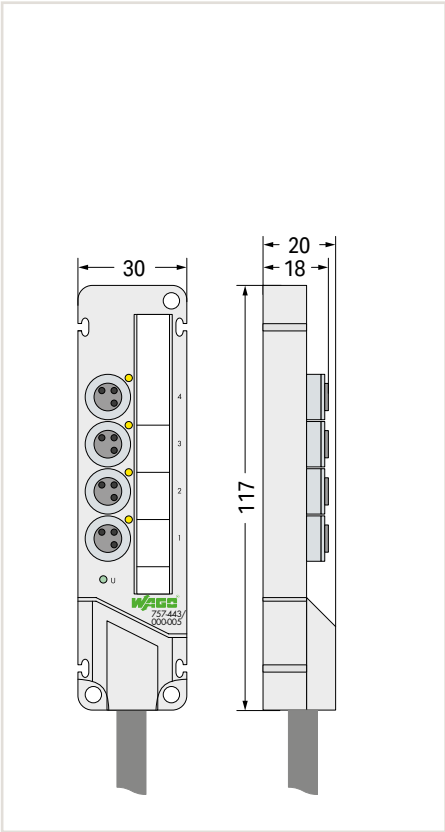


Circuit Diagram: Sensor/Actuator Box; 5-Pole; without LED

M8 Sensor/Actuator Box; 3-Pole; With Connecting Cable



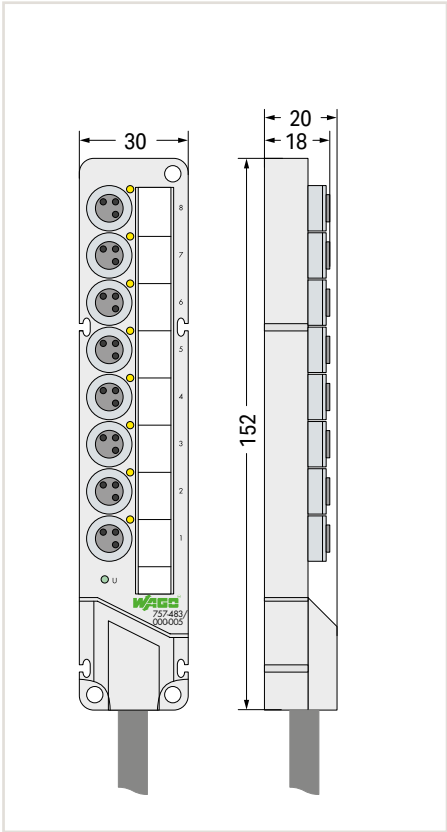
Figure: 757-403/000-005



Item Description		M8 Sensor/Actuator Box; 4-port; 3-pole			M8 Sensor/Actuator Box; 6-port; 3-pole	
Version		2 m connect- ing cable	5 m connect- ing cable	10 m connect- ing cable	5 m connecting cable	10 m connecting cable
Item No.		757-443/000-002	757-443/000-005	757-443/000-010	757-463/000-005	757-463/000-010
Order Text		M8 S/A-Box; 4port; 3pole; 2m	M8 S/A-Box; 4port; 3pole; 5m	M8 S/A-Box; 4port; 3pole; 10m	M8 S/A-Box; 6port; 3pole; 5m	M8 S/A-Box; 6port; 3pole; 10m
Technical Data						
Connection technology: inputs/outputs		4 x M8 socket; 3-pole			6 x M8 socket; 3-pole	
Number of poles		3 (1 signal per contact)			3 (1 signal per contact)	
Connection technology: trunk cable		Fixed connecting cable			Fixed connecting cable	
Length of connecting cable		2 m	5 m	10 m	5 m	10 m
Dimensions W x H x D		30 x 20 x 117 mm			30 x 20 x 123 mm	
Approvals		E 175199; UL 508; Class 2 Equipment These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585.			E 175199; UL 508; Class 2 Equipment These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585.	
Data sheet and further information, see:		wago.com/757-443			wago.com/757-463	
Accessories		Item No.	Page		Item No.	Page
Marking strip		757-041	444		757-061	444
Felt-tip pen		210-110	444		210-110	444
Spacer module		757-040	444		757-060	444
M8 protective cap		756-8101	444		756-8101	444

„ IP67 cables and pluggable connectors,
see Section "Accessories and Tools"

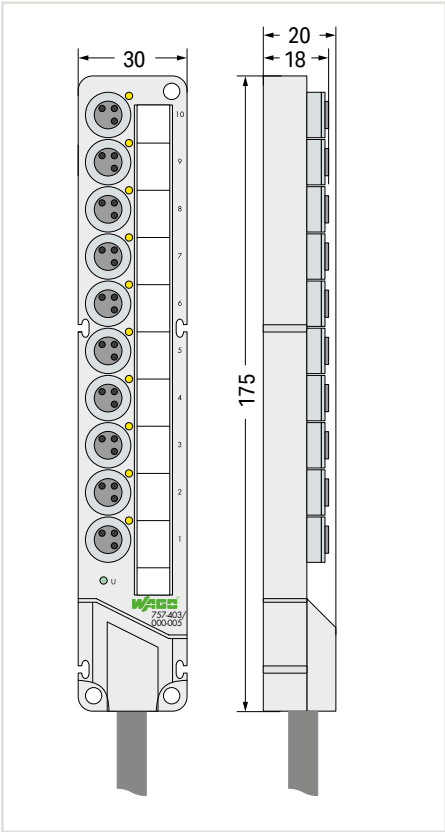
„ Approvals and corresponding ratings,
see page 529 or www.wago.com



M8 Sensor/Actuator Box; 8-port; 3-pole	
5 m connecting cable	10 m connecting cable
757-483/000-005	757-483/000-010
M8 S/A-Box; 8port; 3pole; 5m	M8 S/A-Box; 8port; 3pole; 10m

8 x M8 socket; 3-pole	
3 (1 signal per contact)	
Fixed connecting cable	
5 m	10 m
30 x 20 x 152 mm	
E 175199; UL 508; Class 2 Equipment	
These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585.	
wago.com/757-483	

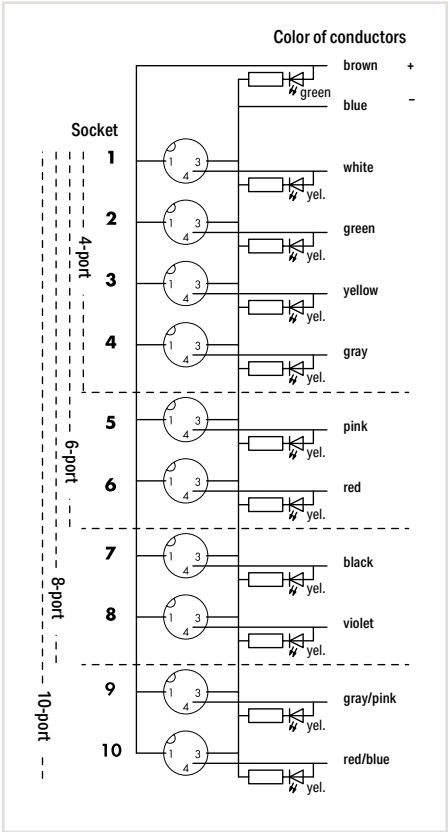
Item No.	Page
757-081	444
210-110	444
757-080	444
756-8101	444



M8 Sensor/Actuator Box; 10-port; 3-pole	
5 m connecting cable	10 m connecting cable
757-403/000-005	757-403/000-010
M8 S/A-Box; 10port; 3pole; 5m	M8 S/A-Box; 10port; 3pole; 10m

10 x M8 socket; 3-pole	
3 (1 signal per contact)	
Fixed connecting cable	
5 m	10 m
30 x 20 x 175 mm	
E 175199; UL 508; Class 2 Equipment	
These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585.	
wago.com/757-403	

Item No.	Page
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210-110	444
757-000	444
756-8101	444

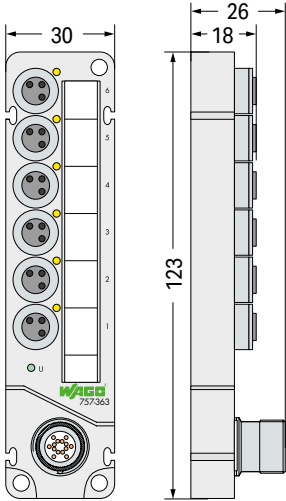
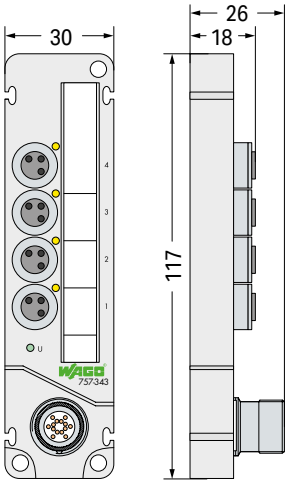


Circuit Diagram: Sensor/Actuator Box; 3-Pole

M8 Sensor/Actuator Box; 3-Pole; With M16 Connector

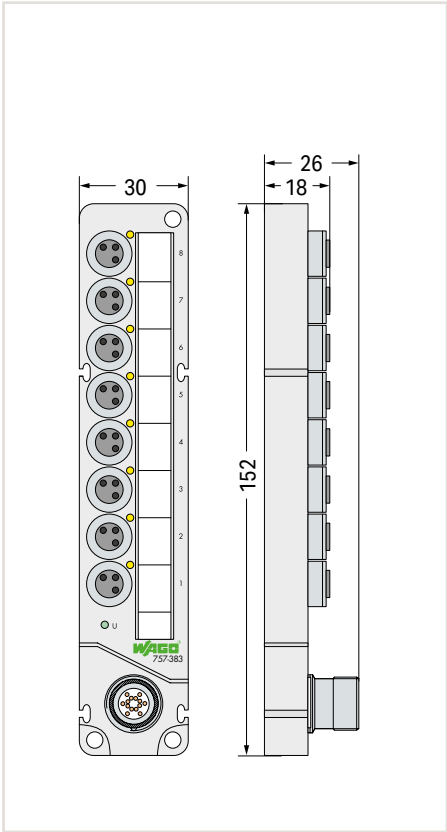


Figure: 757-303

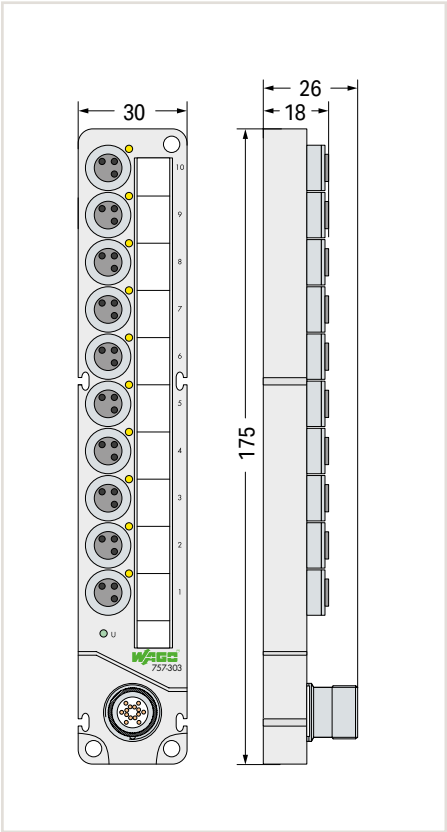


Item Description		M8 Sensor/Actuator Box; 4-port; 3-pole; M16 connector		M8 Sensor/Actuator Box; 6-port; 3-pole; M16 connector	
Item No.		757-343		757-363	
Order Text		M8 S/A-Box; 4port; 3pole; M16		M8 S/A-Box; 6port; 3pole; M16	
Technical Data					
Connection technology: inputs/outputs		4 x M8 socket; 3-pole		6 x M8 socket; 3-pole	
Number of poles		3 (1 signal per contact)		3 (1 signal per contact)	
Connection technology: trunk cable		M16 plug; 14-pole		M16 plug; 14-pole	
Dimensions W x H x D		30 x 26 x 117 mm		30 x 26 x 123 mm	
Approvals		E 175199;  UL 508; Class 2 Equipment These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585.		E 175199;  UL 508; Class 2 Equipment These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585.	
Data sheet and further information, see:		wago.com/757-343		wago.com/757-363	
Accessories		Item No.	Page	Item No.	Page
Marking strip		757-041	444	757-061	444
Felt-tip pen		210-110	444	210-110	444
Spacer module		757-040	444	757-060	444
M8 protective cap		756-8101	444	756-8101	444

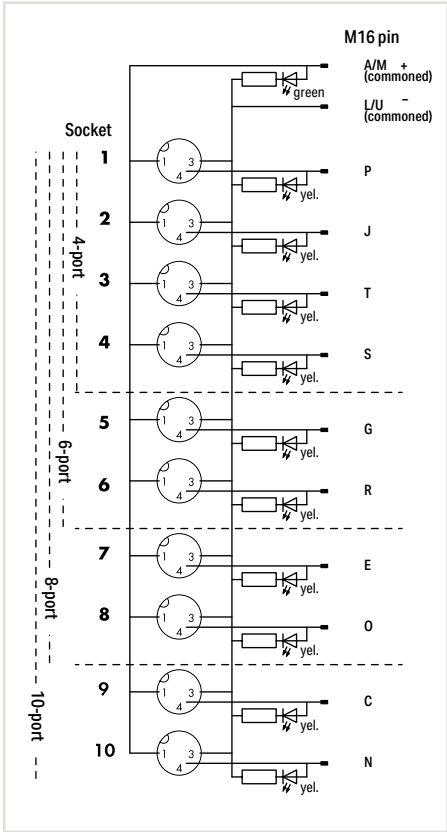
- „ Interconnecting cables, M16 socket, see page 445
- „ IP67 cables and pluggable connectors, see Section "Accessories and Tools"
- „ Approvals and corresponding ratings, see page 529 or www.wago.com



M8 Sensor/Actuator Box; 8-port; 3-pole; M16 connector
757-383
M8 S/A-Box; 8port; 3pole; M16



M8 Sensor/Actuator Box; 10-port; 3-pole; M16 connector
757-303
M8 S/A-Box; 10port; 3pole; M16



Circuit Diagram: Sensor/Actuator Box; 3-Pole

8 x M8 socket; 3-pole
3 (1 signal per contact)
M16 plug; 14-pole
30 x 26 x 152 mm
E 175199; UL 508; Class 2 Equipment
These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585.
wago.com/757-383

Item No.	Page
757-081	444
210-110	444
757-080	444
756-8101	444

10 x M8 socket; 3-pole
3 (1 signal per contact)
M16 plug; 14-pole
30 x 26 x 175 mm
E 175199; UL 508; Class 2 Equipment
These components are designed to be supplied through Class 2 power supplies per UL 1310 or Class 2 transformers per UL 1585.
wago.com/757-303

Item No.	Page
757-001	444
210-110	444
757-000	444
756-8101	444

Sensor/Actuator Boxes; Accessories



Marker card; not stretchable; snap-on type		
	Item No.	Pack. Unit
for M12 Sensor/Actuator Box	757-011	1



Marking strip; cut to defined length; not stretchable; plain; snap-on type		
for M8 Sensor/Actuator Box	Item No.	Pack. Unit
4-port	757-041	100
6-port	757-061	100
8-port	757-081	100
10-port	757-001	100



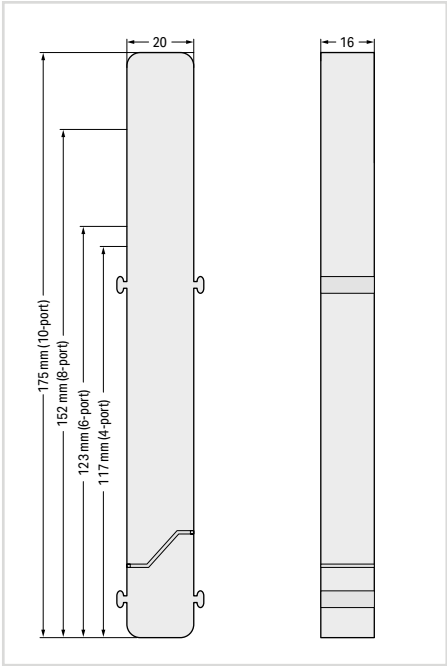
Felt-tip pen		
	Item No.	Pack. Unit
for permanent marking	210-110	1



Protective cap (for covering unused sensor/actuator ports)		
	Item No.	Pack. Unit
M8 protective cap	756-8101	10
M12 protective cap	756-8102	10



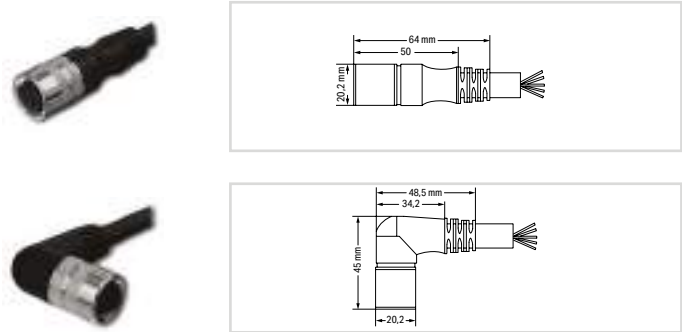
Spacer module for sensor/actuator box		
	Item No.	Pack. Unit
4-port	757-040	10
6-port	757-060	10
8-port	757-080	10
10-port	757-000	10



14-pole

Pin A, L: 0.75 mm²
Pin C ... J, N ... T: 0.34 mm²

A	brown	N	pink-brown
C	white-pink	O	violet
E	black	P	white
G	rose	R	red
J	green	S	gray
L	blue	T	yellow
M	bridged with A	U	bridged with L



Operating voltage	150 V
Operating current	6 A (0.75 mm ²); 4 A (0.34 mm ²)
Rated surge voltage	1.2 kV
Drag chain suitability	≥ 2 million bending cycles
Surrounding air temperature (operation), dynamic	-30 ... +90 °C
Protection type	IP67
Cable diameter	9.1 mm ±0.2

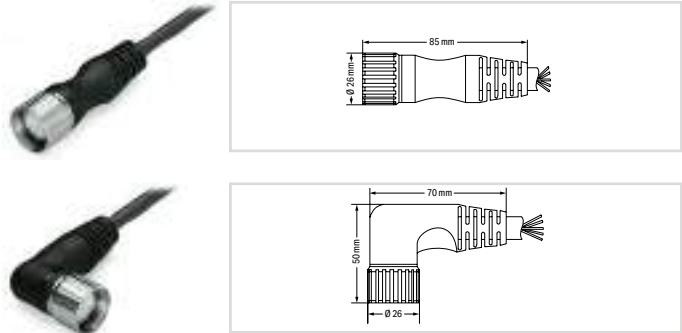
Interconnecting cable; 14-pole; M16 socket (straight)		
Cable Length	Item No.	Pack. Unit
5 m	756-3205/140-050	1
10 m	756-3205/140-100	1
15 m	756-3205/140-150	1

Interconnecting cable; 14-pole; M16 socket (angled)		
Cable Length	Item No.	Pack. Unit
5 m	756-3206/140-050	1
10 m	756-3206/140-100	1
15 m	756-3206/140-150	1

12-pole

Pin 9, 11, 12: 1.00 mm²;
Pin 1 ... 8: 0.34 mm²

1	white	9	blue
2	green	10	bridged with 9
3	yellow	11	brown
4	gray	12	green-yellow
5	rose		
6	red		
7	black		
8	violet		



Operating voltage (max.)	300 V
Operating current	8 A
Rated surge voltage	≥ 2.0 kV rms
Drag chain suitability	≥ 2 million bending cycles
Surrounding air temperature (operation), dynamic	-25 ... +80 °C
Protection type	IP67
Cable diameter	9.3 mm ±0.3

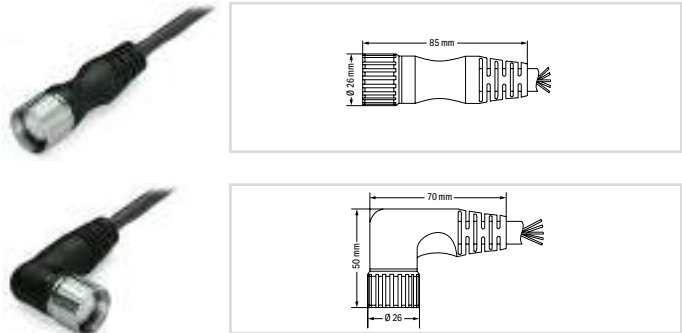
Interconnecting cable; 12-pole; M23 socket (straight)		
Cable Length	Item No.	Pack. Unit
5 m	756-3201/120-050	1
10 m	756-3201/120-100	1
15 m	756-3201/120-150	1

Interconnecting cable; 12-pole; M23 socket (angled)		
Cable Length	Item No.	Pack. Unit
5 m	756-3202/120-050	1
10 m	756-3202/120-100	1
15 m	756-3202/120-150	1

19-pole

Pin 6, 12, 19: 1.00 mm²;
Pin 1 ... 5, 7 ... 11, 13 ... 19: 0.34 mm²

1	violet	11	black
2	red	12	green-yellow
3	gray	13	yellow-brown
4	red-blue	14	brown-green
5	green	15	white
6	blue	16	yellow
7	gray-pink	17	rose
8	white-green	18	gray-brown
9	white-yellow	19	brown
10	white-gray		



Operating voltage (max.)	300 V
Operating current	10 A (6, 12, 19 contacts); 8 A (remaining contacts)
Rated surge voltage	≥ 2.0 kV rms
Drag chain suitability	≥ 2 million bending cycles
Surrounding air temperature (operation), dynamic	-25 ... +80 °C
Protection type	IP67
Cable diameter	11.6 mm ±0.3

Interconnecting cable; 19-pole; M23 socket (straight)		
Cable Length	Item No.	Pack. Unit
5 m	756-3203/190-050	1
10 m	756-3203/190-100	1
15 m	756-3203/190-150	1

Interconnecting cable; 19-pole; M23 socket (angled)		
Cable Length	Item No.	Pack. Unit
5 m	756-3204/190-050	1
10 m	756-3204/190-100	1
15 m	756-3204/190-150	1



Accessories and Tools

Accessories and Tools

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Power Supplies

Additional Technical Data at www.wago.com

	Item Number	Output	Input Voltage Range	Functional Description
Pro – Professional and Efficient Power Supplies with Extra Power				
	787-819	12 VDC (11 ... 18 V) / 6 A	1 x 85 ... 264 VAC 120 ... 373 VDC	• TopBoost provides up to 60 A of additional output for 50 ms • PowerBoost offers up to 200% output power for four seconds • DC OK contact and stand-by input • Clear operating status indication via LED • Up to 94% efficiency • Surrounding air temperature: -25 ... +70°C (device start at -40°C, type-tested) • Slim design and versatile mounting options • Pluggable CAGE CLAMP® connectors • Approvals: UL 508, UL 60950 • LineMonitor for parameter setting and input/output monitoring ^{a)}
	787-821	12 VDC (11 ... 18 V) / 10 A		
	787-831	12 VDC (11 ... 18 V) / 15 A		
	787-818	24 VDC (22 ... 29.5 V) / 3 A		
	787-822	24 VDC (22 ... 29.5 V) / 5 A		
	787-832	24 VDC (22 ... 29.5 V) / 10 A		
	787-834	24 VDC (22 ... 29.5 V) / 20 A		
	787-833	48 VDC (33 ... 52 V) / 5 A		
	787-835	48 VDC (33 ... 52 V) / 10 A		
	787-840	24 VDC (22.8 ... 28.8 V) / 10 A	2/3 x 340 ... 550 VAC 480 ... 780 VDC	
	787-842	24 VDC (22.8 ... 28.8 V) / 20 A		
	787-844	24 VDC (22.8 ... 28.8 V) / 40 A		
	787-850 ^{a)}	24 VDC (22.8 ... 28.8 V) / 10 A		
	787-852 ^{a)}	24 VDC (22.8 ... 28.8 V) / 20 A		
	787-854 ^{a)}	24 VDC (22.8 ... 28.8 V) / 40 A		
787-845	48 VDC (39 ... 53 V) / 10 A			
787-847	48 VDC (39 ... 53 V) / 20 A			
Classic – Robust Power Supplies with Integrated TopBoost				
	787-1601 ^{b)}	12 VDC (11.5 ... 14.5 V) / 2 A	1/2 x 85 ... 264 VAC 120 ... 372 VDC	• Slim design • Integrated TopBoost (787-16xx with ≥ 120 W) • DC OK signal/contact • Clear operating status indication via LED • Marking field for device identification • Up to 93% efficiency • Surrounding air temperature: -25 ... +70°C (device start at -40°C, type-tested) • Pluggable CAGE CLAMP® connectors • Approvals: UL 508, UL 60950, GL • Approval: EN 60335-1 ^{b)}
	787-1611 ^{b)}	12 VDC (11.5 ... 14.5 V) / 4 A		
	787-1621 ^{b)}	12 VDC (11.5 ... 14.5 V) / 7 A		
	787-1631	12 VDC (11.5 ... 15 V) / 15 A		
	787-1602 ^{b)}	24 VDC (23 ... 28.5 V) / 1 A		
	787-1606 ^{b)}	24 VDC (23 ... 28.5 V) / 2 A		
	787-1616 ^{b)}	24 VDC (23 ... 28.5 V) / 4 A		
	787-1616/000-1000 ^{b)}	24 VDC (23 ... 28.5 V) / 3.8 A LPS		
	787-1622 ^{b)}	24 VDC (23 ... 28.5 V) / 5 A		
	787-1632	24 VDC (23 ... 28.5 V) / 10 A		
	787-1634	24 VDC (23 ... 28.5 V) / 20 A		
	787-1623 ^{b)}	48 VDC (40 ... 56 V) / 2 A	1/2 x 180 ... 500 VAC 254 ... 780 VDC	
	787-1633	48 VDC (40 ... 56 V) / 5 A		
	787-1635	48 VDC (40 ... 56 V) / 10 A	2/3 x 320 ... 575 VAC 450 ... 800 VDC	
	787-1628	24 VDC (23 ... 28.5 V) / 5 A		
	787-1638	24 VDC (23 ... 28.5 V) / 10 A		
	787-1640	24 VDC (23 ... 28.5 V) / 10 A		
	787-1642	24 VDC (23 ... 28.5 V) / 20 A		
	787-1644	24 VDC (23 ... 28.5 V) / 40 A		
Eco – Economical Power Supplies for Standard Applications				
	787-712 ^{d)}	24 VDC (22 ... 28 V) / 2.5 A	1 x 85 ... 264 VAC 130 ... 373 VDC	• Economical and robust metal housing • Clear operating status LED indication and optional DC OK contact • Up to 90% efficiency • Surrounding air temperature: -25 ... +70°C • Overhead mounting possible • Approvals: UL 508, UL 60950 • Approvals: ATEX/IEC Ex, Zone 2 or Class I Div. 2 ^{d)}
	787-722 ^{d)}	24 VDC (22 ... 28 V) / 5 A		
	787-732 ^{d)}	24 VDC (22 ... 28 V) / 10 A		
	787-734	24 VDC (22 ... 28 V) / 20 A	1 x 90 ... 264 VAC 130 ... 373 VDC	
	787-736	24 VDC (22 ... 28 V) / 40 A		
	787-738	24 VDC (22 ... 28 V) / 6.25 A	2/3 x 360 ... 460 VAC	
	787-740	24 VDC (24 ... 28 V) / 10 A		
	787-2742	24 VDC (22 ... 28 V) / 20 A	2/3 x 340 ... 575 VAC 460 ... 800 VDC	
	787-2744	24 VDC (24 ... 28 V) / 40 A		
	787-1701	12 VDC (10 ... 14 V) / 2 A	1 x 90 ... 264 VAC 125 ... 375 VDC	
	787-1711	12 VDC (10 ... 14 V) / 4 A		
	787-1721	12 VDC (10 ... 14 V) / 8 A		
	787-1702	24 VDC (22 ... 26 V) / 1.25 A		
	787-1712	24 VDC (22 ... 26 V) / 2.5 A		
	787-1722	24 VDC (22 ... 26 V) / 5 A		
	787-1732	24 VDC (22 ... 26 V) / 10 A		

Power Supplies

Additional Technical Data at www.wago.com

	Item Number	Output	Input Voltage Range	Functional Description
COMPACT Power – Compact and High-Performance Power Supplies				
	787-1001	12 VDC (10.8 ... 18 V) / 2 A	1 x 85 ... 264 VAC 120 ... 373 VDC	• Compact, low-profile design • Ideal for decentralized applications • Clear operating status indication via LED • Up to 88% efficiency • Surrounding air temperature: –25 ... +60°C (device start at –40°C, type-tested) • Overhead mounting permitted • Approvals: UL 508, UL 60950, GL
	787-1011	12 VDC (10.5 ... 15.5 V) / 4 A		
	787-1021	12 VDC (10.5 ... 15.5 V) / 6.5 A		
	787-1017	18 VDC (15 ... 28 V) / 2.5 A		
	787-1002	24 VDC (22.8 ... 26.4 V) / 1.3 A		
	787-1012	24 VDC (22.8 ... 26.4 V) / 2.5 A		
	787-1022	24 VDC (22.8 ... 26.4 V) / 4 A		
	787-1020	5 VDC (4.5 ... 8.5 V) / 5.5 A		
	787-1102	24 VDC (22.8 ... 26.4 V) / 1.3 A	1 x 90 ... 264 VAC 125 ... 375 VDC	• Budget-friendly for basic applications • Mounting on DIN-rail and flexible installation via screw-mount clips • Removable front plate improves cooling in alternative mounting positions • Up to 90% efficiency • Surrounding air temperature: –25 ... +70°C • Approvals: UL 508, UL 60950, EN 60335-1
	787-1112	24 VDC (22.8 ... 26.4 V) / 2.5 A		
	787-1122	24 VDC (22.8 ... 26.4 V) / 4 A		
	787-1202	24 VDC (22 ... 26 V) / 1.3 A		
	787-1212	24 VDC (22 ... 26 V) / 2.5 A		
	787-1216	24 VDC (22 ... 26 V) / 4.2 A		
	787-1226	24 VDC (22 ... 26 V) / 6 A		
	IP67 Power – Reliable Power Supply for Distributed Automation			
	787-6716	24 VDC / 4 A	1x 90 ... 264 VAC	• IP67 protection • PowerBoost offers up 150% output power for four seconds • Efficiency: 92.3% • Surrounding air temperature: –40 ... +85°C
Safety Transformers – Robust and Low-Profile DIN-Rail-Mount Modules				
	787-974	12/24 VAC (0 ... 24 V) / 40 VA	110/230 VAC (0 ... 230 V)	• Robust housing for easy and vibration-proof DIN-rail mounting • Surrounding air temperature: –25 ... +55°C • Approval: UL 5085
	787-976	12/24 VAC (0 ... 24 V) / 63 VA		
Fan Control				
	787-914	22 VDC (12 ... 22 V) / 1 A	1 x 90 ... 264 VAC 130 ... 373 VDC	• Adjustable output voltage: 12 ... 22 VDC, front side by tool and analog signal 0 ... 10 V • Easy mounting on DIN-rail • Flexible installation via screw-mount clips
DC/DC Converters – Dependable Power Supply for Specialty Voltages				
	787-2801	5 VDC / 0.5 A	24 VDC (10 ... 30 V)	• Full commoning of the supply voltage with both 857 and 2857 Series • DC OK contact • Approvals: UL 508, UL 60950
	787-2802	10 VDC / 0.5 A	24 VDC (15 ... 30 V)	
	787-2803	24 VDC / 0.5 A	48 VDC (40 ... 55 V)	
	787-2805	12 VDC / 0.5 A	24 VDC (15 ... 30 V)	
	787-2810	5 / 10 / 12 VDC, adjustable / 0.5 A	24 VDC (10 ... 30 V)	• Electrically isolated output • Suitable for railway applications per EN 50155 • Approvals: UL 508, UL 60950 (except 787-1015/0072-0000)
	787-1014	24 VDC / 2 A	110 VDC (77 ... 140 V)	
	787-1014/072-000	24 VDC / 2 A	72 VDC (40 ... 90 V)	
	787-1015/072-000	12 VDC / 4 A	72 VDC (40 ... 90 V)	
	787-1650	12 VDC / 4 A	24 VDC (18 ... 60 V)	
Uninterruptible Power Supplies (UPS) – Reliably Compensate for Long Power Outages				
	787-870	24 VDC (20 ... 25.5 V) / 10 A	24 VDC	• Slim UPS charger and controller with convenient visualization and configuration • Optional power supply with integrated UPS charger and controller (787-1675) • Battery control technology for predictive maintenance that extends battery life • Pluggable CAGE CLAMP® connectors • Approvals: UL 508, UL 60950
	787-875	24 VDC (20 ... 25.5 V) / 20 A		
	787-1675	23 ... 28.5 VDC (mains operation) 18.5 ... 27.5 VDC (battery operation) / 5 A	1/2 x 85 ... 264 VAC 110 ... 370 VDC	
	787-1671	24 VDC / max. 5 A / 0.8 Ah	24 VDC	
	787-876	24 VDC / max. 7.5 A / 1.2 Ah		
	787-871	24 VDC / max. 20 A / 3.2 Ah		
	787-872	24 VDC / max. 40 A / 7 Ah		
		787-873	24 VDC / max. 40 A / 12 Ah	

Power Supplies

Additional Technical Data at www.wago.com

	Item Number	Output	Input Voltage Range	Functional Description
Capacitive Buffer Modules – Short-Term Power Reserves for Power Outages and Load Variations				
	787-880	24 VDC (20.4 ... 24 V) / 10 A	24 VDC	• Maintenance-free, high-energy gold caps • Integrated diodes for decoupling buffered loads from unbuffered loads • Parallel connections possible • Indication via LED and contact • Configurable switch-on threshold • Surrounding air temperature: -10 ... +50°C • Pluggable CAGE CLAMP® connectors • Approval: UL 508
	787-881	24 VDC (20.4 ... 24 V) / 20 A		
Redundancy Modules – Reliably Increase Power Supply Stability				
	787-1685	24 VDC / 20 A, max. 40 A	2 x 24 VDC	• Integrated power diodes or MOSFET (787-1685 only) with overload capability • Solutions for 12/24/48 VDC supply, up to 76 A • Parallel connections possible, reverse voltage protection • Clear operating status LED indication and optional signal contact • Surrounding air temperature: -25 ... +70°C (787-1685: cold start at -40°C) • Approvals: UL 508, UL 60950
	787-885	24 VDC / 20 A, max. 40 A		
	787-886	48 VDC / 20 A, max. 40 A	2 x 48 VDC	
	787-783	9 ... 54 VDC / 12.5 A, max. 25 A	2 x 9 ... 54 VDC	
	787-785	9 ... 54 VDC / 40 A, max. 76 A		
Electronic Circuit Breakers – Compact and Precise ECBs for DC Circuits				
	787-2861/100-000	1 x 24 VDC / 1 A	24 VDC	• One channel with preset nominal current • Two, four or eight channels with a six-stage adjustable nominal current • Slim design, communication capability • High switch-on capacity reduces false tripping • Surrounding air temperature: -25 ... +70°C • Approvals: UL 508, UL 2367, UL 61010, GL • Optional active current limitation ^{d)} • With potential-free signal contact ^{e)} • Specialty configuration ^{f)} • Communication via IO-Link protocol ^{g)}
	787-2861/200-000	1 x 24 VDC / 2 A		
	787-2861/400-000	1 x 24 VDC / 4 A		
	787-2861/600-000	1 x 24 VDC / 6 A		
	787-2861/800-000	1 x 24 VDC / 8 A		
	787-2861/108-020	1 x 24 VDC / 1 ... 8 A		
	787-1662	2 x 24 VDC / 2 ... 10 A		
	787-1662/106-000	2 x 24 VDC / 1 ... 6 A		
	787-1662/000-054 ^{e, f)}	2 x 24 VDC / 2 ... 10 A		
	787-1662/004-1000 ^{d)}	2 x 24 VDC / 3.8 A		
	787-1662/006-1000 ^{d)}	2 x 24 VDC / 0.5 ... 6 A		
	787-1664	4 x 24 VDC / 2 ... 10 A		
	787-1664/106-000	4 x 24 VDC / 1 ... 6 A		
	787-1664/000-004 ^{f)}	4 x 24 VDC / 2 ... 10 A		
	787-1664/000-054 ^{e, f)}	4 x 24 VDC / 2 ... 10 A		
	787-1664/000-080 ^{g)}	4 x 24 VDC / 2 ... 10 A		
	787-1664/004-1000 ^{d)}	4 x 24 VDC / 3.8 A		
	787-1664/006-1000 ^{d)}	4 x 24 VDC / 0.5 ... 6 A		
	787-1664/212-1000 ^{d)}	4 x 24 VDC / 2 ... 12 A		
	787-1664/006-1054 ^{d, e, f)}	4 x 24 VDC / 0.5 ... 6 A		
	787-1668	8 x 24 VDC / 2 ... 10 A		
	787-1668/106-000	8 x 24 VDC / 1 ... 6 A		
	787-1668/000-004 ^{f)}	8 x 24 VDC / 2 ... 10 A		
	787-1668/000-054 ^{e, f)}	8 x 24 VDC / 2 ... 10 A		
	787-1668/000-080 ^{g)}	8 x 24 VDC / 2 ... 10 A		
	787-1668/006-1000 ^{d)}	8 x 24 VDC / 0.5 ... 6 A		
	787-1668/006-1054 ^{d, e, f)}	8 x 24 VDC / 0.5 ... 6 A		
	787-1664/000-100	4 x 12 VDC / 2 ... 10 A	12 VDC	
	787-1662/000-250 ^{e)}	2 x 48 VDC / 2 ... 10 A	48 VDC	
	787-1664/000-200	4 x 48 VDC / 2 ... 10 A		
	787-1664/000-250 ^{e)}	4 x 48 VDC / 2 ... 10 A		
	787-1668/000-200	8 x 48 VDC / 2 ... 10 A		
	787-1668/000-250 ^{e)}	8 x 48 VDC / 2 ... 10 A		

Backup Capacitor Module and DC/DC Converter



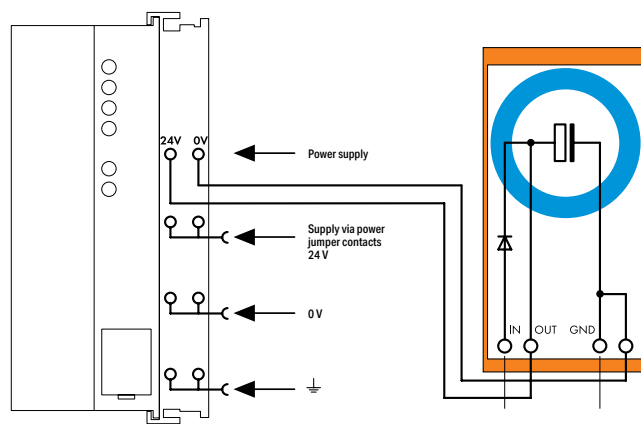
Item Description

Item No.

Technical Data

Nominal input voltage (DC) max.	24 VDC (+25 %)
Input current I _i (max.)	1 A
Nominal capacity	10 mF
Weight	104.4 g
Dimensions W x H x D	38 x 81 x 85 mm; height from upper-edge of DIN-rail
Conductor connection	CAGE CLAMP® (236 Series)
Conductor cross sections	0.08 ... 2.5 mm ² / 28 ... 12 AWG
Strip length	5 ... 6 mm / 0.24 inch
Data sheet and further information, see:	wago.com/288-824

Component module with capacitor; 1 module;
Capacity: 10 mF; Nominal voltage: 24 VDC
288-824



This back-up capacitor module smooths unstable 24 VDC power supplies for electronic modules in case the voltage tolerances mentioned in our data sheets cannot be ensured. Reasons for voltage transients could be:

- Power interruptions (switching transients) on primary side
- Overloads on secondary side
- Switching of inductive or capacitive loads
- The back-up capacitor module is connected between the 24 V power supply and the electronic device to be protected.

Notice:

Using insufficiently smoothed and unregulated single-phase power supplies may lead to voltage increases by the back-up capacitor module.



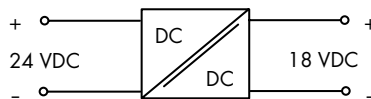
Item Description

Item No.

Technical Data

Nominal input voltage (DC) max.	24 VDC
Input Voltage Range	18 ... 36 VDC
Nominal output voltage (DC)	18 VDC (±2 %)
Output nominal current	0.4 A
Efficiency	82 %
Short-circuit-protected	Yes
Surrounding air temperature (operation)	-25 ... +70 °C
Weight	76 g
Dimensions W x H x D	50 x 25 x 85 mm; height from upper-edge of DIN-rail
Conductor connection	CAGE CLAMP® (256 Series)
Conductor cross sections	0.08 ... 2.5 mm ² / 28 ... 12 AWG (THHN, THWN)
Strip length	5 ... 6 mm / 0.24 inch
Data sheet and further information, see:	wago.com/288-895

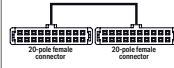
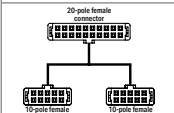
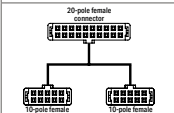
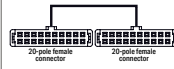
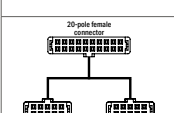
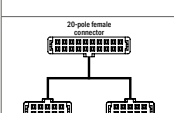
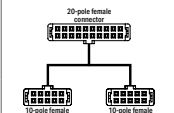
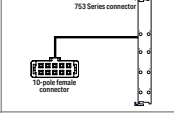
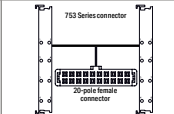
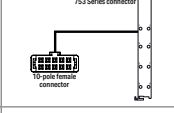
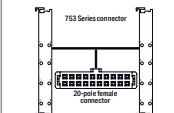
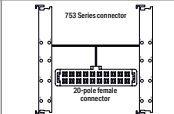
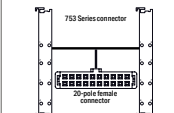
DC/DC Converter; Input voltage: 24 VDC;
Output voltage: 18 VDC;
Output current: 0.4 A
288-895



Interface Modules for System Wiring



I/O modules equipped with a ribbon cable connector provide easy and fast connection of WAGO interface modules to the WAGO-I/O-SYSTEM. WAGO's pre-assembled system cables eliminate discrete wiring, while reducing costs for system wiring applications. Furthermore, modules can be pre-wired, also allowing the connection level to be relocated.

WAGO-I/O-SYSTEM 750				WAGO System Cables		WAGO Interface Modules	
I/O Module		Item No.		System Cable	Item No.	Interface Module	Item No.
DI		750-1400	16-Channel Digital Input; 24 VDC; 3 ms; Ribbon cable		706-3057/300-xxx (see page 452)		Input Module; 20-pole; T16ES: 289-614, 704-2004, 704-2024, 704-2044, 704-2054*
		750-1402	16-Channel Digital Input; 24 VDC; 3 ms; Low-side switching; Ribbon cable		706-7753/302-xxx (see page 452)		Input Module; 10-pole; T8ES: 289-611, 704-2003*
DO		750-1500	16-Channel Digital Output; 24 VDC; 0.5 A; Ribbon cable		706-3057/300-xxx (see page 452)		Output Module; 20-pole; T16S: 704-5004, 704-5014, 704-5024, 704-5034, 704-5044, 704-5054, 704-5064, 704-5074* or Input Module; 20-pole; Relay Module; 16 channels
		750-1501	16-Channel Digital Output; 24 VDC; 0.5 A; Low-side switching; Ribbon cable		706-7753/302-xxx (see page 452)		Relay Module; 8 channels T8S: 704-5003, 704-5013* or Input Module; 10-pole
DI/DO		750-1502	8-Channel Digital Input/ Output; 24 VDC; 0.5 A; Ribbon cable		706-7753/302-xxx (see page 452)		Input Module; 10-pole; T8ES: 289-611, 704-2003*
							Relay Module; 8 channels T8S: 704-5003, 704-5013* or Input Module; 10-pole
WAGO-I/O-SYSTEM 753				WAGO System Cables		WAGO Interface Modules	
I/O Module		Item No.		System Cable	Item No.	Interface Module	Item No.
DI		753-430	8 DI		706-7753/300-xxx (see page 453)		Input Module; 10-pole; T8ES: 289-611, 704-2003*
		753-431	8 DI				
		753-436	8 DI				
		753-437	8 DI				
DO		753-530	8 DO		706-7753/300-xxx (see page 453)		Relay Module; 8 channels T8S: 704-5003, 704-5013* or Input Module; 10-pole
		753-430 (x2)	2 x 8 DI		706-7753/301-xxx (see page 453)		Input Module; 20-pole; T16ES: 289-614, 704-2004, 704-2024, 704-2044, 704-2054*
		753-431 (x2)	2 x 8 DI				
		753-436 (x2)	2 x 8 DI				
DO		753-530 (x2)	2 x 8 DO		706-7753/301-xxx (see page 453)		Relay Module; 16 channels T16S: 704-5004, 704-5014, 704-5024, 704-5034, 704-5044, 704-5054, 704-5064, 704-5074* or Input Module; 20-pole

*For additional technical data, visit www.wago.com.

Interface Adapter for System Wiring



WAGO Interface Adapter, 857 Series

WAGO's Interface Adapter quickly connects the WAGO-I/O-SYSTEM (PLC) to 857 Series Relay/Optocoupler Modules via pre-assembled WAGO System Cables (706 Series).

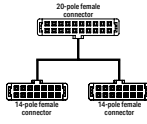
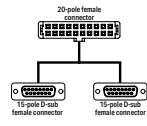
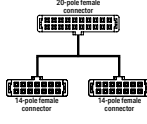
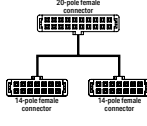
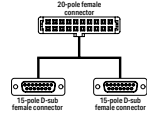
This eliminates cumbersome discrete wiring between 750 Series I/O Modules and 857 Series Relays/Optocouplers.

As a result, both installation time and costs are reduced.

Depending on the application, WAGO's Interface Adapters can be used with D-sub or ribbon cable connectors.

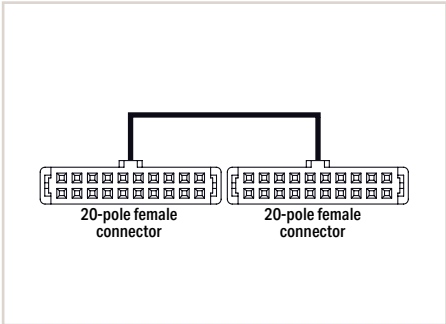
They feature both status indicator and integrated test ports for each channel.

The interface adapters are simply plugged into the 857 Series Relay/Optocoupler Modules via jumper slot. Furthermore, the WAGO Interface Adapter features locking devices for secure connection.

WAGO-I/O-SYSTEM 750				WAGO System Cables		WAGO Interface Adapters	
I/O Module		Item No.		System Cable	Item No.	Interface Adapter	Item No.
DI		750-1400	16-Channel Digital Input; 24 VDC; 3 ms; Ribbon cable		706-7753/304-xxx*		Item No.: 857-982*; Interface Adapter; 14-pole; High-side switching output
		750-1402	16-Channel Digital Input; 24 VDC; 3 ms; Low-side switching; Ribbon cable				
DO		750-1500	16-Channel Digital Output; 24 VDC; 0.5 A; Ribbon cable		706-7753/306-xxx*		Item No.: 857-986*; Interface Adapter; 15-pole; High-side switching input
		750-1501	16-Channel Digital Output; 24 VDC; 0.5 A; Low-side switching; Ribbon cable		706-7753/304-xxx*		Item No.: 857-981*; Interface Adapter; 14-pole; High-side switching input
DI/DO		750-1502	8DI 8DO 24 VDC 0.5 A; Ribbon cable		706-7753/304-xxx*		Item No.: 857-982*; Interface Adapter; 14-pole; High-side switching output
							Item No.: 857-981*; Interface Adapter; 14-pole; High-side switching input
						706-7753/306-xxx*	

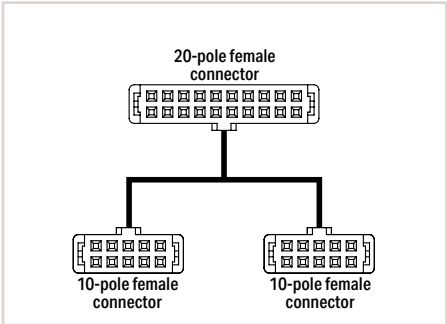
*For additional technical data, visit www.wago.com.

System Cable
for 289, 704 Series, in Connection with the WAGO-I/O-SYSTEM 750
706 Series



System Cable; for Schneider TSX; 16 digital inputs or outputs		
Length	Item No.	Pack. Unit
1 m	706-3057/300-100	1
2 m	706-3057/300-200	1
2 m (UL listed)	706-3057/1300-300	1
3 m	706-3057/300-300	1

WAGO's System Cables provide fast and easy connection of WAGO I/O Modules equipped with HE 10 pluggable connector (750-1400, -1402, -1500, -1501, -1502) to appropriate interface or relay modules (16-channel) featuring a 20-pole HE 10 pluggable connector.



System Cable; for WAGO-I/O-SYSTEM, 753 Series; 8 digital inputs and 8 digital outputs		
Length	Item No.	Pack. Unit
1 m	706-7753/302-100	1
2 m	706-7753/302-200	1

WAGO's System Cables provide fast and easy connection of WAGO I/O Modules equipped with HE 10 pluggable connector (750-1400, -1402, -1500, -1501, -1502) to appropriate interface or relay modules (16-channel) featuring a 10-pole HE 10 pluggable connector.
For example, this cable connects two relay modules (8-channel) to a WAGO I/O Module.

Technical Data	
Connectors	2 x 20-pole connector per DIN 41651
Wire cross section	0.14 mm2 LiYY
Color code	per DIN VDE 47100
Current per wire (max.)	1 A
Surrounding air temperature (operation)	-25 ... +70 °C
Protection type	IP20

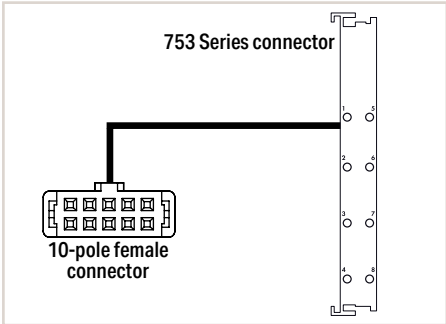
Connectors	2 x 20-pole connector per DIN 41651
Wire cross section	0.14 mm2 LiYY
Color code	per DIN VDE 47100
Current per wire (max.)	1 A
Surrounding air temperature (operation)	-25 ... +70 °C
Protection type	IP20

Connectors	1 x 20-pole / 2 x 10-pole connector per DIN 41651
Wire cross section	0.14 mm2 LiYY
Color code	per DIN VDE 47100
Current per wire (max.)	1 A
Surrounding air temperature (operation)	-25 ... +70 °C
Protection type	IP20

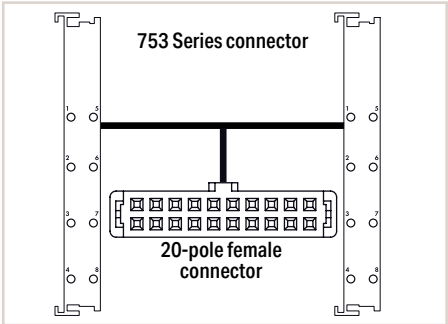
System Cable

for 289, 704 Series, in Connection with the WAGO-I/O-SYSTEM 753

706 Series



System Cable; for WAGO-I/O-SYSTEM, 753 Series; 8 digital inputs or outputs		
Length	Item No.	Pack. Unit
1 m	706-7753/300-100	1
2 m	706-7753/300-200	1



System Cable; for WAGO-I/O-SYSTEM, 753 Series; 16 digital inputs or outputs		
Length	Item No.	Pack. Unit
2 m	706-7753/301-200	1

WAGO's System Cables provide fast and easy connection of WAGO I/O Modules equipped with a pluggable connector (e.g., 753-430, -431, -530) to appropriate interface or relay modules featuring 10-pole connectors.

WAGO's System Cables provide fast and easy connection of WAGO I/O Modules equipped with a pluggable connector (e.g., 753-430, -431, -530) to appropriate interface or relay modules featuring 20-pole connectors. For example, this cable connects two WAGO I/O Modules to one relay output module (16-channel).

Technical Data	
Connectors	Plug (753 Series) / 10-pole connector per DIN 41651
Wire cross section	0.14 mm ² LiYY
Color code	per DIN VDE 47100
Current per wire (max.)	1 A
Surrounding air temperature (operation)	-25 ... +70 °C*
Protection type	IP20

Plug (753 Series) / 10-pole connector per DIN 41651
0.14 mm ² LiYY
per DIN VDE 47100
1 A
-25 ... +70 °C*
IP20

Plug (753 Series) / 20-pole connector per DIN 41651
0.14 mm ² LiYY
per DIN VDE 47100
1 A
-25 ... +70 °C*
IP20

* Observe the surrounding air temperature (operation) of the WAGO I/O Modules used.

IP67 Cables and Pluggable Connectors



The 756 Series offers a wide range of accessories for connecting inductive or capacitive proximity switches, photoelectric sensors, flow monitors, limit switches, pressure switches, etc. The cables not only protect against the ingress of dust and water, but also provide protection against self-loosening due to vibration in the form of a constructive "brake" due to the design of their coupling nuts. Injected cable entries also offer a kink protection function.

A distinction is made between cables assembled on one or both ends. Cables assembled on one end are often used where an exact cable length can not be determined or the installation of cables with connectors proves to be very difficult. These free-end cables therefore offer an individual possibility to adapt to the respective requirements as needed. In contrast, cables assembled on both sides reduce installation and installation times and therefore offer cost advantages in particular.

Sensor/Actuator Cable; Fitted on One End

M8 Socket



3-pole

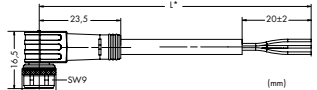
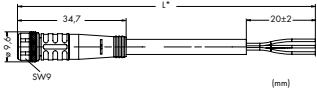
Pin 1 ... 4: 0.34 mm²

1 brown (+)

3 blue (-)

4 black (S)





M12 Socket



3-pole 4-pole 5-pole

Pin 1 ... 5: 0.34 mm²

1 brown (+)

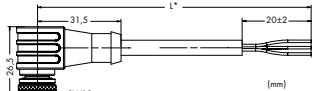
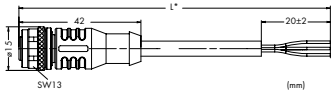
2 white (Ö)

3 blue (-)

4 black (S)

5 gray





Operating voltage	60 VAC/DC
Operating current	4 A (max.)
Rated surge voltage	1.5 kV
Drag chain suitability	≥ 2 million bending cycles
Surrounding air temperature (operation), dynamic	-25 ... +90 °C
Protection type	IP67
Cable diameter	4.1 mm ±0.2

Sensor/Actuator Cable; M8 socket (straight)			
Pole No.	Cable Length	Item No.	Pack. Unit
3-pole	1.5 m	756-5101/030-015	10
3-pole	5 m	756-5101/030-050	10
3-pole	10 m	756-5101/030-100	10

Sensor/Actuator Cable; M8 socket (angled)			
Pole No.	Cable Length	Item No.	Pack. Unit
3-pole	1.5 m	756-5102/030-015	10
3-pole	5 m	756-5102/030-050	10
3-pole	10 m	756-5102/030-100	10

Operating voltage	250 VAC/DC
Operating current	4 A (max.)
Rated surge voltage	2.5 kV (3-, 4-pole); 1.5 kV (5-pole)
Drag chain suitability	≥ 2 million bending cycles
Surrounding air temperature (operation), dynamic	-25 ... +90 °C
Protection type	IP67
Cable diameter	4.3 mm ±0.2 (3-pole); 4.7 mm ±0.2 (4-pole); 5.0 mm ±0.2 (5-pole); 6.5 mm ±0.2 (5-pole; shielded)

Sensor/Actuator Cable; M12 socket (straight)			
Pole No.	Cable Length	Item No.	Pack. Unit
3-pole	1.5 m	756-5301/030-015	10
3-pole	5 m	756-5301/030-050	10
3-pole	10 m	756-5301/030-100	10
4-pole	1.5 m	756-5301/040-015	10
4-pole	5 m	756-5301/040-050	10
4-pole	10 m	756-5301/040-100	10
5-pole	1.5 m	756-5301/050-015	10
5-pole	5 m	756-5301/050-050	10
5-pole	10 m	756-5301/050-100	10
5-pole; shielded	1.5 m	756-5301/060-015	10
5-pole; shielded	5 m	756-5301/060-050	10
5-pole; shielded	10 m	756-5301/060-100	10

Sensor/Actuator Cable; M12 socket (angled)			
Pole No.	Cable Length	Item No.	Pack. Unit
3-pole	1.5 m	756-5302/030-015	10
3-pole	5 m	756-5302/030-050	10
3-pole	10 m	756-5302/030-100	10
4-pole	1.5 m	756-5302/040-015	10
4-pole	5 m	756-5302/040-050	10
4-pole	10 m	756-5302/040-100	10
5-pole	1.5 m	756-5302/050-015	10
5-pole	5 m	756-5302/050-050	10
5-pole	10 m	756-5302/050-100	10
5-pole; shielded	1.5 m	756-5302/060-015	10
5-pole; shielded	5 m	756-5302/060-050	10
5-pole; shielded	10 m	756-5302/060-100	10

Sensor/Actuator Cable; Fitted on One End

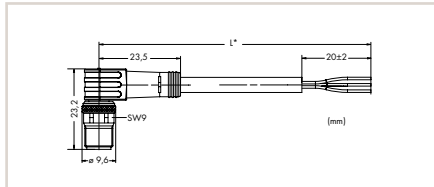
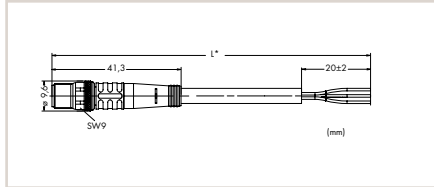
M8 Plug



3-pole

Pin 1 ... 4: 0.34 mm²

- 1 brown (+)
- 3 blue (-)
- 4 black (S)



M12 Plug



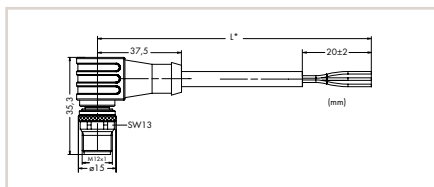
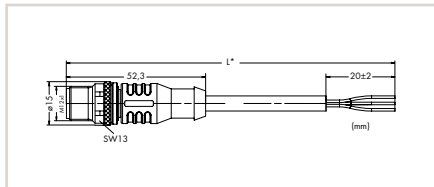
3-pole (Pin 2: n.c.)
4-pole



5-pole

Pin 1 ... 5: 0.34 mm²

- 1 brown (+)
- 2 white (Ö)
- 3 blue (-)
- 4 black (S)
- 5 gray



Operating voltage	60 VAC/DC
Operating current	4 A (max.)
Rated surge voltage	1.5 kV
Drag chain suitability	≥ 2 million bending cycles
Surrounding air temperature (operation), dynamic	-25 ... +90 °C
Protection type	IP67
Cable diameter	4.1 mm ±0.2

Sensor/Actuator Cable; M8 plug (straight)

Pole No.	Cable Length	Item No.	Pack. Unit
3-pole	1.5 m	756-5111/030-015	10
3-pole	5 m	756-5111/030-050	10
3-pole	10 m	756-5111/030-100	10

Sensor/Actuator Cable; M8 plug (angled)

Pole No.	Cable Length	Item No.	Pack. Unit
3-pole	1.5 m	756-5112/030-015	10
3-pole	5 m	756-5112/030-050	10
3-pole	10 m	756-5112/030-100	10

Operating voltage	250 VAC/DC
Operating current	4 A (max.)
Rated surge voltage	2.5 kV (3-, 4-pole); 1.5 kV (5-pole)
Drag chain suitability	≥ 2 million bending cycles
Surrounding air temperature (operation), dynamic	-25 ... +90 °C
Protection type	IP67
Cable diameter	4.3 mm ±0.2 (3-pole); 4.7 mm ±0.2 (4-pole); 5.0 mm ±0.2 (5-pole); 6.5 mm ±0.2 (5-pole; shielded)

Sensor/Actuator Cable; M12 plug (straight)

Pole No.	Cable Length	Item No.	Pack. Unit
3-pole	1.5 m	756-5311/030-015	10
3-pole	5 m	756-5311/030-050	10
3-pole	10 m	756-5311/030-100	10
4-pole	1.5 m	756-5311/040-015	10
4-pole	5 m	756-5311/040-050	10
4-pole	10 m	756-5311/040-100	10
5-pole	1.5 m	756-5311/050-015	10
5-pole	5 m	756-5311/050-050	10
5-pole	10 m	756-5311/050-100	10
5-pole; shielded	1.5 m	756-5311/060-015	10
5-pole; shielded	5 m	756-5311/060-050	10
5-pole; shielded	10 m	756-5311/060-100	10

Sensor/Actuator Cable; M12 plug (angled)

Pole No.	Cable Length	Item No.	Pack. Unit
3-pole	1.5 m	756-5312/030-015	10
3-pole	5 m	756-5312/030-050	10
3-pole	10 m	756-5312/030-100	10
4-pole	1.5 m	756-5312/040-015	10
4-pole	5 m	756-5312/040-050	10
4-pole	10 m	756-5312/040-100	10
5-pole	1.5 m	756-5312/050-015	10
5-pole	5 m	756-5312/050-050	10
5-pole	10 m	756-5312/050-100	10
5-pole; shielded	1.5 m	756-5312/060-015	10
5-pole; shielded	5 m	756-5312/060-050	10
5-pole; shielded	10 m	756-5312/060-100	10

Sensor/Actuator Cable; Fitted on One End

M12 Plug

8-pole, shielded

Pin 1 ... 8: 0.25 mm²

1	white
2	brown
3	green
4	yellow
5	gray
6	rose
7	blue
8	red
Shield	

Operating voltage	250 VAC/DC
Operating current	4 A (max.)
Rated surge voltage	1.5 kV
Drag chain suitability	≥ 2 million bending cycles
Surrounding air temperature (operation), dynamic	-25 ... +90 °C
Protection type	IP67
Cable diameter	6.3 mm ±0.2

SW13

SW13

Sensor/Actuator Cable; M12 plug (straight)			
Pole No.	Cable Length	Item No.	Pack. Unit
8-pole; shielded	1.5 m	756-5311/090-015	10
8-pole; shielded	5 m	756-5311/090-050	10
8-pole; shielded	10 m	756-5311/090-100	10

Sensor/Actuator Cable; M12 plug (angled)			
Pole No.	Cable Length	Item No.	Pack. Unit
8-pole; shielded	1.5 m	756-5312/090-015	10
8-pole; shielded	5 m	756-5312/090-050	10
8-pole; shielded	10 m	756-5312/090-100	10

Sensor/Actuator Cable; Fitted on both ends

M8 Socket	M8 Plug	
		Pin 1 ... 4: 0.34 mm ²
		1 brown (+)
		3 blue (-)
		4 black (S)
3-pole	3-pole	

Operating voltage	60 VAC/DC
Operating current	4 A (max.)
Rated surge voltage	1.5 kV
Drag chain suitability	≥ 2 million bending cycles
Surrounding air temperature (operation), dynamic	-25 ... +90 °C
Protection type	IP67
Cable diameter	4.1 mm ±0.2

Sensor/Actuator Cable; M8 socket (straight) – M8 plug (straight)

Pole No.	Cable Length	Item No.	Pack. Unit
3-pole	1 m	756-5201/030-010	10
3-pole	2 m	756-5201/030-020	10

Sensor/Actuator Cable; M8 socket (straight) – M8 plug (angled)

Pole No.	Cable Length	Item No.	Pack. Unit
3-pole	1 m	756-5202/030-010	10
3-pole	2 m	756-5202/030-020	10

Sensor/Actuator Cable; M8 socket (angled) – M8 plug (straight)

Pole No.	Cable Length	Item No.	Pack. Unit
3-pole	1 m	756-5203/030-010	10
3-pole	2 m	756-5203/030-020	10

Sensor/Actuator Cable; M8 socket (angled) – M8 plug (angled)

Pole No.	Cable Length	Item No.	Pack. Unit
3-pole	1 m	756-5204/030-010	10
3-pole	2 m	756-5204/030-020	10

Operating voltage	60 VAC/DC
Operating current	4 A (max.)
Rated surge voltage	1.5 kV
Drag chain suitability	≥ 2 million bending cycles
Surrounding air temperature (operation), dynamic	-25 ... +90 °C
Protection type	IP67
Cable diameter	4.1 mm ±0.2

Sensor/Actuator Cable; M8 socket (straight) – M12 plug (straight)

Pole No.	Cable Length	Item No.	Pack. Unit
3-pole	1 m	756-5507/030-010	10
3-pole	2 m	756-5507/030-020	10
4-pole	1 m	756-5507/040-010	10
4-pole	2 m	756-5507/040-020	10

Sensor/Actuator Cable; M8 socket (straight) – M12 plug (angled)

Pole No.	Cable Length	Item No.	Pack. Unit
3-pole	1 m	756-5508/030-010	10
3-pole	2 m	756-5508/030-020	10
4-pole	1 m	756-5508/040-010	10
4-pole	2 m	756-5508/040-020	10

M8 Socket	M12 Plug	
		Pin 1 ... 4: 0.34 mm ²
		1 brown (+)
		2 white (Ö)
		3 blue (-)
		4 black (S)
3-pole	3-pole (Pin 2: n.c.)	
		
4-pole	4-pole	

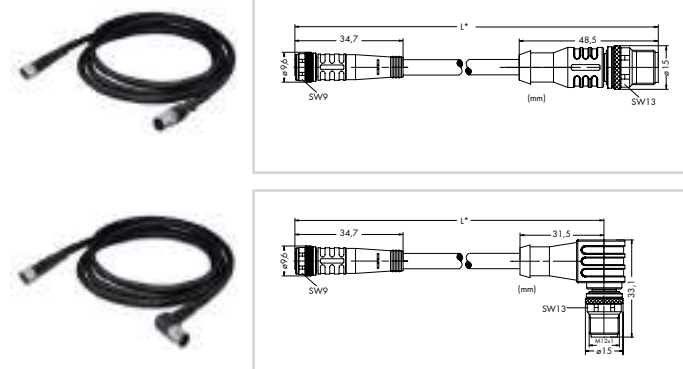
Operating voltage	60 VAC/DC
Operating current	4 A (max.)
Rated surge voltage	1.5 kV
Drag chain suitability	≥ 2 million bending cycles
Surrounding air temperature (operation), dynamic	-25 ... +90 °C
Protection type	IP67
Cable diameter	4.1 mm ±0.2

Sensor/Actuator Cable; M8 socket (straight) – M12 plug (straight)

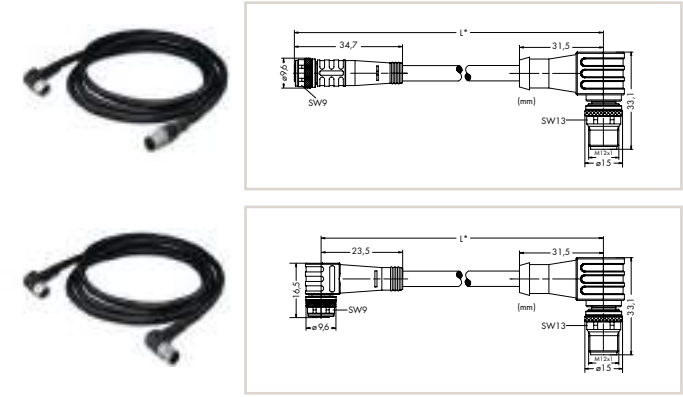
Pole No.	Cable Length	Item No.	Pack. Unit
3-pole	1 m	756-5507/030-010	10
3-pole	2 m	756-5507/030-020	10
4-pole	1 m	756-5507/040-010	10
4-pole	2 m	756-5507/040-020	10

Sensor/Actuator Cable; M8 socket (straight) – M12 plug (angled)

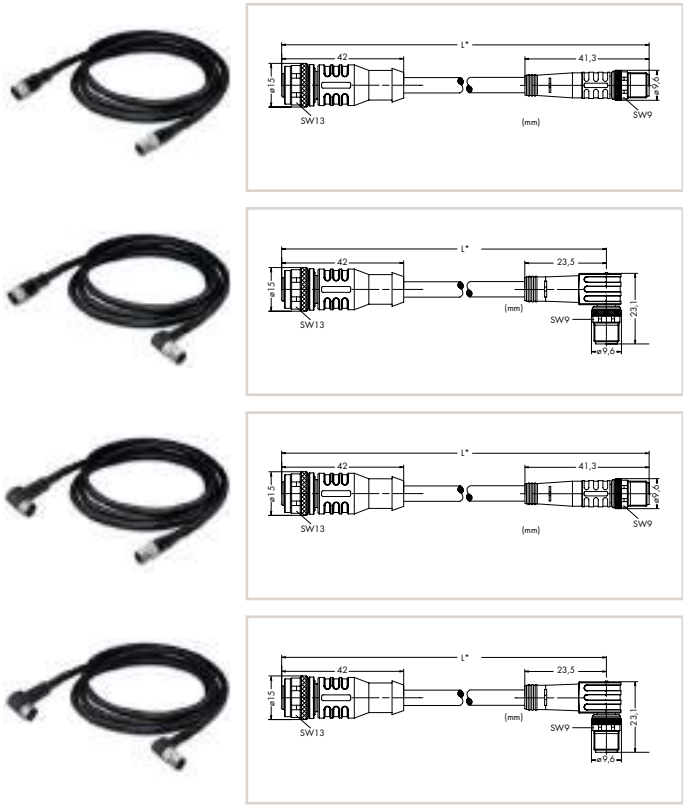
Pole No.	Cable Length	Item No.	Pack. Unit
3-pole	1 m	756-5508/030-010	10
3-pole	2 m	756-5508/030-020	10
4-pole	1 m	756-5508/040-010	10
4-pole	2 m	756-5508/040-020	10



Sensor/Actuator Cable; Fitted on both ends



M12 Socket	M8 Plug	
		Pin 1 ... 4: 0.34 mm ²
3-pole	3-pole	1 brown (+)
		3 blue (-)
		4 black (S)



Sensor/Actuator Cable; M8 socket (angled) – M12 plug (straight)			
Pole No.	Cable Length	Item No.	Pack. Unit
3-pole	1 m	756-5509/030-010	10
3-pole	2 m	756-5509/030-020	10
4-pole	1 m	756-5509/040-010	10
4-pole	2 m	756-5509/040-020	10

Sensor/Actuator Cable; M8 socket (angled) – M12 plug (angled)			
Pole No.	Cable Length	Item No.	Pack. Unit
3-pole	1 m	756-5510/030-010	10
3-pole	2 m	756-5510/030-020	10
4-pole	1 m	756-5510/040-010	10
4-pole	2 m	756-5510/040-020	10

Operating voltage	60 VAC/DC
Operating current	4 A (max.)
Rated surge voltage	1.5 kV
Drag chain suitability	≥ 2 million bending cycles
Surrounding air temperature (operation), dynamic	-25 ... +90 °C
Protection type	IP67
Cable diameter	4.1 mm ±0.2

Sensor/Actuator Cable; M12 socket (straight) – M8 plug (straight)			
Pole No.	Cable Length	Item No.	Pack. Unit
3-pole	1 m	756-5501/030-010	10
3-pole	2 m	756-5501/030-020	10

Sensor/Actuator Cable; M12 socket (straight) – M8 plug (angled)			
Pole No.	Cable Length	Item No.	Pack. Unit
3-pole	1 m	756-5502/030-010	10
3-pole	2 m	756-5502/030-020	10

Sensor/Actuator Cable; M12 socket (angled) – M8 plug (straight)			
Pole No.	Cable Length	Item No.	Pack. Unit
3-pole	1 m	756-5503/030-010	10
3-pole	2 m	756-5503/030-020	10

Sensor/Actuator Cable; M12 socket (angled) – M8 plug (angled)			
Pole No.	Cable Length	Item No.	Pack. Unit
3-pole	1 m	756-5504/030-010	10
3-pole	2 m	756-5504/030-020	10

Sensor/Actuator Cable; Fitted on both ends

M12 Socket



3-pole (Pin 2: n.c.)
4-pole



5-pole

M12 Plug



3-pole (Pin 2: n.c.)
4-pole



5-pole

Pin 1 ... 5: 0.34 mm²

- 1 brown (+)
- 2 white (Ö)
- 3 blue (-)
- 4 black (S)
- 5 gray

Operating voltage	250 VAC/DC
Operating current	4 A (max.)
Rated surge voltage	2.5 kV (3-, 4-pole); 1.5 kV (5-pole)
Drag chain suitability	≥ 2 million bending cycles
Surrounding air temperature (operation), dynamic	-25 ... +90 °C
Protection type	IP67
Cable diameter	4.3 mm ±0.2 (3-pole); 4.7 mm ±0.2 (4-pole); 5.0 mm ±0.2 (5-pole); 6.5 mm ±0.2 (5-pole; shielded)

Sensor/Actuator Cable; M12 socket (straight) – M12 plug (straight)

Pole No.	Cable Length	Item No.	Pack. Unit
3-pole	1 m	756-5401/030-010	10
3-pole	2 m	756-5401/030-020	10
4-pole	1 m	756-5401/040-010	10
4-pole	2 m	756-5401/040-020	10
5-pole	1 m	756-5401/050-010	10
5-pole	2 m	756-5401/050-020	10
5-pole; shielded	1 m	756-5401/060-010	10
5-pole; shielded	2 m	756-5401/060-020	10

Sensor/Actuator Cable; M12 socket (straight) – M12 plug (angled)

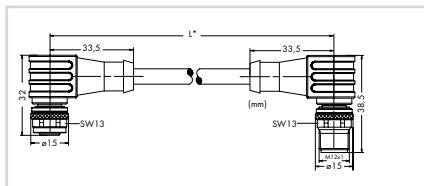
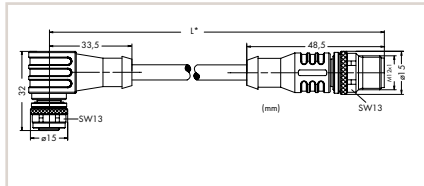
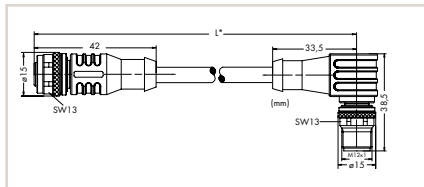
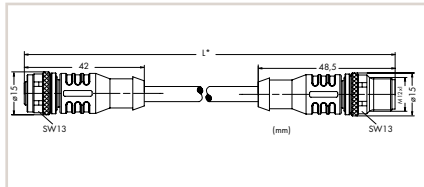
Pole No.	Cable Length	Item No.	Pack. Unit
3-pole	1 m	756-5402/030-010	10
3-pole	2 m	756-5402/030-020	10
4-pole	1 m	756-5402/040-010	10
4-pole	2 m	756-5402/040-020	10
5-pole	1 m	756-5402/050-010	10
5-pole	2 m	756-5402/050-020	10
5-pole; shielded	1 m	756-5402/060-010	10
5-pole; shielded	2 m	756-5402/060-020	10

Sensor/Actuator Cable; M12 socket (angled) – M12 plug (straight)

Pole No.	Cable Length	Item No.	Pack. Unit
3-pole	1 m	756-5403/030-010	10
3-pole	2 m	756-5403/030-020	10
4-pole	1 m	756-5403/040-010	10
4-pole	2 m	756-5403/040-020	10
5-pole	1 m	756-5403/050-010	10
5-pole	2 m	756-5403/050-020	10
5-pole; shielded	1 m	756-5403/060-010	10
5-pole; shielded	2 m	756-5403/060-020	10

Sensor/Actuator Cable; M12 socket (angled) – M12 plug (angled)

Pole No.	Cable Length	Item No.	Pack. Unit
3-pole	1 m	756-5404/030-010	10
3-pole	2 m	756-5404/030-020	10
4-pole	1 m	756-5404/040-010	10
4-pole	2 m	756-5404/040-020	10
5-pole	1 m	756-5404/050-010	10
5-pole	2 m	756-5404/050-020	10
5-pole; shielded	1 m	756-5404/060-010	10
5-pole; shielded	2 m	756-5404/060-020	10



Sensor/Actuator Cable; Fitted on Both Ends; Distribution Connector

2 x M8 socket

M12 Plug

Socket 1

Socket 2

Plug

Operating voltage	60 VAC/DC
Operating current	4 A (max.)
Rated surge voltage	1.5 kV
Drag chain suitability	≥ 2 million bending cycles
Surrounding air temperature (operation), dynamic	-25 ... +90 °C
Protection type	IP67
Cable diameter	4.1 mm ±0.2

Sensor/Actuator Cable; 2 x M8 socket (straight) – M12 plug (straight)			
Pole No.	Cable Length	Item No.	Pack. Unit
4-pole	1 m	756-5513/040-010	10
4-pole	2 m	756-5513/040-020	10

Sensor/Actuator Cable; 2 x M8 socket (angled) – M12 plug (straight)			
Pole No.	Cable Length	Item No.	Pack. Unit
4-pole	1 m	756-5514/040-010	10
4-pole	2 m	756-5514/040-020	10

2 x M12 Socket

M12 Plug

Socket 1

Socket 2

Plug

Operating voltage	250 VAC/DC
Operating current	4 A (max.)
Rated surge voltage	2.5 kV
Drag chain suitability	≥ 2 million bending cycles
Surrounding air temperature (operation), dynamic	-25 ... +90 °C
Protection type	IP67
Cable diameter	4.7 mm ±0.2

Sensor/Actuator Cable; 2 x M12 socket (straight) – M12 plug (straight)			
Pole No.	Cable Length	Item No.	Pack. Unit
4-pole	1 m	756-5516/040-010	10
4-pole	2 m	756-5516/040-020	10

Sensor/Actuator Cable; 2 x M12 socket (angled) – M12 plug (straight)			
Pole No.	Cable Length	Item No.	Pack. Unit
4-pole	1 m	756-5517/040-010	10
4-pole	2 m	756-5517/040-020	10

Buchse 1

Buchse 2

Stecker

Buchse 1

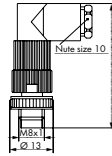
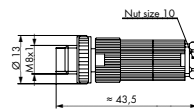
Buchse 2

Stecker

Distribution Connector M8/M12			Item No.	Pack. Unit
Accessories; M12/M8 Distribution Connector			756-9301/040-000	1

Distribution Connector M12/M12			Item No.	Pack. Unit
Accessories; M12/M12 Distribution Connector			756-9301/050-000	1

Configurable Connectors

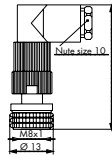
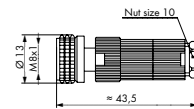


3-pole

Connectable cable:
 $\varnothing 4 \dots 5 \text{ mm}$
 $0.14 \dots 0.34 \text{ mm}^2$

M8 Plug, Straight and Angled

	Item No.	Pack. Unit
Configurable Connectors; 3-pole; M8 plug (straight); IDC technology	756-9102/030-000	5
Configurable Connectors; 3-pole; M8 plug (angled); IDC technology	756-9105/030-000	5

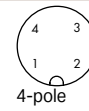
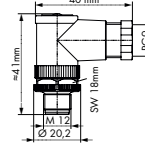
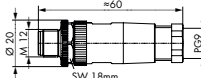


3-pole

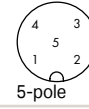
Connectable cable:
 $\varnothing 4 \dots 5 \text{ mm}$
 $0.14 \dots 0.34 \text{ mm}^2$

M8 Socket, Straight and Angled

	Item No.	Pack. Unit
Configurable Connectors; 3-pole; M8 socket (straight); IDC technology	756-9112/030-000	5
Configurable Connectors; 3-pole; M8 socket (angled); IDC technology	756-9115/030-000	5



4-pole

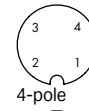
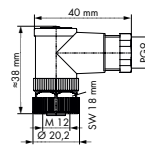
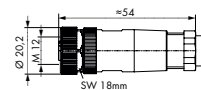


5-pole

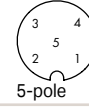
Connectable cable:
 $\varnothing 4 \dots 6 \text{ mm}/0.25 \dots 0.75 \text{ mm}^2$
 (Screw clamp technology)
 $\varnothing 4 \dots 6 \text{ mm}/0.14 \dots 0.50 \text{ mm}^2$
 (Spring clamp technology)

M12 Plug, Straight and Angled

	Item No.	Pack. Unit
Configurable Connectors; 4-pole; M12 plug (straight); Screw connection technology	756-9201/040-000	5
Configurable Connectors; 4-pole; M12 plug (angled); Screw connection technology	756-9204/040-000	5
Configurable Connectors; 4-pole; M12 plug (straight); Spring clamp technology	756-9202/040-000	5
Configurable Connectors; 4-pole; M12 plug (angled); Spring clamp technology	756-9205/040-000	5
Configurable Connectors; 5-pole; M12 plug (straight); Screw connection technology	756-9201/050-000	5
Configurable Connectors; 5-pole; M12 plug (angled); Screw connection technology	756-9204/050-000	5
Configurable Connectors; 5-pole; M12 plug (straight); Spring clamp technology	756-9202/050-000	5
Configurable Connectors; 5-pole; M12 plug (angled); Spring clamp technology	756-9205/050-000	5



4-pole



5-pole

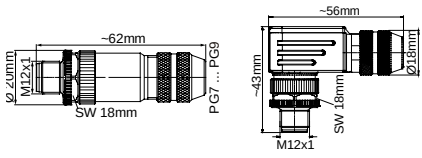
Connectable cable:
 $\varnothing 4 \dots 6 \text{ mm}/0.25 \dots 0.75 \text{ mm}^2$
 (Screw clamp technology)
 $\varnothing 4 \dots 6 \text{ mm}/0.14 \dots 0.50 \text{ mm}^2$
 (Spring clamp technology)

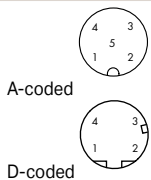
M12 Socket, Straight and Angled

	Item No.	Pack. Unit
Configurable Connectors; 4-pole; M12 socket (straight); Screw connection technology	756-9211/040-000	5
Configurable Connectors; 4-pole; M12 socket (angled); Screw connection technology	756-9214/040-000	5
Configurable Connectors; 4-pole; M12 socket (straight); Spring clamp technology	756-9212/040-000	5
Configurable Connectors; 4-pole; M12 socket (angled); Spring clamp technology	756-9215/040-000	5
Configurable Connectors; 5-pole; M12 socket (straight); Spring clamp technology	756-9212/050-000	5
Configurable Connectors; 5-pole; M12 socket (angled); Spring clamp technology	756-9215/050-000	5

Configurable Shielded Connectors







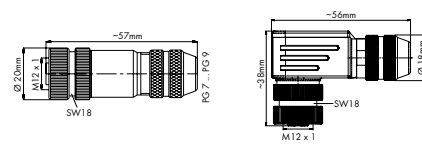
A-coded

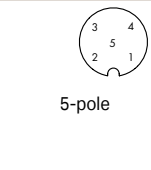
D-coded

Connectable cable:
Ø 6 ... 8 mm
0.14 ... 0.5 mm²

M12 Plug, Straight and Angled		
	Item No.	Pack. Unit
Configurable Connectors; 5-pole; Shielded; M12 plug (straight); A-coded; Spring clamp technology	756-9207/060-000	1
Configurable Connectors; 4-pole; Shielded; M12 plug (straight); D-coded; Spring clamp technology	756-9501/060-000	1
Configurable Connectors; 5-pole; Shielded; M12 plug (angled); A-coded; Spring clamp technology	756-9211/060-000	1
Configurable Connectors; 4-pole; Shielded; M12 plug (angled); D-coded; Spring clamp technology	756-9501/040-000	1





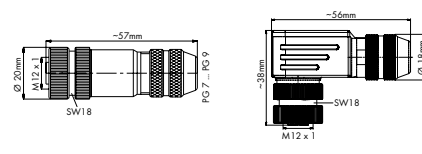


5-pole

Connectable cable:
Ø 6 ... 8 mm
0.14 ... 0.5 mm²

M12 Socket, Straight and Angled		
	Item No.	Pack. Unit
Configurable Connectors; 5-pole; Shielded; M12 socket (straight); Spring clamp technology	756-9208/060-000	1
Configurable Connectors; 5-pole; Shielded; M12 socket (angled); Spring clamp technology	756-9210/060-000	1





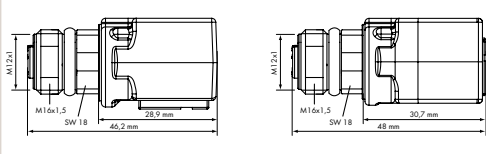


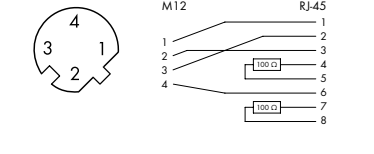
8-pole

Connectable cable:
Ø 6 ... 8 mm
0.14 ... 0.75 mm²

M12 Socket, Straight and Angled		
	Item No.	Pack. Unit
Configurable Connectors; 8-pole; Shielded; M12 socket (straight); Screw connection technology	756-9211/090-000	1
Configurable Connectors; 8-pole; Shielded; M12 socket (angled); Screw connection technology	756-9214/090-000	1







M12

RJ-45

Adapter M12 Socket/ RJ-45 Socket		
	Item No.	Pack. Unit
Adapter M12 socket; D-coded/ RJ-45 socket; angled	756-9503/040-000	1
Adapter M12 socket; D-coded/ RJ-45 socket; straight	756-9504/040-000	1





A-coded

B-coded

M12 Panel Feed-through Connector		
	Item No.	Pack. Unit
M12 panel feed-through connector; 4-pole; M12 socket; A-coded	756-9217/050-000	1
M12 panel feed-through connector; 5-pole; M12 socket; B-coded	756-9406/050-000	1

Torque Wrench M8 and M12; Assembly Kit



Assembly kit for pre-assembled IP67 cables and hex nut connectors (756 Series), consists of:

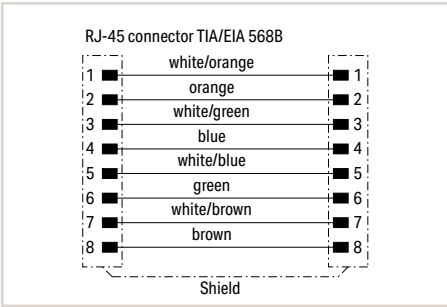
- Tool kit
- Torque screwdriver with adjustable torque (window scale)
- Adjustment tool for changing the torque
- Socket wrench SW9 (for M8 cable assemblies)
- Socket wrench SW13 (for M12 cable assemblies)

A torque specification of 0.6 Nm for M8 connectors and 1.0 Nm for M12 connectors is required for 756 Series Cables and Connectors.

Torque Wrench M8 and M12; Assembly Kit			Torque range	0,4 ... 1 Nm ±6 %
			Material	
			Handle	Polypropylene (PP) for hard zone; Thermoplastic elastomers (TPE) for soft zone
			Allen key	Polyamide (PA), glass-fiber-reinforced; Chrome-vanadium-molybdenum steel (CrMoV) (1.2381)
			Adjustment tool	Cellulose acetate; Chrome-vanadium-molybdenum steel (CrMoV) (1.2381)
			Color	Black
			Standards/specifications	EN ISO 6789; BS EN 26789; ASME B107.14.M

Torque Wrench M8 and M12; Assembly Kit		
	Item No.	Pack. Unit
	206-701	1

ETHERNET Cable; Cat. 6A S/FTP



Item Description
Version

ETHERNET Cable; Cat. 6A; RJ-45; RJ-45		
Cable Length	Item No.	Pack. Unit
0.5 m	756-1250/1013-005	1
1 m	756-1250/1013-010	1
2 m	756-1250/1013-020	1
3 m	756-1250/1013-030	1
5 m	756-1250/1013-050	1
7.5 m	756-1250/1013-075	1
10 m	756-1250/1013-100	1

ETHERNET Cable; Cat. 6A; RJ-45; RJ-45		
Axial unlocking		
Cable Length	Item No.	Pack. Unit
0.5 m	756-1250/1023-005	1
1 m	756-1250/1023-010	1
2 m	756-1250/1023-020	1
3 m	756-1250/1023-030	1
5 m	756-1250/1023-050	1
7.5 m	756-1250/1023-075	1
10 m	756-1250/1023-100	1

Technical Data	
Transmission	10 Gbit/s (500 MHz)
Operating voltage	80 V
Operating current	720 mA
Rated surge voltage	500 V (wire/wire/screen rms 50 Hz 1 min)
Insulation resistance	≥ 1x108 Ωxkm
Resistance of conductor	< 142 Ω/km
Surrounding air temperature (operation)	−40 ... +80 °C (static and moving)
Bending radius	10 mm (min.)
Bending cycles	≥ 8500
Cable	S/FTP 4x2xAWG26/7
Overall shield	Overlapped aluminum-laminated foil and tinned copper braid (PiMF)
Conductor	Bare copper wire (7 x 0.16 mm)
Conductor insulation	Halogen-free PE
Outer jacket	LSOH TPE; halogen-free per IEC 60754-2; flame-retardant per IEC 60332-1; low-smoke per IEC 61034
Color	Green (RAL 6018)
Cable diameter	Ø 6.2 mm ±0.2
Plug	2 x Cat. 6A RJ-45
Contact material	CuZn
Contact plating	CuNi/Au; 50 µin gold plating
Mech. service life	> 1200 mating cycles
Data sheet and further information, see:	wago.com/756-1250

- Short description:
- Halogen-free TPE
 - Cat. 6A S/FTP
 - Highly flexible
 - 50 µin gold plating in the contact area
 - Mechanically/electrically tested
 - 4C Channel Link Test
 - Wrap-around label for clear traceability
 - Easy plug unlocking (756-1250/1023-xxx)

Bluetooth® Adapter



Item Description	Bluetooth® Adapter
Item No.	750-921
Order Text	Bluetooth® Adapter
Technical Data	
Transmission range	20 m in open air (Class 2)*
Data transmission rate	9600 ... 115000 bit/s
Frequency range	ISM band; 2402 ... 2483 MHz
Type of communication	Peer-to-peer connection
Supported profiles	Serial Port Profile (SPP)
Radio technology	Bluetooth® 2.1
Antenna	Integrated
Connectors	4-pole service connectors
Configuration	AT commands (e.g., via HyperTerminal)
Function	Master or slave
LED	Operating mode
Security encryption	128-bit encryption
Surrounding air temperature (operation)	-20 ... +60 °C
Dimensions W x H x D	15 x 50 x 19 mm
Approvals	Bluetooth® approval; 1
Data sheet and further information, see:	wago.com/750-921

The *Bluetooth®* Adapter wirelessly connects a notebook computer with *Bluetooth®* functionality to the service interface of the fieldbus coupler/ controller. It also provides an active connection to a controller.

As a cable substitute, the *Bluetooth®* Adapter allows communication between two controllers, as well as between fieldbus couplers/controllers via WAGO Software Tools.

The adapter is supplied via both service interface and power supply of the coupler/controller.

*The maximum range in the field decreases within buildings and varies depending on building materials and spatial geometry. Therefore, range specifications within buildings can only represent a typical value that can normally be achieved. More detailed information is available in the manual.

WAGO Communication Cables



Item Description	RS-232 Communication Cable; RS-232 (D-sub; 9-pole); Service Interface I/O System 750
Item No.	750-920
Order Text	Communication Cable
Technical Data	
Connectors	4-pole service connectors
Cable Length	2.5 m
Surrounding air temperature (operation)	0 ... +55 °C
Protection type	IP20
Data sheet and further information, see:	wago.com/750-920

This communication cable connects the engineering software to the controller or fieldbus coupler.

NOTICE: The communication cable must not be connected or removed when energized.



Item Description	USB Communication Cable; USB-A; Service Interface I/O System 750	
Version	2.5 m	5 m
Item No.	750-923	750-923/000-001
Order Text	CONF-CABLE; USB; 2.5m	CONF-CABLE; USB; 5m
Technical Data		
USB specification	2.0 compatible/full-speed device	
Operating system	Microsoft® Windows® 2000; Microsoft® Windows® XP Professional; Microsoft® Windows® Vista®; Microsoft® Windows® 7	
USB interface	Type A/m	
Cable Length	2.5 m	5 m
Surrounding air temperature (operation)	-25 ... +70 °C	
Approvals	CE	
Data sheet and further information, see:	wago.com/750-923	

This USB communication cable connects the engineering software to the controller or fieldbus coupler.

Notice: A specific firmware version is required to connect the 750-923 USB Communication Cable to some particular controllers.

Memory Cards



Item Description	Memory Card microSD; SLC-NAND; 2 GB; Temperature range: -40 ... +90 °C	Memory Card SD; SLC-NAND; 2 GB; Temperature range: -40 ... +90 °C
Item No.	758-879/000-3102	758-879/000-001
Technical Data		
Memory	2 GB (SLC)	2 GB (SLC)
Read/write cycles (max.)	17 MB/s / 20 MB/s	16 Mb/s / 22 Mb/s
MTBF	4,000,000 hrs.	4,000,000 hrs.
service life	2,000,000 program/operating cycles	2,000,000 program/operating cycles
Surrounding air temperature (operation)	-40 ... +90 °C	-45 ... +90 °C
Surrounding air temperature (storage)	-40 ... +90 °C	-45 ... +90 °C
Relative humidity	95 %; non condensing	95 %; non condensing
Dimensions W x H x D	15 x 11 x 1 mm	24 x 32 x 2.1 mm
Vibration resistance	15g	15g
Shock resistance	50g	50g (operating), 1000g (not operating)
Data transmission rate	Up to 20 MB/s	Up to 22 MB/s

Antennas



Self-Adhesive Antenna; with 2.5 m cable and SMA straight plug; GSM/UMTS/LTE/Bluetooth®/WLAN; 699-960, 1710-2690 MHz	
Item No.	758-961
Technical Data	
Frequency band	699 ... 960 MHz 1710 ... 2690 MHz
Dimensions W x H	117 x 12 mm
Cable length	2.5 m
Cable type	RG174
Gain	2.15 dBi
VSWR	< 1.5
Connector	SMA straight plug



Theft-Proof Antenna; with 1 m cable and SMA straight plug; GSM/UMTS/BT/WLAN; 850/900/1800/1900/2100/2400 MHz	
Item No.	758-962
Technical Data	
Frequency band	850 / 900 / 1800 / 1900 / 2100 MHz
Dimensions W x H	29 x 52 mm
Cable length	1 m
Cable type	RG174
Gain	2 dBi
VSWR	< 2
Connector	SMA straight plug



Rod Antenna; with 1 m cable and SMA straight plug; GSM UMTS; 850/900/1800/1900/2100 MHz	
Item No.	758-963
Technical Data	
Frequency band	850 / 900 / 1800 / 1900 / 2100 MHz
Dimensions (height)	298 mm
Cable length	1 m
Cable type	RG58
Gain	2.2 dBi
VSWR	< 1.6
Connector	SMA straight plug



Magnetic-Mount Antenna; with 2.5 m cable and SMA straight plug; GSM UMTS; 850/900/1800/1900/2100 MHz	
Item No.	758-965
Technical Data	
Frequency band	850 / 900 / 1800 / 1900 / 2100 MHz
Dimensions (height)	88 mm
Cable length	2.5 m
Cable type	RG174
Gain	2.2 dBi
VSWR	< 2
Connector	SMA straight plug

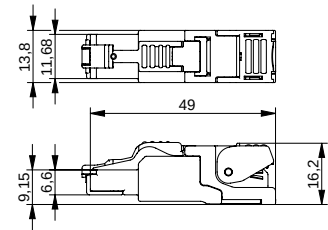
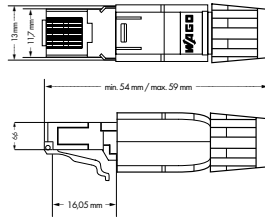
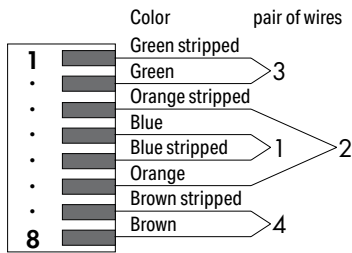


Theft-Proof Combination Antenna; with 2.5 m cable and SMA straight plug; GSM UMTS; 850/900/1800/1900/2100 MHz	
Item No.	758-966
Technical Data	
Frequency band	850 / 900 / 1800 / 1900 / 2100 MHz
Dimensions W x H	29 x 52 mm
Cable length	2.5 m
Cable type	RG174
Gain	2 dBi
VSWR	< 2
Connector	SMA straight plug

ETHERNET Connector; Code T568A



Pin assignment TIA-568A



Item Description

Version

Item No.

Order Text

ETHERNET Connector; RJ-45; Cat. 5; Straight; Code T568A

AWG22

750-975

Connector ETHERNET; RJ45; Cat.5; 180°; T568A
AWG22

ETHERNET Connector; RJ-45; Cat. 6A; Straight; Code T568A

AWG22

750-977/000-011

Connector ETHERNET;
RJ-45; Cat.6A; 180°;
T568A; AGW22

AWG24

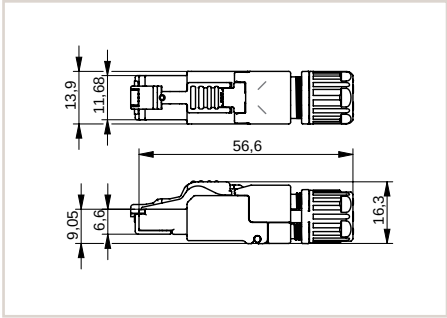
750-977/000-021

Connector ETHERNET;
RJ-45; Cat.6A; 180°;
T568A; AGW24

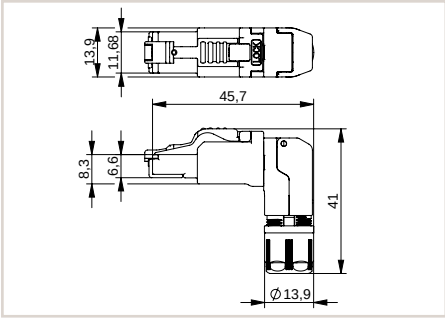
Technical Data

Cable category	Cat. 5e
Data transmission rate (max.)	1 GBit/s
Code	TiA-568A
Cable exit	180°
Pole No.	8
Housing material	Plastic
Mating cycles	> 1000
Conductor connection	IDC (Insulation Displacement Contact)
Conductor cross sections	Solid: 0.13 ... 0.24 mm ² / 26/1 ... 23/1 AWG; Stranded: 0.14 ... 0.36 mm ² / 26/7 ... 22/7 AWG
Cable jacket diameter	4.5 ... 8 mm
Cable strain relief	Screw clamp connection
Shield connection	> 180°
Surrounding air temperature (operation)	-20 ... +70 °C
Surrounding air temperature (storage)	-40 ... +70 °C
Relative humidity	95 %; non condensing
Protection type	IP20
Standards/specifications	Basic standard: IEC 60603-7 RJ-45 Category 5; CD ISO/IEC 11801: 2002; EN 50173: 2002; EIA/TIA 568A: 2002; UL 1863
Approvals	Marine
Data sheet and further information, see:	wago.com/750-975

Cat. 6A
10 GBit/s
TiA-568A
180°
8
Zinc die-cast
> 750
IDC (Insulation Displacement Contact)
Solid: 0.21 ... 0.32 mm ² / 24/1 ... 22/1 AWG; Stranded: 0.11 ... 0.36 mm ² / 27/7 ... 22/7 AWG
Solid: 0.13 ... 0.21 mm ² / 26/1 ... 24/1 AWG; Stranded: 0.11 ... 0.23 mm ² / 27/7 ... 24/7 AWG
5.5 ... 9 mm
360°
-40 ... +85 °C
-40 ... +85 °C
95 %; non condensing
IP20
IEC60603-7-51; ISO/IEC 11801; IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043
wago.com/750-977/000-011
wago.com/750-977/000-021



ETHERNET Connector; RJ-45; Cat. 6A; Straight; Code T568A; Strain relief	
AWG22	AWG24
750-978/000-011	750-978/000-021
Connector ETHERNET; RJ-45; Cat.6A; 180°; T568A; AGW22; Strain relief	Connector ETHERNET; RJ-45; Cat.6A; 180°; T568A; AGW24; Strain relief



ETHERNET Connector; RJ-45; Cat. 6A; Angled; Code T568A; Strain relief	
AWG22	AWG24
750-979/000-011	750-979/000-021
Connector ETHERNET; RJ-45; Cat.6A; 90°; T568A; AGW22; Strain relief	Connector ETHERNET; RJ-45; Cat.6A; 90°; T568A; AGW24; Strain relief

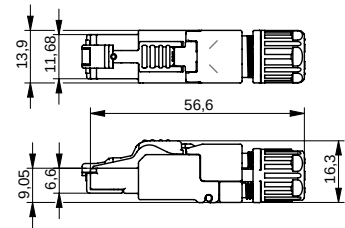
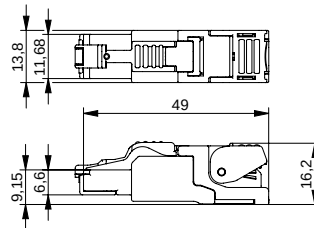
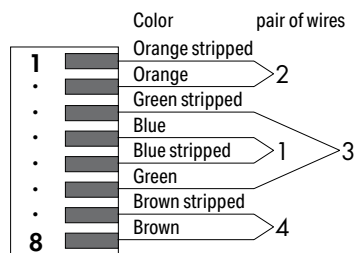
Cat. 6A	
10 GBit/s	
TiA-568A	
180°	
8	
Zinc die-cast	
> 750	
IDC (Insulation Displacement Contact)	
Solid: 0.21 ... 0.32 mm² / 24/1 ... 22/1 AWG;	Solid: 0.13 ... 0.21 mm² / 26/1 ... 24/1 AWG;
Stranded: 0.11 ... 0.36 mm² / 27/7 ... 22/7 AWG	Stranded: 0.11 ... 0.23 mm² / 27/7 ... 24/7 AWG
5.5 ... 10 mm	
Screw clamp connection	
360°	
-40 ... +85 °C	
-40 ... +85 °C	
95 %; non condensing	
IP20	
IEC60603-7-51; ISO/IEC 11801; IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043	
wago.com/ 750-978/000-011	wago.com/ 750-978/000-021

Cat. 6A	
10 GBit/s	
TiA-568A	
90°; selectable position	
8	
Zinc die-cast	
> 750	
IDC (Insulation Displacement Contact)	
Solid: 0.21 ... 0.32 mm² / 24/1 ... 22/1 AWG;	Solid: 0.13 ... 0.21 mm² / 26/1 ... 24/1 AWG;
Stranded: 0.11 ... 0.36 mm² / 27/7 ... 22/7 AWG	Stranded: 0.11 ... 0.23 mm² / 27/7 ... 24/7 AWG
5.5 ... 10 mm	
Screw clamp connection	
360°	
-40 ... +85 °C	
-40 ... +85 °C	
95 %; non condensing	
IP20	
IEC60603-7-51; ISO/IEC 11801; IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043	
wago.com/ 750-979/000-011	wago.com/ 750-979/000-021

ETHERNET Connector; Code T568B



Pin assignment TIA-568B



Item Description

Version

Item No.

Order Text

ETHERNET Connector; RJ-45; Cat. 6A; Straight; Code T568B

AWG22

750-977/000-012

Connector ETHERNET;
RJ-45; Cat.6A; 180°;
T568B; AWG22

AWG24

750-977/000-022

Connector ETHERNET;
RJ-45; Cat.6A; 180°;
T568B; AWG24

ETHERNET Connector; RJ-45; Cat. 6A; Straight; Code T568B; Strain relief

AWG22

750-978/000-012

Connector ETHERNET;
RJ-45; Cat.6A; 180°;
T568B; AWG22; Strain
relief

AWG24

750-978/000-022

Connector ETHERNET;
RJ-45; Cat.6A; 180°;
T568B; AWG24; Strain
relief

Technical Data

Cable category	Cat. 6A
Data transmission rate (max.)	10 GBit/s
Code	TIA-568B
Cable exit	180°
Pole No.	8
Housing material	Zinc die-cast
Mating cycles	> 750
Conductor connection	IDC (Insulation Displacement Contact)
Conductor cross sections	Solid: 0.21 ... 0.32 mm² / 24/1 ... 22/1 AWG; Stranded: 0.11 ... 0.36 mm² / 27/7 ... 22/7 AWG
Cable jacket diameter	5.5 ... 9 mm
Cable strain relief	360°
Shield connection	-40 ... +85 °C
Surrounding air temperature (operation)	-40 ... +85 °C
Surrounding air temperature (storage)	95 %; non condensing
Relative humidity	IP20
Protection type	IEC60603-7-51; ISO/IEC 11801; IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043
Standards/specifications	
Approvals	
Data sheet and further information, see:	

Cat. 6A	Cat. 6A
10 GBit/s	10 GBit/s
TIA-568B	TIA-568B
180°	180°
8	8
Zinc die-cast	Zinc die-cast
> 750	> 750
IDC (Insulation Displacement Contact)	IDC (Insulation Displacement Contact)
Solid: 0.21 ... 0.32 mm² / 24/1 ... 22/1 AWG; Stranded: 0.11 ... 0.36 mm² / 27/7 ... 22/7 AWG	Solid: 0.13 ... 0.21 mm² / 26/1 ... 24/1 AWG; Stranded: 0.11 ... 0.23 mm² / 27/7 ... 24/7 AWG
5.5 ... 9 mm	5.5 ... 10 mm
360°	Screw clamp connection
-40 ... +85 °C	360°
-40 ... +85 °C	-40 ... +85 °C
95 %; non condensing	-40 ... +85 °C
IP20	95 %; non condensing
IEC60603-7-51; ISO/IEC 11801; IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043	IP20
	IEC60603-7-51; ISO/IEC 11801; IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043

Cat. 6A	Cat. 6A
10 GBit/s	10 GBit/s
TIA-568B	TIA-568B
180°	180°
8	8
Zinc die-cast	Zinc die-cast
> 750	> 750
IDC (Insulation Displacement Contact)	IDC (Insulation Displacement Contact)
Solid: 0.21 ... 0.32 mm² / 24/1 ... 22/1 AWG; Stranded: 0.11 ... 0.36 mm² / 27/7 ... 22/7 AWG	Solid: 0.13 ... 0.21 mm² / 26/1 ... 24/1 AWG; Stranded: 0.11 ... 0.23 mm² / 27/7 ... 24/7 AWG
5.5 ... 10 mm	5.5 ... 10 mm
Screw clamp connection	Screw clamp connection
360°	360°
-40 ... +85 °C	-40 ... +85 °C
-40 ... +85 °C	-40 ... +85 °C
95 %; non condensing	95 %; non condensing
IP20	IP20
IEC60603-7-51; ISO/IEC 11801; IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043	IEC60603-7-51; ISO/IEC 11801; IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043

Approvals

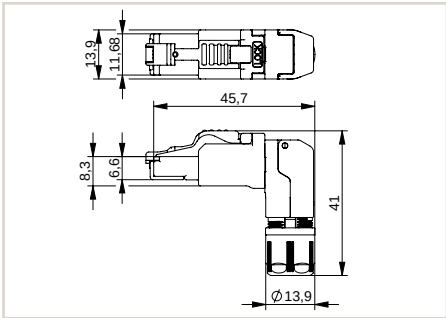
Data sheet and further information, see:

wago.com/
750-977/000-012

wago.com/
750-977/000-022

wago.com/
750-978/000-012

wago.com/
750-978/000-022



ETHERNET Connector; RJ-45; Cat. 6A; Angled;
Code T568B; Strain relief

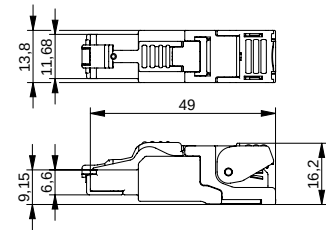
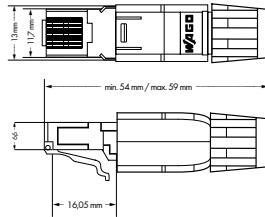
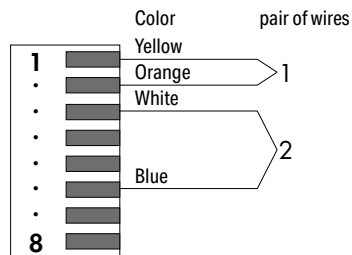
AWG22	AWG24
750-979/000-012	750-979/000-022
Connector ETHERNET; RJ-45; Cat.6A; 90°; T568B; AWG22; Strain relief	Connector ETHERNET; RJ-45; Cat.6A; 90°; T568B; AWG24; Strain relief

Cat. 6A	
10 GBit/s	
TiA-568B	
90°; selectable position	
8	
Zinc die-cast	
> 750	
IDC (Insulation Displacement Contact)	
Solid: 0.21 ... 0.32 mm² / 24/1 ... 22/1 AWG; Stranded: 0.11 ... 0.36 mm² / 27/7 ... 22/7 AWG	Solid: 0.13 ... 0.21 mm² / 26/1 ... 24/1 AWG; Stranded: 0.11 ... 0.23 mm² / 27/7 ... 24/7 AWG
5.5 ... 10 mm	
Screw clamp connection	
360°	
-40 ... +85 °C	
-40 ... +85 °C	
95 %; non condensing	
IP20	
IEC60603-7-51; ISO/IEC 11801; IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043	
wago.com/ 750-979/000-012	wago.com/ 750-979/000-022

PROFINET Connector



Pin assignment PROFINET



Item Description

Version

Item No.

Order Text

PROFINET Connector ; RJ-45; Cat. 5; Straight

AWG 22

750-976

Connector PROFINET; RJ-45; Cat.5; 180°;
AWG22

PROFINET Connector ; RJ-45; Cat. 6A; Straight

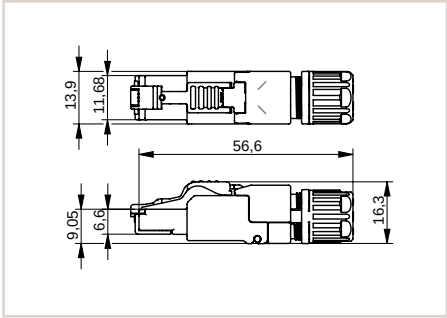
AWG 22

750-977/000-013

Connector PROFINET; RJ-45; Cat.6A; 180°;
AWG22

Technical Data

Cable category	Cat. 5e	Cat. 6A
Data transmission rate (max.)	100 MBit/s	100 MBit/s
Code	PROFINET	PROFINET
Cable exit	180°	180°
Pole No.	8	8
Housing material	Plastic	Zinc die-cast
Mating cycles	> 1000	> 750
Conductor connection	IDC (Insulation Displacement Contact)	IDC (Insulation Displacement Contact)
Conductor cross sections	Solid: 0.13 ... 0.24 mm ² / 26/1 ... 23/1 AWG; Stranded: 0.14 ... 0.36 mm ² / 26/7 ... 22/7 AWG	Solid: 0.21 ... 0.32 mm ² / 24/1 ... 22/1 AWG; Stranded: 0.11 ... 0.36 mm ² / 27/7 ... 22/7 AWG
Cable jacket diameter	4.5 ... 8 mm	5.5 ... 9 mm
Cable strain relief	Screw clamp connection	
Shield connection	>180°	360°
Surrounding air temperature (operation)	-20 ... +70 °C	-40 ... +85 °C
Surrounding air temperature (storage)	-40 ... +70 °C	-40 ... +85 °C
Relative humidity	95 %; non condensing	95 %; non condensing
Protection type	IP20	IP20
Standards/specifications	Basic standard: IEC 60603-7 RJ-45 Category 5; CD ISO/IEC 11801: 2002; EN 50173: 2002; EIA/TIA 568A: 2002; UL 1863	IEC60603-7-51; ISO/IEC 11801; IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043
Approvals	Marine	
Data sheet and further information, see:	wago.com/750-976	wago.com/750-977/000-013

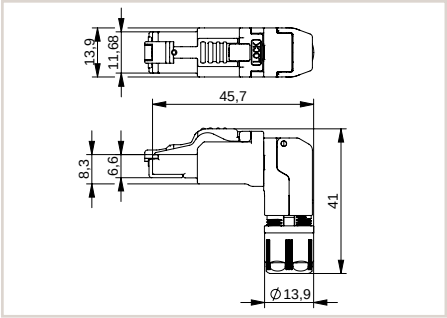


PROFINET Connector ; RJ-45; Cat. 6A; Straight; Strain relief

AWG 22

750-978/000-013

Connector PROFINET; RJ-45; Cat.6A; 180°; AWG22; Strain relief



PROFINET Connector ; RJ-45; Cat. 6A; Angled; Strain relief

AWG 22

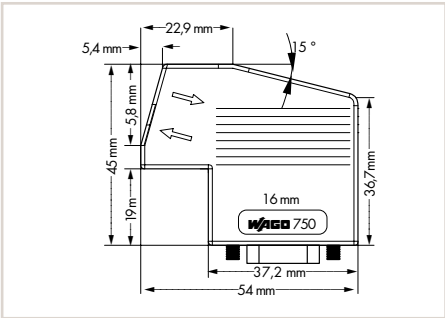
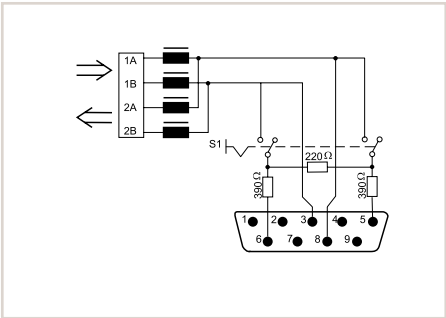
750-979/000-013

Connector PROFINET; RJ-45; Cat.6A; 90°; AWG22; Strain relief

Cat. 6A
100 MBit/s
PROFINET
180°
8
Zinc die-cast
> 750
IDC (Insulation Displacement Contact)
Solid: 0.21 ... 0.32 mm² / 24/1 ... 22/1 AWG; Stranded: 0.11 ... 0.36 mm² / 27/7 ... 22/7 AWG
5.5 ... 10 mm
Screw clamp connection
360°
-40 ... +85 °C
-40 ... +85 °C
95 %; non condensing
IP20
IEC60603-7-51; ISO/IEC 11801; IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043
wago.com/750-978/000-013

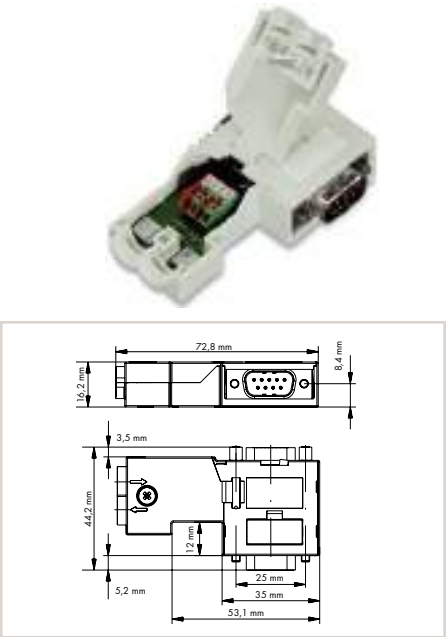
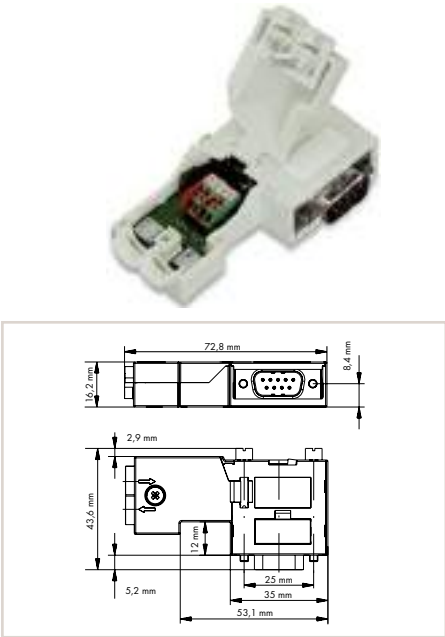
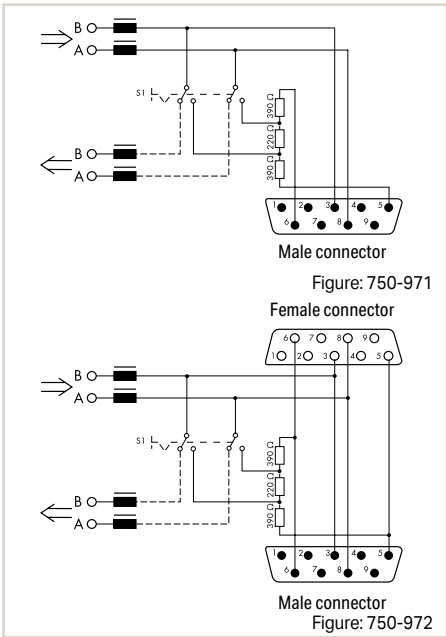
Cat. 6A
100 MBit/s
PROFINET
90°; selectable position
8
Zinc die-cast
> 750
IDC (Insulation Displacement Contact)
Solid: 0.21 ... 0.32 mm² / 24/1 ... 22/1 AWG; Stranded: 0.11 ... 0.36 mm² / 27/7 ... 22/7 AWG
5.5 ... 10 mm
Screw clamp connection
360°
-40 ... +85 °C
-40 ... +85 °C
95 %; non condensing
IP20
IEC60603-7-51; ISO/IEC 11801; IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043
wago.com/750-979/000-013

PROFIBUS Fieldbus Connector



Item Description		PROFIBUS Fieldbus Connector; D-sub; 9-pole	
Item No.		750-960	
Order Text		Connector PROFIBUS; DSub-M; 9P	
Technical Data			
Double cable entry point		min. 4.5 mm Ø/ max. 9.5 mm Ø	
Data transmission rate (max.)		12 Mbit/s	
Terminating resistor		Integrated switch	
Housing color		Light gray	
Protection type		IP20	
Surrounding air temperature (operation)		0 ... +60 °C	
Surrounding air temperature (storage)		-25 ... +85 °C	
Relative humidity		95 %; non condensing	
Conductor connection		CAGE CLAMP® terminal strip with locking slides (218 Series)	
Conductor cross sections		0.08 ... 0.5 mm² / 28 ... 20 AWG; limited connection 0.75 mm² / 18 AWG possible	
Approvals		☞ Marine; ☞ OrdLoc/HazLoc; ☞ ATEX/IECEx	
Data sheet and further information, see:		wago.com/750-960	
Accessories			
Operating tool with a partially insulated shaft; Type 1; (2.5 x 0.4) mm blade		Item No.	Page
		210-719	504
Operating tool with a partially insulated shaft; Type 2; (3.5 x 0.5) mm blade		210-720	504

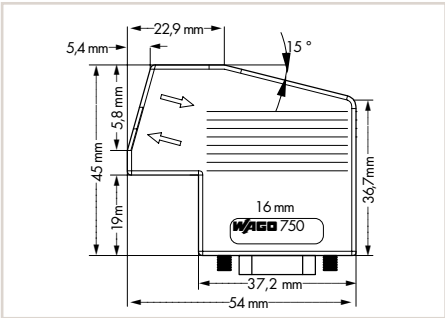
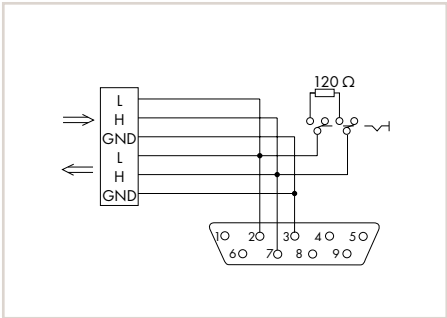
PROFIBUS Fieldbus Connector



Item Description		PROFIBUS Fieldbus Connector; D-sub; 9-pole		PROFIBUS Fieldbus Connector; with D-sub male and female connectors; 9-pole	
Item No.		750-971		750-972	
Order Text		Connector PROFIBUS; DSub-M; 9P		Connector PROFIBUS; DSub-M; 9P; PG-Int	
Technical Data					
Double cable entry point		8.5 mm Ø		8.5 mm Ø	
Data transmission rate (max.)		12 Mbit/s		12 Mbit/s	
Terminating resistor		Integrated switch		Integrated switch	
Housing color		Light gray		Light gray	
Protection type		IP20		IP20	
Surrounding air temperature (operation)		-25 ... +70 °C		-25 ... +70 °C	
Surrounding air temperature (storage)		-25 ... +85 °C		-25 ... +85 °C	
Relative humidity		95 %; non condensing		95 %; non condensing	
Conductor connection		CAGE CLAMP® terminal strip with locking slides (218 Series)		CAGE CLAMP® terminal strip with locking slides (218 Series)	
Conductor cross sections		0.08 ... 0.5 mm² / 28 ... 20 AWG; limited connection 0.75 mm² / 18 AWG possible		0.08 ... 0.5 mm² / 28 ... 20 AWG; limited connection 0.75 mm² / 18 AWG possible	
Data sheet and further information, see:		wago.com/750-971		wago.com/750-972	
Accessories		Item No.	Page	Item No.	Page
Operating tool with a partially insulated shaft; Type 1; (2.5 x 0.4) mm blade		210-719	504	210-719	504

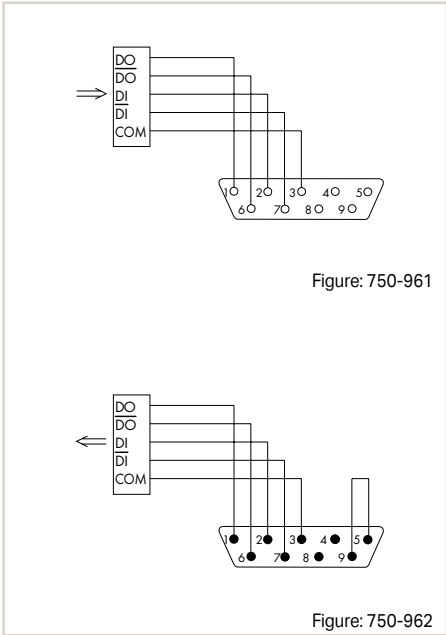
This fieldbus connector can be connected to a programming tool without interrupting the connection to the PROFIBUS device.

CANopen Fieldbus Connector



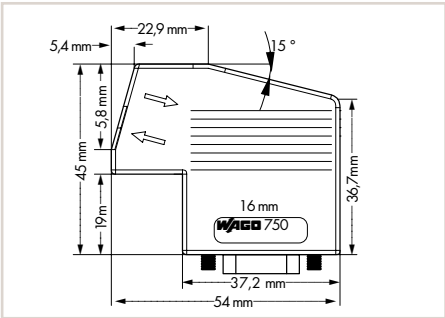
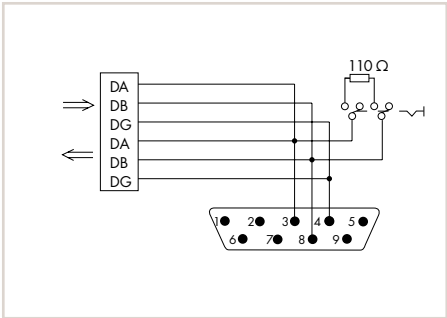
Item Description		CANopen Fieldbus Connector; with D-sub female connector; 9-pole	
Item No.		750-963	
Order Text		Connector CANopen; DSub-F; 9P	
Technical Data			
Double cable entry point		min. 4.5 mm Ø/ max. 9.5 mm Ø	
Data transmission rate (max.)		1 Mbd	
Terminating resistor		Integrated switch	
Housing color		Light gray	
Protection type		IP20	
Surrounding air temperature (operation)		0 ... +60 °C	
Surrounding air temperature (storage)		-25 ... +85 °C	
Relative humidity		95 %; non condensing	
Conductor connection		CAGE CLAMP® terminal strip with locking slides (218 Series)	
Conductor cross sections		0.08 ... 0.5 mm² / 28 ... 20 AWG; limited connection 0.75 mm² / 18 AWG possible	
Approvals		🌊 Marine; ⚙️ OrdLoc; ⚡ ATEX/IECEX	
Data sheet and further information, see:		wago.com/750-963	
Accessories			
Operating tool with a partially insulated shaft; Type 1; (2.5 x 0.4) mm blade		Item No.	Page
		210-719	504
Operating tool with a partially insulated shaft; Type 2; (3.5 x 0.5) mm blade		210-720	504

INTERBUS Fieldbus Connector



Item Description	INTERBUS Fieldbus Connector (IN); with D-sub female connector; 9-pole		INTERBUS Fieldbus Connector (OUT); with D-sub male connector; 9-pole	
Item No.	750-961		750-962	
Order Text	Connector INTERBUS; DSub-F; 9P		Connector INTERBUS; DSub-M; 9P	
Technical Data				
Double cable entry point	min. 4.5 mm Ø/ max. 9.5 mm Ø		min. 4.5 mm Ø/ max. 9.5 mm Ø	
Data transmission rate (max.)	2 Mbd		2 Mbd	
Housing color	Light gray		Light gray	
Protection type	IP20		IP20	
Surrounding air temperature (operation)	0 ... +60 °C		0 ... +60 °C	
Surrounding air temperature (storage)	-25 ... +85 °C		-25 ... +85 °C	
Relative humidity	95 %; non condensing		95 %; non condensing	
Conductor connection	CAGE CLAMP® terminal strip with locking slides (218 Series)		CAGE CLAMP® terminal strip with locking slides (218 Series)	
Conductor cross sections	0.08 ... 0.5 mm² / 28 ... 20 AWG; limited connection 0.75 mm² / 18 AWG possible		0.08 ... 0.5 mm² / 28 ... 20 AWG; limited connection 0.75 mm² / 18 AWG possible	
Approvals	Ⓔ OrdLoc/HazLoc; Ⓔ ATEX/IECEx		Ⓔ OrdLoc/HazLoc; Ⓔ ATEX/IECEx	
Data sheet and further information, see:	wago.com/750-961		wago.com/750-962	
Accessories	Item No.	Page	Item No.	Page
Operating tool with a partially insulated shaft; Type 1; (2.5 x 0.4) mm blade	210-719	504	210-719	504
Operating tool with a partially insulated shaft; Type 2; (3.5 x 0.5) mm blade	210-720	504	210-720	504

CC-Link Fieldbus Connector



Item Description		CC-Link Fieldbus Connector; with D-sub male connector; 9-pole	
Item No.		750-965	
Order Text		Connector CC-Link; DSub-M; 9P	
Technical Data			
Double cable entry point		min. 4.5 mm Ø/ max. 9.5 mm Ø	
Terminating resistor		Integrated switch	
Housing color		Light gray	
Protection type		IP20	
Surrounding air temperature (operation)		0 ... +60 °C	
Surrounding air temperature (storage)		-25 ... +85 °C	
Relative humidity		95 %; non condensing	
Conductor connection		CAGE CLAMP® terminal strip with locking slides (218 Series)	
Conductor cross sections		0.08 ... 0.5 mm² / 28 ... 20 AWG; limited connection 0.75 mm² / 18 AWG possible	
Approvals		® OrdLoc	
Data sheet and further information, see:		wago.com/750-965	
Accessories		Item No.	Page
Operating tool with a partially insulated shaft; Type 1; (2.5 x 0.4) mm blade		210-719	504
Operating tool with a partially insulated shaft; Type 2; (3.5 x 0.5) mm blade		210-720	504

System Enclosures

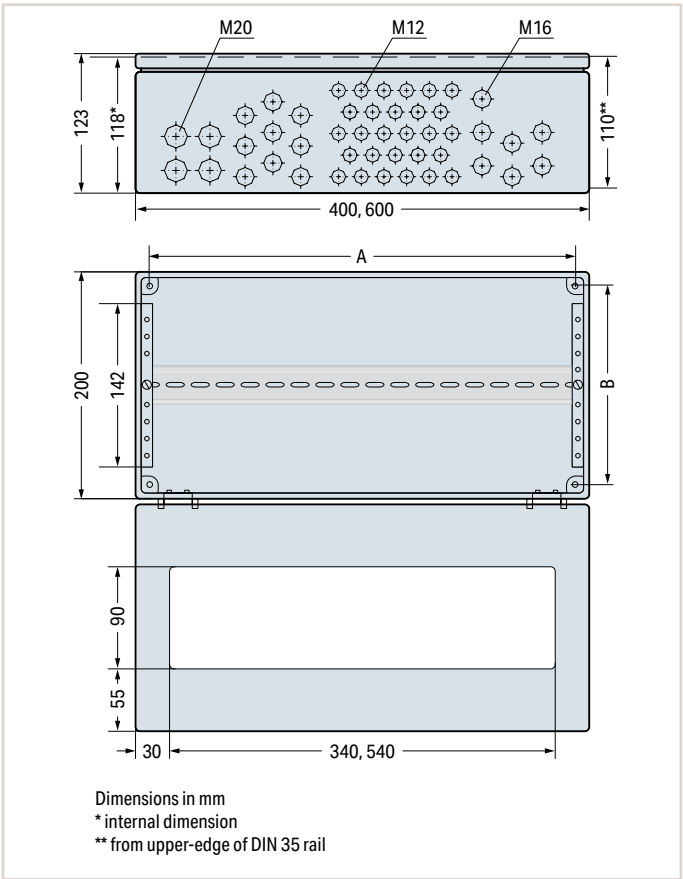


- ❶ Stainless steel
- ❷ Sheet steel
- ❸ Cast aluminum
- ❹ Polyester
- ❺ Sheet steel with cable entry plates

The increasing importance of the application of industrial fieldbus systems in various process engineering areas, such as the chemical and food industry, equally calls for enclosures to protect both the system technology used and the products to be produced.

For this reason, WAGO offers system enclosures that allow the use of the WAGO-I/O-SYSTEM 750/753 in systems exposed to severe environmental conditions. Each enclosure version is available in four different sizes and features the appropriate number of cable grips with metric thread or cable entry plates.

Stainless-Steel System Enclosure



Item Description	IP65 System Enclosure; Stainless steel		
Version	WxHxD (400x123x200 mm); 4 x M20, 16 x M16, 28 x M12 cable grip	WxHxD (400x123x200 mm); 2 x M20, 13 x M16, 32 x M12 cable grip	WxHxD (600x123x200 mm); 4 x M20, 19 x M16, 67 x M12 cable grip
Item No.	850-804	850-804/000-001	850-805
Order Text	SST Enclosure; 14301 400mm CG5	SST Enclosure; 14301 400mm CG1	SST Enclosure; 14301 600mm CG6
Technical Data			
Number of M12 cable grips	28	32*	67
Number of M16 cable grips	16	13*	19
Number of M20 cable grips	4	2*	4
Recommended assembly dimension (A x B)	376 x 176 mm		576 x 176 mm
Dimensions W x H x D	400 x 123 x 200 mm		600 x 123 x 200 mm
Number of I/O modules	≤ 24**		≤ 40**
Data sheet and further information, see:	wago.com/850-804		wago.com/850-805
Accessories	Item No.		
Pole mounting	850-903		

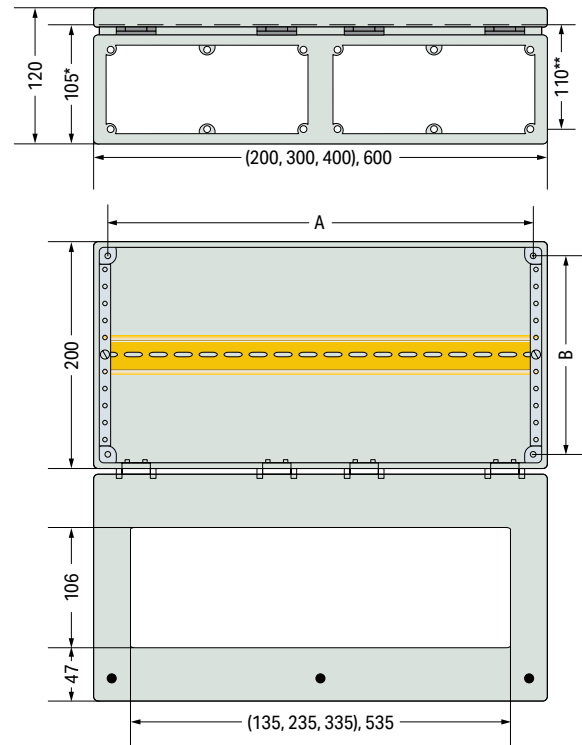
*Cable grip configuration differs from standard.

**Both fieldbus coupler and end module are part of the system. This applies to 12 mm wide I/O modules. I/O modules with a width of 24 mm count as two I/O modules.

Included:

- Stainless steel enclosure 1.4301 streak finish
- Hinged cover 90°, (850-804/000-001: 180°), with cellular rubber gasket made of natural rubber, and 2–3 quick disconnects
- Hinges made of chromed GdZn (Gadulinium Zinc) with M5 countersunk screws
- Macrolon inspection glass
- Metric cable glands (brass, nickel-plated), incl. blind plugs
- M12 fitting, cable diameter 5 ... 6 mm
- M16 fitting, cable diameter 5 ... 9 mm
- M20 fitting, cable diameter 9 ... 13 mm
- 1 x DIN 35/7.5 rail

Sheet-Steel System Enclosure



Dimensions in mm
 * internal dimension
 ** from upper-edge of DIN 35 rail

Item Description	IP65 System Enclosure; Sheet steel (RAL 7035); without flange plate			
Version	WxHxD (200x120x200 mm)	WxHxD (300x120x200 mm)	WxHxD (400x120x200 mm)	WxHxD (600x120x200 mm)
Item No.	850-814/002-000	850-815/002-000	850-816/002-000	850-817/002-000
Order Text	STE Enclosure; RAL7035 200mm	STE Enclosure; RAL7035 300mm	STE Enclosure; RAL7035 400mm	STE Enclosure; RAL7035 600mm
Technical Data				
Recommended assembly dimension (A x B)	160 x 160	260 x 160	360 x 160	560 x 160
Dimensions W x H x D	200 x 120 x 200 mm	300 x 120 x 200 mm	400 x 120 x 200 mm	600 x 120 x 200 mm
Number of I/O modules	≤ 8*	≤ 16*	≤ 24*	≤ 40*
Data sheet and further information, see:	wago.com/ 850-814/002-000	wago.com/ 850-815/002-000	wago.com/ 850-816/002-000	wago.com/ 850-817/002-000
Accessories: Flange Plates	Number of flange plates that can be fitted			
Size 195 x 95 mm: F200; F200-1; F200-2; F204	1	-	2	-
Size 295 x 95 mm: F300; F300-1; F300-2; F304	-	1	-	2
Accessories	Item No.			
Wall mount	850-904			

*Both fieldbus coupler and end module are part of the system. This applies to 12 mm wide I/O modules. I/O modules with a width of 24 mm count as two I/O modules.

Included:

- Powder-coated, sheet steel enclosure
- Box with narrow beveled edge, sturdy gutter profile
- Hinged cover 180° (PA), with foam PU seal and 2–3 quick disconnects
- Quick-release fasteners in plastic bushes
- Mounting holes (incl. sealing plugs)
- Large Macrolon inspection glass
- Removable, yellow-chromized interior profiles
- Galvanized DIN-35/7.5 rail (contact with enclosure), adjustable in 12.5 mm spacing
- Grounding lug for cover and flanges with quick-release ribbon cable connectors
- Light gray (RAL 7035)

Flange Plate and Cable Entry Plate

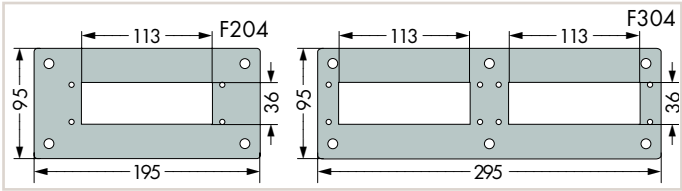
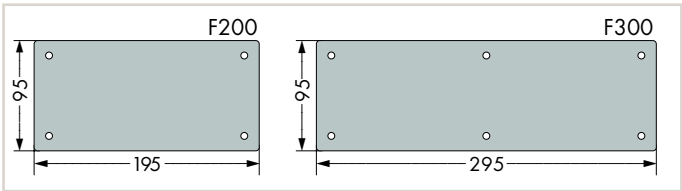
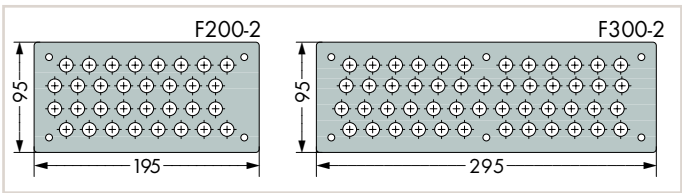
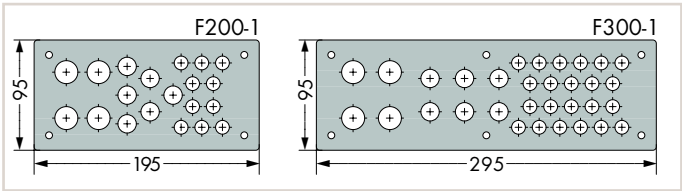


Illustration: Flange Plate F204 with Cable Entry Plate KDP 22



Similar to illustration

Flange Plate; RAL7035; without cut-out		
	Width x Height	Item No.
F200 Flange Plate RAL7035 WCO	195 x 95 mm	850-818/002-000
F300 Flange Plate RAL7035 WCO	295 x 95 mm	850-819/002-000

Flange Plate; RAL7035; with cut-out		
	Width x Height	Item No.
F204 Flange Plate RAL7035 1CO	195 x 95 mm	850-818/002-005
F304 Flange Plate RAL7035 2CO	295 x 95 mm	850-819/002-005

Cable Entry Plate		Item No.
KDP 22 Cable Entry Plate; 16 x Size 1, 4 x Size 2, 2 x Size 3		850-820/000-001
KDP 29 Cable Entry Plate; 29 x Size 1		850-820/000-002

Cable entry plate, polyamide
Size 1: Cable diameter 3.0 ... 6.5 mm
Size 2: Cable diameter 5.0 ... 9.2 mm
Size 3: Cable diameter 8.0 ... 12.5 mm

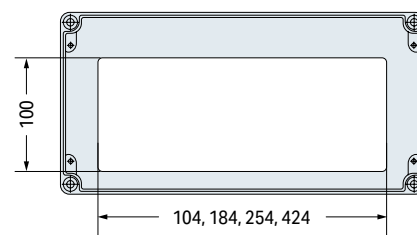
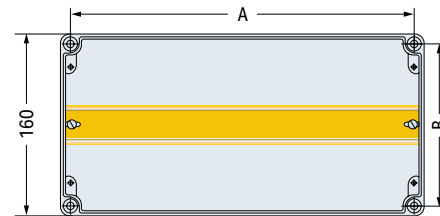
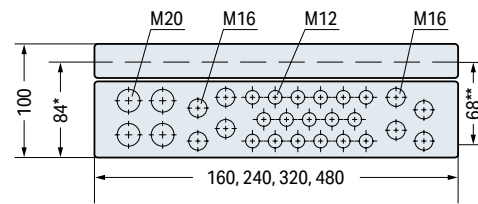
Flange Plate; RAL7035; M20, M16, M12 bore holes		
	Width x Height	Item No.
F200-1 Flange Plate RAL7035 HO1; 4 x M20, 6 x M16, 10 x M12	195 x 95 mm	850-818/002-001
F300-1 Flange Plate RAL7035 HO5; 4 x M20, 6 x M16, 22 x M12	295 x 95 mm	850-819/002-001

Flange Plate; RAL7035; M20, M16, M12 cable grips		
	Width x Height	Item No.
F200-1 Flange Plate RAL7035 CG8; 4 x M20, 6 x M16, 10 x M12	195 x 95 mm	850-818/002-002
F300-1 Flange Plate RAL7035 CG9; 4 x M20, 6 x M16, 22 x M12	295 x 95 mm	850-819/002-002

Flange Plate; RAL7035; M12 bore holes		
	Width x Height	Item No.
F200-2 Flange Plate RAL7035 HO4; 32 x M12	195 x 95 mm	850-818/002-003
F300-2 Flange Plate RAL7035 HO6; 50 x M12	295 x 95 mm	850-819/002-003

Flange Plate; RAL7035; M12 cable grips		
	Width x Height	Item No.
F200-2 Flange Plate RAL7035 HO2; 32 x M12	195 x 95 mm	850-818/002-004
F300-2 Flange Plate RAL7035 CG12; 50 x M12	295 x 95 mm	850-819/002-004

Aluminum System Enclosure



Dimensions in mm
 * internal dimension
 ** from upper-edge of DIN 35 rail

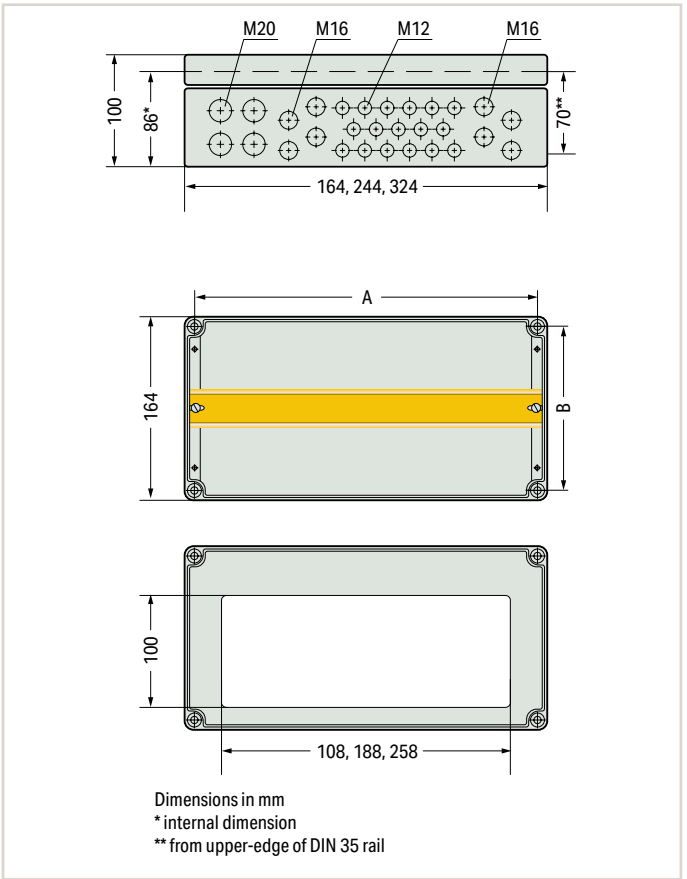
Item Description	IP65 System Enclosure; Aluminum			
Version	Enclosure type in RAL 7032			
Item No.	850-825	850-826	850-827	850-828
Order Text	ALU Enclosure; RAL7032 160mm CG11	ALU Enclosure; RAL7032 240mm CG7	ALU Enclosure; RAL7032 320mm CG10	ALU Enclosure; RAL7032 480mm CG4
Version	Enclosure type in RAL 7035			
Item No.	850-826/002-000	850-827/002-000	850-828/002-000	
Order Text	ALU Enclosure; RAL7035 240mm CG7	ALU Enclosure; RAL7035 320mm CG10	ALU Enclosure; RAL7035 480mm CG4	
Technical Data				
Number of M12 cable grips	9	14	17	35
Number of M16 cable grips	-	4	8	10
Number of M20 cable grips	4			
Recommended assembly dimension (A x B)	142 x 142 mm	222 x 142 mm	302 x 142 mm	462 x 142 mm
Dimensions W x H x D	160 x 100 x 160 mm	240 x 100 x 160 mm	320 x 100 x 160 mm	480 x 100 x 160 mm
Number of I/O modules	≤ 4*	≤ 11*	≤ 18*	≤ 31*
Data sheet and further information, see:	wago.com/850-825	wago.com/850-826	wago.com/850-827	wago.com/850-828
Accessories	Item No.			
Pole mounting	850-903			

*Both fieldbus coupler and end module are part of the system. This applies to 12 mm wide I/O modules. I/O modules with a width of 24 mm count as two I/O modules.

Included:

- Aluminum enclosure, G AL Si 12 alloy / DIN 1725
- Stainless steel cover screws, captive
- Inspection glass, incl. attachment panel for customer marking (marking not included in scope of supply)
- Mounting holes (4 mounting channels located outside the sealed enclosure)
- Metric cable glands (brass, nickel-plated), incl. blind plugs
- M12 fitting, cable diameter 5 ... 6 mm
- M16 fitting, cable diameter 5 ... 9 mm
- M20 fitting, cable diameter 9 ... 13 mm
- 1x DIN-35/7.5 rail
- Tongue and groove system, seal with groove in enclosure cover
- Oil and petroleum-resistant neoprene round chord seal
- Grounding link in enclosure
- Pebble gray RAL 7032 or light gray RAL 7035

Polyester System Enclosure



Item Description		IP65 System Enclosure; Polyester (RAL 7032)		
Version		WxHxD (164x100x164 mm); 9 x M12, 4 x M20	WxHxD (244x100x164 mm); 4 x M20, 4 x M16, 14 x M12 cable grip	WxHxD (324x100x164 mm); 4 x M20, 8 x M16, 17 x M12 cable grip
Item No.		850-834	850-835	850-836
Order Text		POL Enclosure; RAL7032 164mm CG11	POL Enclosure; RAL7032 244mm CG7	POL Enclosure; RAL7032 324mm CG10
Technical Data				
Number of M12 cable grips		9	14	17
Number of M16 cable grips		-	4	8
Number of M20 cable grips		4		
Recommended assembly dimension (A x B)		142 x 142 mm	222 x 142 mm	302 x 142 mm
Dimensions W x H x D		164 x 100 x 164 mm	244 x 100 x 164 mm	324 x 100 x 164 mm
Number of I/O modules		≤ 4*	≤ 11*	≤ 18*
Data sheet and further information, see:		wago.com/850-834	wago.com/850-835	wago.com/850-836
Accessories		Item No.		
Pole mounting		850-903		

*Both fieldbus coupler and end module are part of the system. This applies to 12 mm wide I/O modules. I/O modules with a width of 24 mm count as two I/O modules.

- Included:
- Polyester enclosure, glass-fiber-reinforced, halogen-free, as V0 version (self-extinguishing)
 - Polyamide cover screws, captive
 - Inspection glass, incl. attachment panel for customer marking (marking not included in scope of supply)
 - Mounting holes (4 mounting channels located outside the sealed enclosure)
 - Metric cable grips (polyamide PA 6), incl. blind plugs
 - M12 fitting, cable diameter 5 ... 6 mm
 - M16 fitting, cable diameter 5 ... 9 mm
 - M20 fitting, cable diameter 9 ... 13 mm
 - 1x DIN-35/7.5 rail
 - Oil and petroleum-resistant neoprene round chord seal
 - Pebble gray, RAL 7032

DALI Multi-Sensor

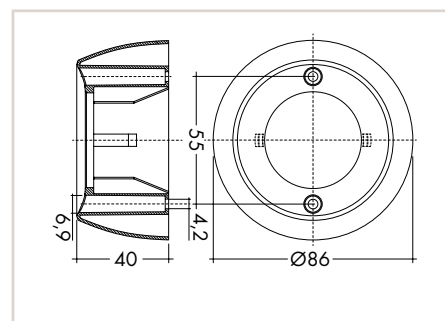
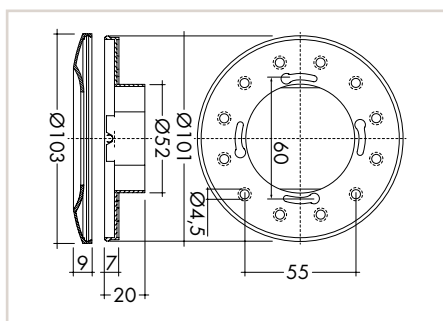
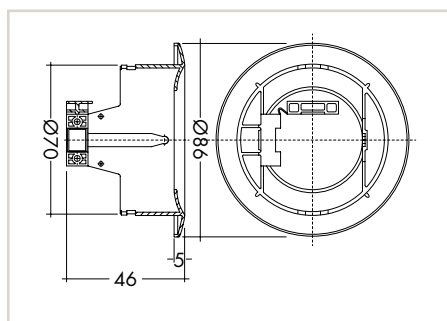
Ceiling Installation



Box Installation



Surface Mount



The WAGO DALI MSensor 02 is paired with DALI Master I/O modules (753-647 or 750-641) and has been designed for the following key applications:

- Individual offices
- Open-plan offices
- Training/Presentation rooms
- Corridors, passageways and garages

This multi-sensor features both a motion/presence detector and a light sensor. As an option, the sensor can be operated via remote control (from Tridonic). The sensor enables both motion/presence detection and daylight-dependent lighting control, both of which can also be deactivated.

Addressing is performed via rotary switch or WAGO DALI Configurator. Parameters can be adjusted individually via WAGO DALI Configurator. Power supply is provided via the DALI line.

The number of sensors, which can be operated on a DALI line, depends on the total power consumption of the specific devices and the address range for the actuators and sensors. Due to the capacity of the DALI bus, a maximum of 16 DALI sensor couplers may be operated on a DALI Multi-Master Module (753-647).

Installation notes:

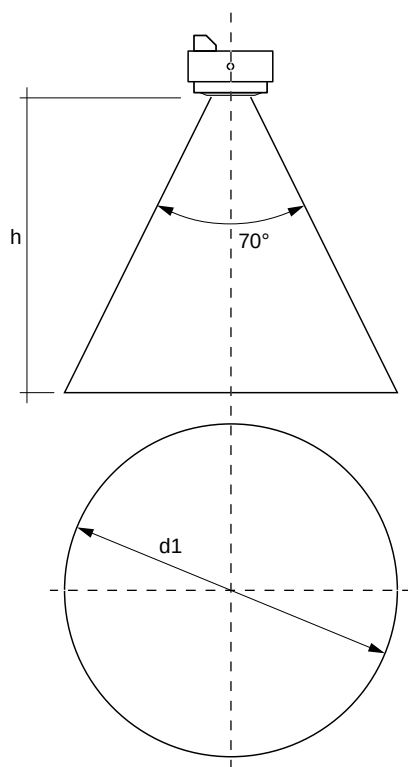
- The DALI MSensor 02 is supplied directly via DALI line.
- DALI is not SELV (Safety Extra Low Voltage). The installation instructions for mains voltage therefore apply.
- The detection range of the sensor must be within the lighting area of the controlled luminaires.
- The detection ranges of the sensors must not overlap as this may influence the lighting control.
- When installed at a height other than the recommended installation height (2.5 m), the presence and light sensor might show different characteristics. If installed at a higher height, the sensitivity is reduced; the range is reduced when installed at a lower height.
- Heaters, fans, printers and copiers located in the detection range may cause incorrect presence detection.

Item Description	DALI MSensor 02 5DPI 41rc (ceiling installation)	DALI MSensor 02 5DPI 41w (box installation)	DALI MSensor 02 5DPI 41rs (surface mount)
Item No.	2851-8301	2851-8302	2851-8303
Technical Data			
Diameter of detection range when installed at a height of 2.5 m	5 m		
Extension of the detection range	2 m (if mounted at a height of 2.5 m and swiveled through 15°)		-
Swivel design	Yes		No
Swivel range	± 15°		-
Detection angle	360°		
Light measurement at the sensor head	10 ... 650 lx (The measured value at the sensor head corresponds to approx. 15 to 2,000 lux on the surface measured.)		
Remote control range	5 m		
Data sheet and further information, see:	wago.com/2851-8301	wago.com/2851-8302	wago.com/2851-8303

Technical Data	
Power supply	via DALI line
Current consumption	6 mA from DALI line
Surrounding air temperature (operation)	0 ... +50 °C
Surrounding air temperature (storage)	-25 ... +55 °C
Protection type	IP20
Wire type and cross section	Solid or fine-stranded wires ranging from 0.5 to 1.5 mm² (20 ... 16 AWG)

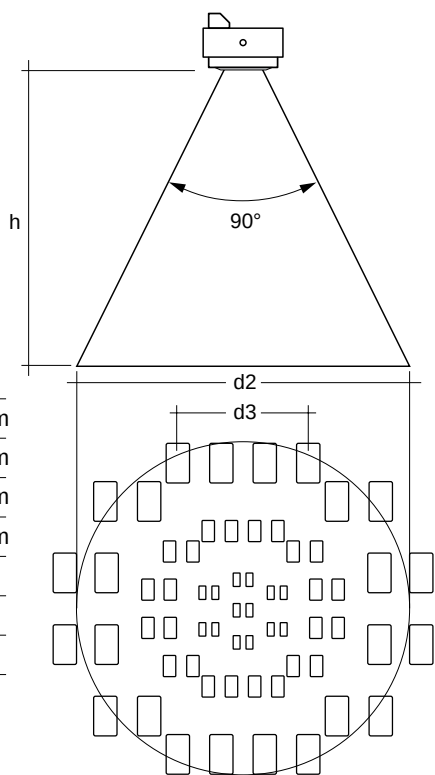
Technical Data	
General Settings	
Motion detector	Switching, on/off
Lighting control	Switching
Setpoint (lighting control)	150 lx
Power-on setting	No action
Bright-out timeout	10 min
Bright-out threshold	150 %
Control speed	4
Switch-on value	Automatic (calculated)
Rotary switch	0, broadcast
Motion Detector Settings	
Fade-in time	< 0.7 s
Presence value	Regulated
Run-on time	20 min
Fade time	5.6 s
Absence value	3 %
Switch-off delay	10 min
Fade-off time	5.6 s
Manual-off	10 min

Light Detection



h *	d1	d2	d3
1,7m	2,4m	3,4m	1,36m
2,0m	2,8m	4,0m	1,60m
2,3m	3,2m	4,6m	1,84m
2,5m	3,5m	5,0m	2,00m
2,7m	3,8m	5,4m	-
3,0m	4,2m	6,0m	-
3,5m	4,9m	7,0m	-
4,0m	5,6m	8,0m	-

Motion Detection (d2) and Presence Detection (d3)



*The recommended maximum room height for office applications is 3 m and for corridor applications 4 m, for example.

Calculation of the diameter:
 $d = 2 \times \tan(0.5 \times \alpha) \times h$

WAGO DALI Multi-Sensor Kit

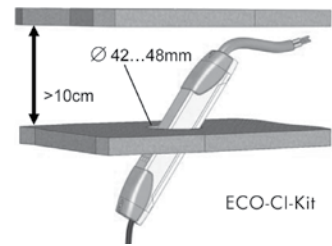
DALI Sensor Coupler



MULTI 3 CI Sensor



Eco CI Kit



The WAGO DALI Multi-Sensor Kit is paired with the WAGO 753-647 DALI Multi-Master Module and includes the following three components:

- DALI Sensor Coupler (also available individually)
- Eco CI Kit
- MULTI 3 CI Sensor

The DALI Sensor Coupler connects the MULTI 3 CI Sensor to a DALI bus system. For this, the MULTI 3 CI Sensor is connected to the DALI Sensor Coupler via RJ-10 socket. DALI terminals connect the DALI Sensor Coupler to both the DALI network and WAGO DALI Module.

The Eco CI Kit contains two covers, which can be used as touch guards and strain relief for cables within the ceiling installation of the DALI Sensor Coupler. The MULTI 3 CI Sensor has a motion and light sensor, enabling both motion detection and daylight-dependent lighting control. Power supply to the DALI Sensor Coupler is provided via DALI line. The DALI Sensor Coupler transmits measured values from the connected sensor channels as telegrams to the WAGO DALI Module via DALI line. Parameters can be adjusted individually via WAGO DALI Configurator.

The number of sensors, which can be operated on a DALI line, depends on the total power consumption of the specific devices and the address range for the actuators and sensors. Due to the capacity of the DALI bus, a maximum of 16 DALI Sensor Couplers may be operated on a DALI Multi-Master Module (753-647).

Assembly

Sensor Connection

The MULTI 3 CI Sensor is connected to a 4-pole RJ-10 socket (4P4C), which is marked as "Sensor" on the housing cover.

For easy connection, the sensor plug is equipped with a quick-connect latch. Only one MULTI 3 CI Sensor must be connected to sensor coupler.

Ceiling Installation

For installation outside of a lighting fixture (e.g., suspended ceiling), the Eco CI Kit must also be attached to both sides of the unit to ensure strain relief and touch protection. The DALI Sensor Coupler can also be installed in lighting fixtures. The installation spaces available in lighting fixtures can be used, as the dimensions correspond to those of an electronic ballast.

Note:

The DALI Sensor Coupler is also available individually, allowing the unit to be combined with other multi-sensor models from OSRAM.

WAGO DALI Multi-Sensor Kit

Delivery type	Item No.
Set includes:	
DALI Sensor Coupler, MULTI 3 CI Sensor, Eco CI Kit	2851-8201
DALI Sensor Coupler	2851-8202

DALI Sensor Coupler

Power supply	via DALI line
Current consumption	5 mA (from the DALI line)
Input signal voltage/current	according to MULTI 3 CI Sensor
Conductor connection	Inputs: for MULTI 3 CI Sensor's modular plug 4p4c (RJ-10); Sensor cable length (max.): 5 m; DALI connection: Push-wire connectors; Strip length: 8.5 ... 9.5 mm
Conductor cross sections	0.5 ... 1.5 mm ² (s + f-st)
Dimensions W x H x D	118 x 21 x 30 mm
Weight	35 g
Surrounding air temperature (operation)	0 ... +50 °C
Surrounding air temperature (storage)	-25 ... +70 °C
Relative humidity	5 ... 93 %; non-condensing
Protection type	IP20
Approvals	CE

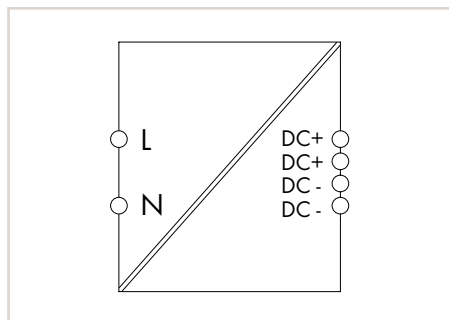
Eco CI Kit

Installation opening diameter	42 ... 48 mm
Minimum suspended ceiling distance	25 mm

MULTI 3 CI Sensor

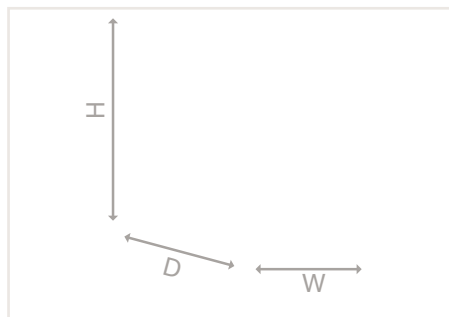
Maximum total length of signal line (incl. all connections to the control units)	100 m
Dimensions (diameter x H)	50 x 25 mm
Light sensor detection range	20 ... 600 lx (measured at sensor), beam angle approx. 90°
Recommended installation height	2 ... 4 m
Motion detection range	Cone-shaped, beam angle approx. 80°, depending on installation level 4 ... 8 m

Switched-Mode Power Supply; for DALI Module; Compact; 1-Phase 787 Series



Switched-Mode Power Supply; for DALI Module (753-647); 1-phase; Output voltage: 18 VDC; Output current: 1.1 A

	Item No.	Pack. Unit
	787-1007	1



Short description:

The 787-1007 Switched-Mode Power Supply is specially designed to supply the 753-647 DALI Multi-Master Module. The 787-1007 features a 54 mm wide DIN-rail-mount enclosure with input voltage range of 85 to 264 VAC (120 ... 373 VAC). The power supply provides an output voltage of 18 VDC and a maximum output current of 1100 mA. This allows several DALI Multi-Master Modules to be supplied in parallel. The maximum current per DALI line is limited to 200 mA in each DALI Multi-Master Module.

Features:

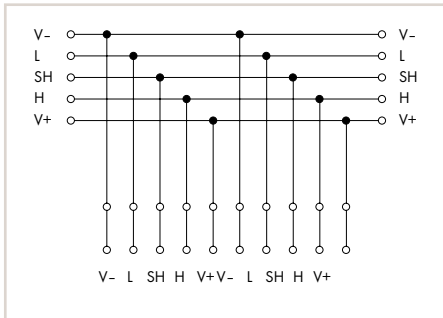
- Supplies up to five 753-647 DALI Multi-Master Modules*
- Suitable for protection class II equipment
- Natural convection cooling when horizontally mounted
- Stepped profile, ideal for distribution boards/boxes

*Note:

The 787-1007 Power Supply must be operated in a DALI network with interconnected 753-647 DALI Multi-Master Module. Otherwise the connected DALI devices will be destroyed.

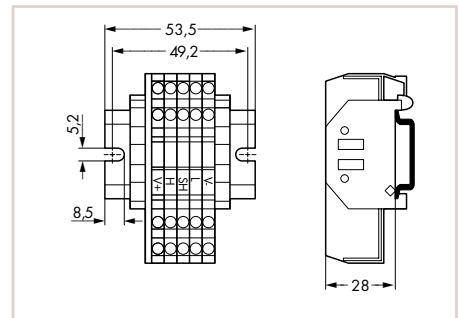
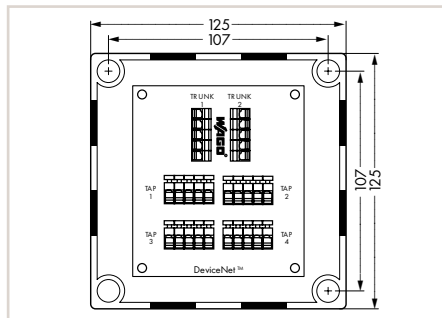
Input	
Phases	1
Nominal input voltage $U_i \text{ nom}$	100 ... 240 VAC
Input Voltage Range	85 ... 264 VAC; 120 ... 373 VDC
Nominal mains frequency range	44 ... 66 Hz; 0 Hz
Input current I_i	$\leq 0.4 \text{ A}$ (230 VAC); $\leq 0.6 \text{ A}$ (110 VAC)
Inrush current	$\leq 30 \text{ A}$ (NTC)
Mains failure hold-up time	$\geq 80 \text{ ms}$ (230 VAC); $> 10 \text{ ms}$ (110 VAC)
Output	
Nominal output voltage $V_o \text{ nom}$	18 VDC
Default setting	18 VDC
Nominal output current $I_o \text{ nom}$	1.1 A (18 VDC); max. 0.8 A (18 VDC) in any mounting position
Adjustment accuracy	$\leq 2 \%$
Residual ripple	$\leq 100 \text{ mV}$ (peak-to-peak)
Current limitation	$1.1 \times I_o \text{ nom}$ (typ.)
Overload behavior	Constant current
Signaling and Communication	
Status indication	Green LED (U_o)
Efficiency/Power Losses	
Power loss P_l	$\leq 3 \text{ W}$ (230 VAC; no load); $\leq 6 \text{ W}$ (230 VAC; nominal load)
Efficiency	$\geq 80 \%$
Fuse Protection	
Internal fuse	2 AT
Required backup fusing	An external DC fuse is required for the DC input voltage.
Recommended backup fusing	Circuit breaker 10 A (C characteristic), 16 A (B characteristic) or higher
Safety and Protection	
Isolation voltage (pri.-sec.)	4.242 kVDC
Protection class	II
Protection type	IP20 (per EN 60529)
Feedback voltage	$\leq 20 \text{ VDC}$
Short-circuit-protected	Yes
Open-circuit-proof	Yes
MTBF	$> 500,000 \text{ h}$ (per IEC 61709)
Connection Data	
Connection type	Input/output
Connection technology	CAGE CLAMP®
WAGO Connector	WAGO 740 Series
Solid conductor	$0.08 \dots 2.5 \text{ mm}^2 / 28 \dots 12 \text{ AWG}$
Fine-stranded conductor	$0.08 \dots 2.5 \text{ mm}^2 / 28 \dots 12 \text{ AWG}$
Strip length	$6 \dots 7 \text{ mm} / 0.24 \dots 0.28 \text{ inch}$
Geometric Data	
Width	$54 \text{ mm} / 2.126 \text{ inch}$
Height	$89 \text{ mm} / 3.504 \text{ inch}$
Depth	$59 \text{ mm} / 2.323 \text{ inch}$
Depth from upper-edge of DIN-rail	$55 \text{ mm} / 2.165 \text{ inch}$
Mechanical Data	
Mounting type	DIN-35 rail (EN 60715)
Material Data	
Weight	170 g
Environmental Requirements	
Surrounding air temperature (operation)	$-25 \dots +60 \text{ }^\circ\text{C}$
Surrounding air temperature (storage)	$-25 \dots +80 \text{ }^\circ\text{C}$
Relative humidity	$5 \dots 96 \%$ (no condensation permissible)
Pollution degree	2
Climatic category	3K3 (per EN 60721)
Standards and Specifications	
Standards/specifications	EN 60950-1; EN 61204-3; UL 508; DNV GL

Multi Port Device Tap for DeviceNet



For DeviceNet, a terminating resistor must be connected to each end of the trunk cable. A metal film resistor with the following values must be used: 121 Ohm $\pm 1\%$, 1/4 W.

Do not connect terminating resistors to the end of a drop cable, but only to the ends of the trunk cable.



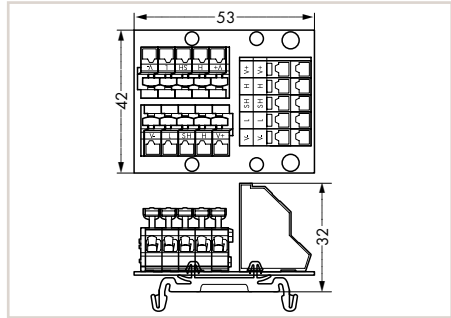
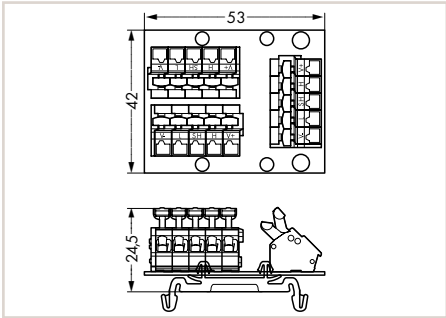
Item Description	Multi Port Device Tap; 2 trunk cables (input, output); 4 drop cables; IP65/NEMA 4 housing 810-900/000-001		Multi Port Device Tap; 2 trunk cables (input, output); 2 drop cables; Open style 810-901/000-001	
Item No.				
Technical Data				
Wire connection for trunk cables	2 x 256-405 (PCB terminal blocks)			
Wire connection for drop cables	4 x 255-405 (PCB terminal blocks)			
Housing	with cable entry holes			
Terminal block			5 x 280-633	
End terminal block			2 x 249-116	
DIN-rail			DIN 35, slotted	
Conductor cross sections	0.08 ... 2.5 mm ² / 28 ... 12 AWG		0.08 ... 2.5 mm ² / 28 ... 12 AWG	
Cable diameter (trunk cable)	10 ... 14 mm Ø			
Cable diameter (drop cable)	6 ... 12 mm Ø			
Degree of protection	IP65/NEMA 4			
Data sheet and further information, see:	wago.com/810-900/000-001		wago.com/810-901/000-001	
Accessories	Item No.	Pack. Unit	Item No.	Pack. Unit
Cable grip for trunk cable 10 ... 14 mm Ø	810-900/001-000	1		
Cable grip for drop cable 6 ... 12 mm Ø	810-900/002-000	1		
Terminating resistor	810-900/003-000	200	810-900/003-000	200
Test adapter for miniature banana plug	810-900/004-000	1	810-901/001-000	1

*when using the cable grip
(available as accessories)

Multi Port Device Tap for DeviceNet



For DeviceNet, a terminating resistor must be connected to each end of the trunk cable. A metal film resistor with the following values must be used: 121 Ohm ± 1 %, ¼ W.
Do not connect terminating resistors to the end of a drop cable, but only to the ends of the trunk cable.



Item Description
Item No.

Multi Port Device Taps with Mounting Foot; 2 trunk cables (input, output); 1 drop cable; Open style
810-902/000-001

Multi Port Device Taps with Mounting Foot; 2 trunk cables (input, output); 2 drop cables; Open style
810-902/000-002

Technical Data
Wire connection for trunk cables
Wire connection for drop cables
Conductor cross sections
Data sheet and further information, see:

2 x 5 x 256 Series (PCB terminal blocks)
1 x 5 x 256 Series (PCB terminal blocks)
0.08 ... 2.5 mm² / 28 ... 12 AWG
wago.com/810-902/000-001

2 x 5 x 256 Series (PCB terminal blocks)
1 x 5 x 736 Series (PCB terminal blocks)
0.08 ... 2.5 mm² / 28 ... 12 AWG
wago.com/810-902/000-002

Accessories
Terminating resistor
Test adapter for miniature banana plug

Item No.	Pack. Unit
810-900/003-000	200
810-901/001-000	1

Item No.	Pack. Unit
810-900/003-000	200
810-901/001-000	1

Shield Connection System, 790 Series

Application and Installation Instructions



Carrier with grounding foot* (790-113),
45 mm long, busbar 90° to the rail

*for all shield clamping saddle sizes



Carrier with grounding foot* (790-114),
45 mm long, busbar parallel to the rail

*for all shield clamping saddle sizes



Carrier with grounding foot* (790-115),
125 mm long, busbar parallel to the rail

*for all shield clamping saddle sizes



Securing a spacer sleeve to a specialty slotted
DIN-rail.



Securing an additional shield clamping saddle.



Tightening/removing a shield clamping saddle.



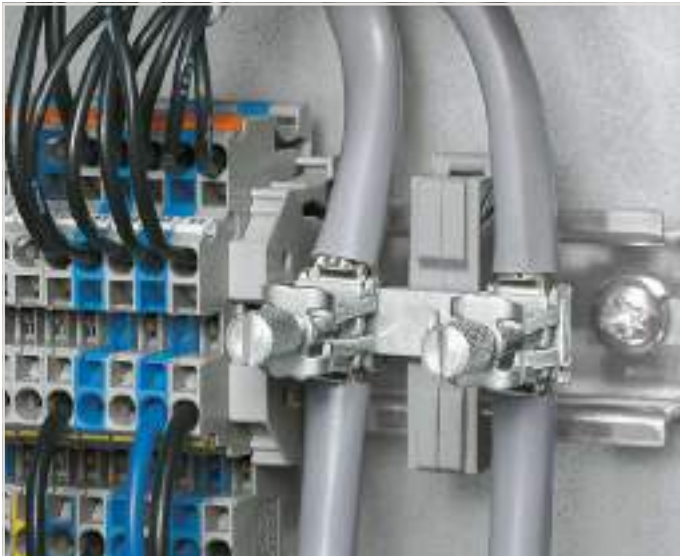
After connection, tighten the knurled screw to
complete the installation. Recommended tighten-
ing torque: 0.5 Nm



To remove the clamping saddle, unscrew until
ratcheted mechanism is released, then slightly tip
saddle and remove the clamping saddle.

Shield Connection System, 790 Series

Application and Installation Instructions



Carrier with grounding foot – busbar parallel to the rail



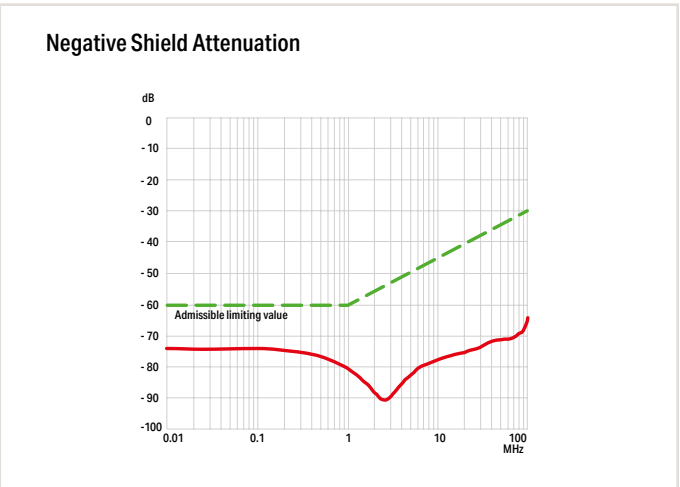
Insulated mounting carriers for a common shield reference potential, independent of housing potential



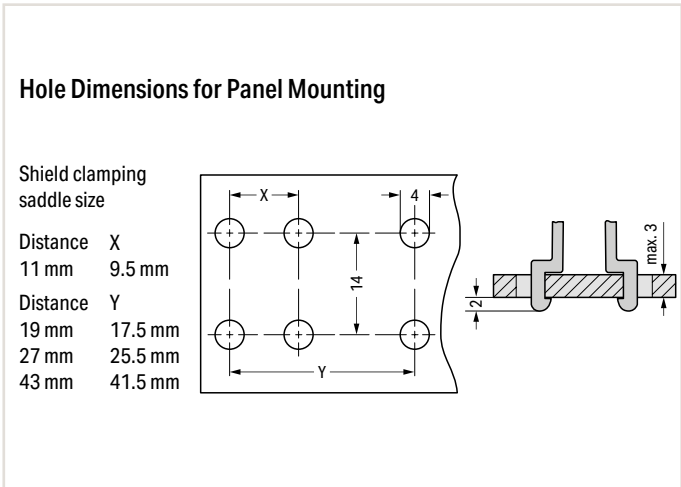
U-shaped (10 x 3) mm copper busbar



Snap shield clamping saddles into any metal plate (max. thickness: 3 mm).



WAGO's shield connection system is highly effective because the clamping unit can be brought very close to the unshielded part of the cable.



Additionally, the spring material is part of the clamping saddle, providing a good electrical connection (the system also acts as a partial strain relief). The spring element integrated in the shield clamping saddle compensates deformation and settling that results from a connected shield.

Shield Clamping Saddle

790 Series



Shield clamping saddle; 11 mm wide; Connectable shield diameter: up to 8 mm		
Item No.	Pack.	Unit
790-108	50	(10)



Shield clamping saddle; 19 mm wide; Connectable shield diameter: 7 ... 16 mm		
Item No.	Pack.	Unit
790-116	50	(10)



Shield clamping saddle; 27 mm wide; Connectable shield diameter: 6 ... 24 mm		
Item No.	Pack.	Unit
790-124	50	(10)



Shield clamping saddle; 43 mm wide; Connectable shield diameter: 22 ... 40 mm		
Item No.	Pack.	Unit
790-140	50	(10)

Installation

The shield clamping saddle is shipped ready for direct connection to the (10 x 3) mm busbar or to a drilled mounting plate. After connection, tighten the knurled screw to complete the installation. Maximum tightening torque: 0.5 Nm



Removal

To remove the clamping saddle, unscrew until ratcheted mechanism is released, then slightly tip saddle and remove the clamping saddle.



Delivery position –
for direct snapping

Snapping position
closed

Release position

Dimensions in mm

Item No.	A	B	C	D	E	F
790-108	51	15	8	16	55	42
790-116	53	15	16	16	57	45
790-124	78	15	24	16	83	58
790-140	97	15	40	16	100	73

Spring-Equipped Shield Clamping Saddle

790 Series



Shield clamping saddle; 3 ... 8 mm diameter; 12.4 mm wide		
	Item No.	Pack. Unit
	790-208	50



Shield clamping saddle, 6 ... 16 mm diameter; 21.8 mm wide		
	Item No.	Pack. Unit
	790-216	25



Shield clamping saddle; 6 ... 20 mm diameter; 30 mm wide		
	Item No.	Pack. Unit
	790-220	25



Mounting a clamping saddle on a specialty slotted DIN-rail (790-145).
When releasing the saddle, do not place your finger under the clamping spring!



Removing the shield clamping saddle.



Shield clamping saddle contacts shield conductor and specialty slotted DIN-rail (790-145).



Application example



Labeling using a marking strip.



Labeling using WMB markers.

Delivery position

Mounting position

Dimensions in mm

Item No.	A	B	C	D	E*
790-208	30	29.9	8	12.4	25.8
790-216	34.6	28.3	16	21.8	30.2
790-220	45.6	28.3	24	30	41.2

*Height with WMB marker

Shield Clamp and Shield Termination 791 and 709 Series



Shield clamp; Connectable shield diameter:
1.5 ... 6.5 mm; Height: 40 mm (max.); 10 mm wide

Item No.	Pack. Unit
791-107	50

Shield clamp; Connectable shield diameter:
5 ... 11 mm; Height: 47 mm (max.); 17 mm wide

Item No.	Pack. Unit
791-111	50

Shield clamp; Connectable shield diameter:
10 ... 17 mm; Height: 63 mm (max.); 23 mm wide

Item No.	Pack. Unit
791-117	50

Shield clamp; Connectable shield diameter:
16 ... 24 mm; Height: 78 mm (max.); 30 mm wide

Item No.	Pack. Unit
791-124	50



Shield termination; includes cable ties for
5 ... 10 mm shield diameter;
60 mm long

Item No.	Pack. Unit
709-350	100 (25)

Shield termination; includes cable ties for
5 ... 10 mm shield diameter;
150 mm long

Item No.	Pack. Unit
709-352	100 (25)



Insert the shield termination into the female plug using the operating tool.



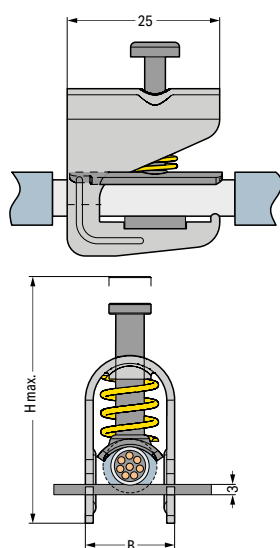
Fit the shield termination to the shield cable.



Secure both shield cable and shield termination to the strain relief plate using cable ties.



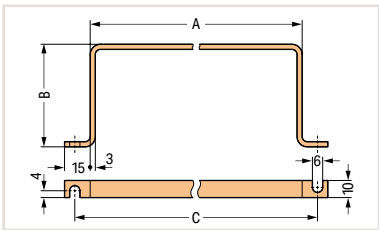
Shield termination connected to an X-COM® female plug



Dimensions in mm

Accessories for Shield Connection Systems

   	Item Description			Item No.	Pack. Unit		
	Carrier with grounding foot						
	Carrier with grounding foot; Busbar parallel to the rail; 15 mm long; Copper (10 x 3) mm; suitable for shield clamping saddles (790-108)			790-110	25		
	Carrier with grounding foot; Busbar parallel to the rail; 25 mm long; Copper (10 x 3) mm; suitable for shield clamping saddles (790-108; 790-116) and shield clamps (791-111; 791-117)			790-112	25		
	Carrier with grounding foot; Busbar 90° to the DIN-rail; 45 mm long; Copper (10 x 3) mm; suitable for shield clamping saddles (790 Series)			790-113	25		
    	Carrier with grounding foot; Busbar parallel to the DIN-rail; 45 mm long; Copper (10 x 3) mm; suitable for shield clamping saddles (790 Series) and shield clamps (791 Series)			790-114	25		
	Carrier with two grounding feet			Item No.	Pack. Unit		
	Carrier with two grounding feet; Busbar parallel to the DIN-rail; 125 mm long; Copper (10 x 3) mm			790-115	25		
	Busbar			Item No.	Pack. Unit		
	Busbar; tin-plated; 1000 mm long; Copper (10 x 3) mm			210-133	1		
    	Busbar; tin-plated; 30 mm long; Copper (10 x 3) mm			790-133	20		
	Busbar; tin-plated; 50 mm long; Copper (10 x 3) mm			790-134	20		
	DIN-rail; specialty slotted			Item No.	Pack. Unit		
	DIN-rail; specialty slotted; 1000 mm long; tin-plated			790-145	1		
	Spacer sleeve; for DIN-rail; suitable for M5-size screw; specialty slotted			790-144	200 (100)		
Insulated mounting foot			Item No.	Pack. Unit			
Insulated mounting foot; for busbar with M4 x 8 mm screw			790-100	50 (25)			
Insulated mounting foot; for busbar with (3.5 x 9) mm sheet metal screw			790-101	50 (25)			
U-shaped busbar; suitable for 750 Series I/O Modules				Item No.	Pack. Unit		
			A	B	C	790-190	25 (5)
U-shaped busbar; Copper (10 x 3) mm; for 5 I/O			63	60	83		
U-shaped busbar; Copper (10 x 3) mm; for 8 I/O			100	60	118	790-191	25
U-shaped busbar; Copper (10 x 3) mm; for 5 I/O			63	35	83	790-192	25
U-shaped busbar; Copper (10 x 3) mm; for 5 I/O			100	35	118	790-193	25

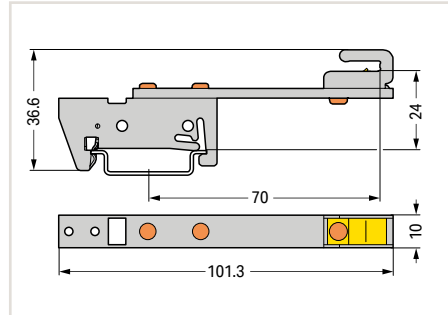


Dimensions in mm

Busbar Carrier 790 Series



Dimensions in mm

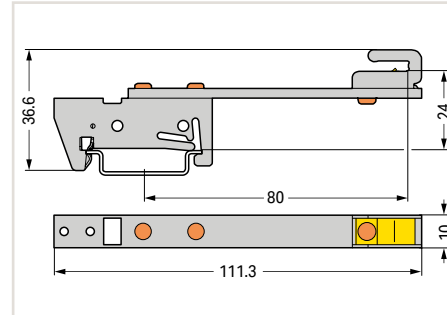


Busbar carrier; for (10 x 3) mm copper busbars;
single side; straight; snaps onto DIN-35 rail

Item No.	Pack. Unit
790-300	10



Dimensions in mm

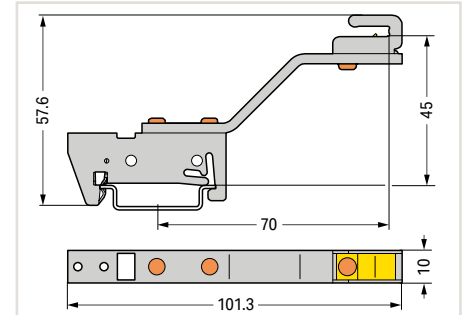


Busbar carrier; for (10 x 3) mm copper busbars;
single side; straight; snaps onto DIN-35 rail

Item No.	Pack. Unit
790-302	10



Dimensions in mm

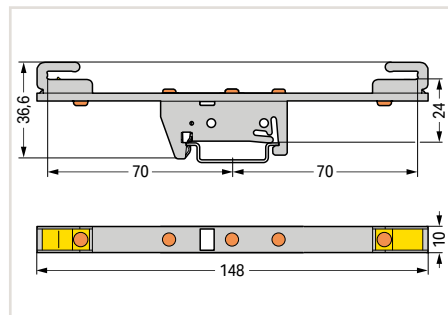


Busbar carrier; for (10 x 3) mm copper busbars;
single side; angled; snaps onto DIN-35 rail

Item No.	Pack. Unit
790-301	10



Dimensions in mm

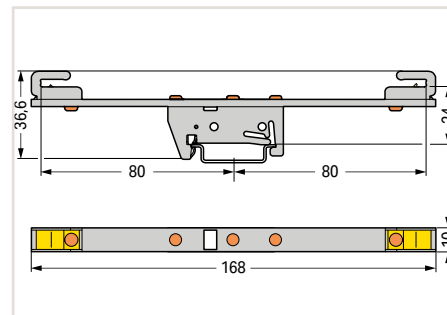


Busbar carrier; for (10 x 3) mm copper busbars;
both sides; straight; snaps onto DIN-35 rail

Item No.	Pack. Unit
790-310	10



Dimensions in mm

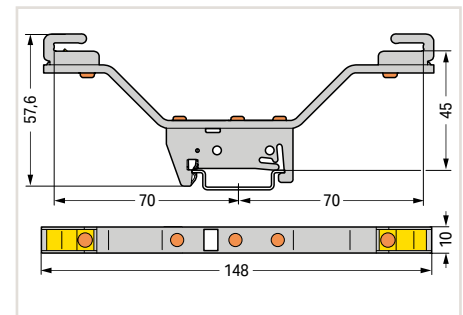


Busbar carrier; for (10 x 3) mm copper busbars;
both sides; straight; snaps onto DIN-35 rail

Item No.	Pack. Unit
790-312	10



Dimensions in mm



Busbar carrier; for (10 x 3) mm copper busbars;
both sides; angled; snaps onto DIN-35 rail

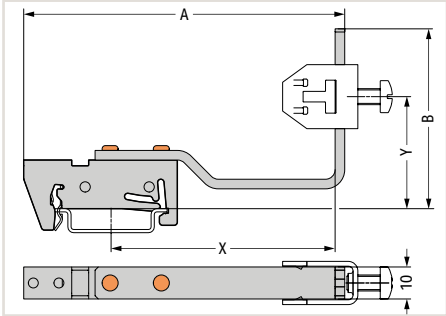
Item No.	Pack. Unit
790-311	10

Busbar Carrier

790 Series



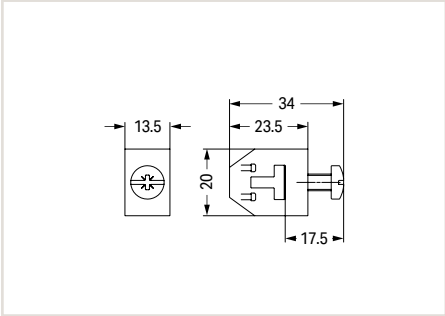
Dimensions in mm



Busbar carrier; for (10 x 3) mm copper busbars; flexible; snaps onto DIN-35 rail		
Item No.	Pack. Unit	
790-350/790-398	12	
790-352/790-398	12	
790-360/790-398	12	
790-362/790-398	25	



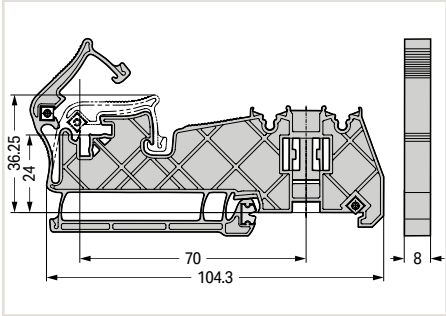
Dimensions in mm



T-connector; for (10 x 3) mm copper busbars		
Item No.	Pack. Unit	
790-398	10	



Dimensions in mm



Busbar carrier; for (10 x 3) mm copper busbars; no contact to DIN-rail; insulated		
Color	Item No.	Pack. Unit
gray	790-400	20

Dimensions in mm

Item No.	A	B	X	Y
790-350/790-398	100	56	70	15 ... 52
790-352/790-398	100	99	70	15 ... 92
790-360/790-398	115	56	85	15 ... 52
790-362/790-398	115	99	85	15 ... 92



Horizontal mounting position of the busbar



Vertical mounting position of the busbar

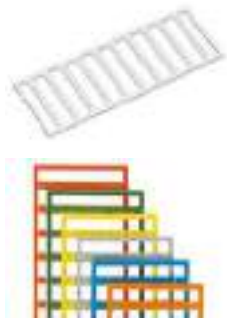


Horizontal mounting position of the busbar



Vertical mounting position of the busbar

Mini-WSB Marking Card; as Card and Mini-WSB Inline; for Smart Printer; on Reel



Mini-WSB Marking Card; as card; not stretchable; plain; snap-on type		
Color	Item No.	Pack. Unit
white	248-501	5
yellow	248-501/000-002	5
red	248-501/000-005	5
blue	248-501/000-006	5
gray	248-501/000-007	5
orange	248-501/000-012	5
light green	248-501/000-017	5
green	248-501/000-023	5
violet	248-501/000-024	5



Mini-WSB Inline; for Smart Printer; on reel; stretchable 5 ... 5.2 mm; plain; snap-on type		
Color	Item No.	Pack. Unit
white	2009-145	1



Mini-WSB Marking Card; as card; with marking; not stretchable; horizontal marking; snap-on type				
Marking	No. of Markings	Color	Item No.	Pack. Unit
0V	100x	blue	247-506/000-006	5
0V	100x	white	247-506	5
-	100x	blue	247-507/000-006	5
-	100x	white	247-507	5
24 V	100x	red	247-508/000-005	5
24 V	100x	white	247-508	5
+	100x	red	247-509/000-005	5
+	100x	white	247-509	5
⊕	100x	light green	247-552/000-017	5
⊕	100x	white	247-552	5
PE	100x	light green	248-578/000-017	5
PE	100x	white	248-578	5
A0 A1 ... A8 A9	10x	white	247-510	5
E0 E1 ... E8 E9	10x	white	247-511	5
X0 X1 ... X8 X9	10x	white	247-512	5
00 ... 09	10x	white	247-513	5
10 ... 19	10x	white	247-514	5
20 ... 29	10x	white	247-515	5
30 ... 39	10x	white	247-516	5
40 ... 49	10x	white	247-517	5
50 ... 59	10x	white	247-518	5
60 ... 69	10x	white	247-519	5
70 ... 79	10x	white	247-520	5
80 ... 89	10x	white	247-521	5
90 ... 99	10x	white	247-522	5
00 ... 49	2x	white	247-523	5
50 ... 99	2x	white	247-524	5
100 ... 149	2x	white	247-525	5
150 ... 199	2x	white	247-526	5
200 ... 249	2x	white	247-527	5
250 ... 299	2x	white	247-528	5
300 ... 349	2x	white	247-529	5
350 ... 399	2x	white	247-530	5
400 ... 449	2x	white	247-531	5
450 ... 499	2x	white	247-532	5
500 ... 549	2x	white	247-533	5
550 ... 599	2x	white	247-534	5
600 ... 649	2x	white	247-535	5
650 ... 699	2x	white	247-536	5
700 ... 749	2x	white	247-537	5
750 ... 799	2x	white	247-538	5
800 ... 849	2x	white	247-539	5
850 ... 899	2x	white	247-540	5
900 ... 949	2x	white	247-541	5
950 ... 999	2x	white	247-542	5
.0 ... 7 / frei	10x/20x	white	247-543	5
.0 ... 7 /-	10x/20x	white	247-544	5
.0 ... 7 /+	10x/20x	blue	247-544/000-006	5
.0 ... 7 /+	10x/20x	white	247-545	5
.0 ... 7 /+	10x/20x	red	247-545/000-005	5
.0 ... 7 /N	10x/20x	white	247-546	5
.0 ... 7 /N	10x/20x	blue	247-546/000-006	5
.0 ... 7 /L	10x/20x	white	247-547	5

Marking Card and Group Marker Carrier



Figure: 750-103

Marking Card; as DIN A4 sheet; plain		
	Item No.	Pack. Unit
	750-100	1

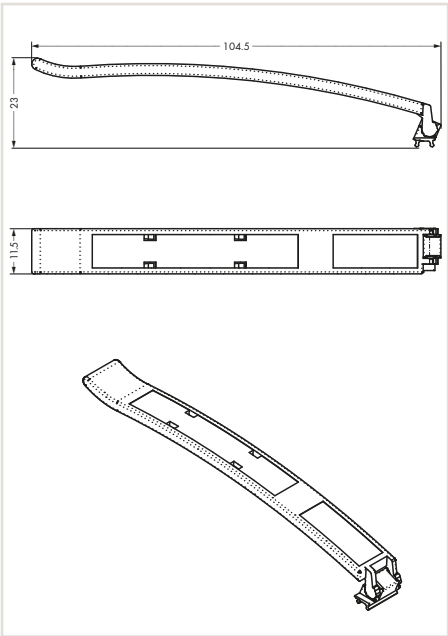


Figure: 750-106

Figure: 750-107

Item Description
Item No.
Technical Data
Dimensions W x D
Material
Weight
Data sheet and further information, see:
Accessories
Marking strip; on reel; 7.5 mm wide; not stretchable; plain, snap-on type
Marking Card; as DIN A4 sheet; plain
Marking strip; on reel; not stretchable; plain; snap-on type
WMB Inline; for Smart Printer; on reel; stretchable 5 ... 5.2 mm; plain; snap-on type

Group Marker Carrier
Item No.
750-103
11.5 x 104.5 mm
Polycarbonate
2.84 g
wago.com/750-103
Item No.
709-178
750-105

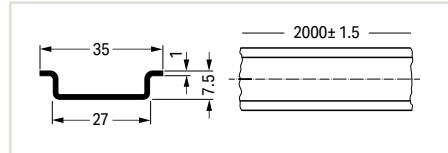
Group Marker Carrier	
4 LEDs (max.)	8/16 LEDs (max.)
750-106	750-107
Polycarbonate	
0.4 g	
wago.com/750-106	wago.com/750-107
Item No.	
2009-110	
2009-115	



Steel DIN-Rail



Dimensions in mm

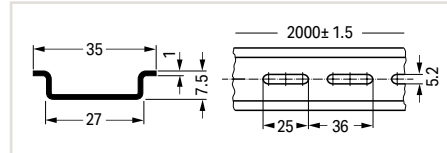


**Steel DIN-rail; unslotted;
IN 76 A (based on 1 m length);
35 x 7.5 mm; 1 mm thick, 2 m long**

	Item No.	Pack. Unit
per EN 60715	210-113	10
similar to EN 60715	210-505	1



Dimensions in mm

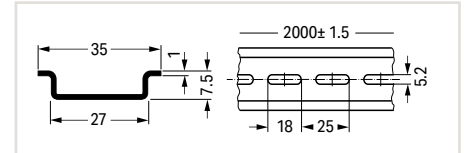


**Steel DIN-rail; slotted;
IN 76 A (based on 1 m length);
35 x 7.5 mm; 1 mm thick; 2 m long;
25 mm hole width; 36 mm hole spacing**

	Item No.	Pack. Unit
per EN 60715	210-112	10 (1)
similar to EN 60715	210-504	1



Dimensions in mm

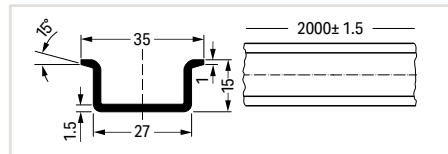


**Steel DIN-rail; slotted;
IN 76 A (based on 1 m length);
35 x 7.5 mm; 1 mm thick; 2 m long;
18 mm hole width; 25 mm hole spacing**

	Item No.	Pack. Unit
per EN 60715	210-115	1



Dimensions in mm

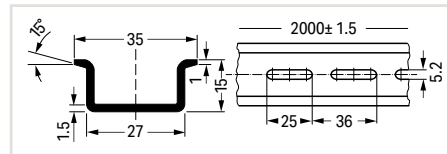


**Steel DIN-rail; unslotted;
IN 125 A (based on 1 m length);
35 x 15 mm; 1.5 mm thick; 2 m long**

	Item No.	Pack. Unit
per EN 60715	210-114	10
similar to EN 60715	210-506	1



Dimensions in mm

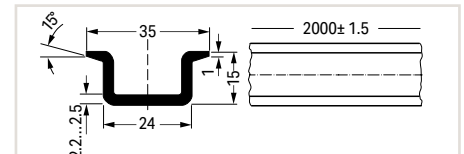


**Steel DIN-rail; slotted;
IN 125 A (based on 1 m length);
35 x 15 mm; 1.5 mm thick; 2 m long;
25 mm hole width; 36 mm hole spacing**

	Item No.	Pack. Unit
per EN 60715	210-197	10
similar to EN 60715	210-508	1



Dimensions in mm



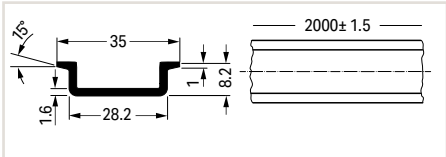
**Steel DIN-rail; unslotted;
IN 125 A (based on 1 m length);
35 x 15 mm; 2.3 mm thick; 2 m long**

	Item No.	Pack. Unit
per EN 60715	210-118	10

Aluminum DIN-Rail; Copper DIN-Rail; Angled Support Bracket; Rail End Cap

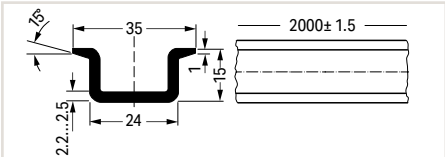


Dimensions in mm



Aluminum DIN-rail; unslotted; IN 76 A (based on 1 m length); 35 x 8.2 mm; 1.6 mm thick; 2 m long		
	Item No.	Pack. Unit
similar to EN 60715	210-196	10

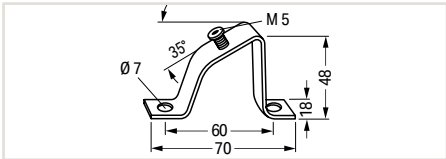
Dimensions in mm



Copper DIN-rail; unslotted; IN 309 A (based on 1 m length); 35 x 15 mm; 2.3 mm thick; 2 m long		
	Item No.	Pack. Unit
similar to EN 60715	210-198	10



Dimensions in mm

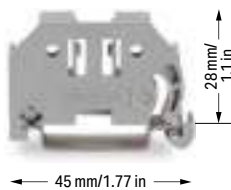


Angled support bracket		
	Item No.	Pack. Unit
without screw	210-148	10
M5 x 8 screw	210-149	100 (20)



Rail end cap; for DIN-35 rail (7.5 mm high)		
Color	Item No.	Pack. Unit
gray	209-109	50 (25)

Screwless End Stop



Screwless end stop; 6 mm wide		
Color	Item No.	Pack. Unit
gray	249-116	100 (25)

Screwless end stop; 10 mm wide		
Color	Item No.	Pack. Unit
gray	249-117	50 (25)



Screwless end stop; 14 mm wide		
Color	Item No.	Pack. Unit
gray	249-197	10

Snap on – that’s it! Assembling the new WAGO Screwless End Stop is as simple and quick as snapping a WAGO Rail-Mount Terminal Block onto the DIN-rail.

Tool free!

A tool-free design allows rail-mount terminal blocks to be safely and economically secured against any movement on all DIN-35 rails per DIN EN 50022 (35 x 7.5 mm; 35 x 15 mm).

Entirely without screws!

The “secret” to a perfect fit lies in the two small clamping plates which keep the end stop in position, even if the rails are mounted vertically.

Simply snap on – that’s it!

In addition, costs are significantly reduced when using large numbers of end stops.

Additional benefit: Three marker slots for all WAGO Rail-Mount Terminal Block Marking Systems and one snap-in hole for WAGO’s adjustable height group marker carriers offer individual marking options.



Snapping an end stop onto the DIN-rail.



Removing an end stop from the DIN-rail.

Operating Tool and Cable Cutter



Operating tool with a partially insulated shaft; Type 1; (2.5 x 0.4) mm blade		
	Item No.	Pack. Unit
	210-719	50 (1)

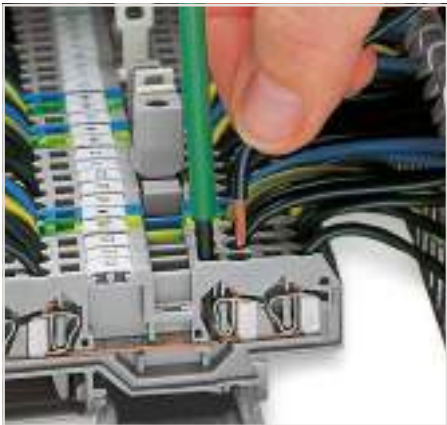
Operating tool with a partially insulated shaft; Type 2; (3.5 x 0.5) mm blade		
	Item No.	Pack. Unit
	210-720	50 (1)

Operating tool with a partially insulated shaft; Type 3; (5.5 x 0.8) mm blade		
	Item No.	Pack. Unit
	210-721	25 (1)

Set of operating tools with a partially insulated shaft; Type 1; (2.5 x 0.4) mm blade; Type 2; (3.5 x 0.5) mm blade; Type 3; (5.5 x 0.8) mm blade		
	Item No.	Pack. Unit
	210-722	1



Cable cutter; for copper and aluminum cables up to 35 mm ²		
	Item No.	Pack. Unit
	206-118	1



The blade dimensions of the above-listed operating tools with a partially insulated shaft are ideal for easy operation of front-entry terminal blocks.



Cutting a cable.

Cable Stripper



Cable knife; for Ø 8 ... 28 mm / 0.31 ... 1.10 inch;
with a unique, changeable cable bracket system;
including cable bracket

Item No.	Pack. Unit
206-1403	1

Accessories

Item No.	Pack. Unit
Spare inside blade 206-1418	1
Spare hook blade 206-1419	1

Cable bracket

	Item No.	Pack. Unit
for Ø 4 ... 16 mm / 0.16 ... 0.63 inch	206-1411	1
for Ø 8 ... 28 mm / 0.31 ... 1.10 inch	206-1412	1
for Ø 27 ... 35 mm / 1.06 ... 1.38 inch	206-1413	1
for Ø 35 ... 50 mm / 1.38 ... 1.97 inch	206-1414	1
for Ø 50 ... 70 mm / 1.97 ... 2.75 inch	206-1415	1

Cable knife set; for Ø 4 ... 70 mm / 0.16 ... 2.75 inch;
including all cable brackets in a Sortimo® Box

Item No.	Pack. Unit
206-1400	1



In-socket cable stripper; for Ø 8 ... 13 mm / 5/16 ... 1/2 inch

Item No.	Pack. Unit
206-1441	1

Universal cable stripper; for Ø 8 ... 13 mm / 5/16 ... 1/2 inch

Item No.	Pack. Unit
206-1442	1

Data cable stripper; for Ø 4.5 ... 10 mm / 3/16 ... 3/8 inch

Item No.	Pack. Unit
206-1451	1



Product features:

- Extra long design and improved force transmission simplifies stripping in deep device connection sockets
- Special four-blade design for an even more precise round cut
- No cutting depth adjustment required
- TiN-coated blades, TÜV/GS tested
- Ø 8 ... 13 mm / 5/16 ... 1/2 inch
- Strips all standard round cables, including NYM 3 x 1.5 mm² ... 5 x 2.5 mm²

Product features:

- Secure grip achieved with soft padding for non-slip grips
- Technically improved functionality
- New locking mechanism prevents the unwanted opening of the tool
- Absolutely straightforward, quick and easy longitudinal cuts – with innovative internal cable duct
- Redesigned blade layout and intake to stop cable waste from jamming the tool
- Durable and ergonomically designed pocket clip
- Ø 8 ... 13 mm / 5/16 ... 1/2 inch

Product features:

- Strip outer insulation and foil sheathing with one tool
- Ideal for stripping PVC-insulated data cables with thin insulation (e.g., Cat 5, Cat 6, Cat 7, twisted-pair cables)
- TiN-coated blades
- Ø 4.5 ... 10 mm / 3/16 ... 3/8 inch

Cable Stripper; Wire Stripper



Stripping pliers; for sensor cables		
	Item No.	Pack. Unit
	206-1481	1

Accessories		
	Item No.	Pack. Unit
Replacement blade set; for Ø 3.2 ... 4.4 mm / 0.13 ... 0.17 inch	206-1491	1

Stripping pliers; for control cables		
	Item No.	Pack. Unit
	206-1482	1

Accessories		
	Item No.	Pack. Unit
Replacement blade set; for Ø 4.4 ... 7 mm / 0.17 ... 0.27 inch	206-1492	1

The stripping pliers for sensor cables have a blade geometry specially designed for sensor cables with a smaller cross section and a working range from Ø 3.2 mm (for stranded cables and round cables with Ø 3.2 mm ... 4.4 mm / 0.13 ... 0.17 inch).

The stripping pliers for control cables are designed for stronger cables from Ø 4.4 mm (for stranded cables and round cables with Ø 4.4 mm ... 7 mm / 0.17 ... 0.27 inch).

- These stripping pliers quickly and safely strip cables for connecting, e.g., sensor/actuator distribution boxes, bus couplers and pluggable connectors.
- Suitable for:
- Halogen-free PUR sensor/actuator cables
 - Highly flexible TPE-U cables
 - Control cables
 - PUR cables
 - PUR/PVC cables
 - PVC cables
 - Multi-core cables
 - Shielded and unshielded cables

Never use this tool on or near live electrical circuits!



Wire stripper "Quickstrip Vario"; 0.03 ... 16 mm² / 34 ... 6 AWG		
	Item No.	Pack. Unit
	206-1125	1

Accessories		
	Item No.	Pack. Unit
Blade set; Standard; 0.03 ... 16 mm² / 34 ... 6 AWG	206-1126	1
Blade set; V-blade; 0.14 ... 4 mm² / 24 ... 12 AWG	206-1127	1
Blade set; Oval blade; 10 ... 16 mm² / 8 ... 6 AWG	206-1128	1
Spare stripping stop	206-1129	1
Spare cut protector	206-1131	1
Spare clamping jaws	206-1132	1



Partially stripping a conductor.

- Wire Stripper:
- Automatically adjust to conductor size
 - Stripping blades cause no damage to conductor strands
 - Gripping pressure of jaws adjusts automatically to conductor insulation diameter
 - Clamping jaws and stripping blades automatically open once the stripping process is completed – no splaying of the conductor strands
 - Exact strip length may be set by sliding black setting stop
 - Stripping blades can be replaced
 - Self-sharpening, fully protected cutter (replaceable)
 - Entire body made of glass-fiber-reinforced polyamide
 - Cutting capacity of the wire cutter of fine-stranded conductors up to 16 mm² (6 AWG)

Test and Measurement Device

206 Series



Multi-Tester; digital multimeter with non-contact voltage tester

	Item No.	Pack. Unit
	206-810	1



Clamp-Multi-Tester

	Item No.	Pack. Unit
	206-816	1



Testboy; with integrated flashlight, non-contact voltage tester

	Item No.	Pack. Unit
	206-804	1



Additional Multi-Tester features:

- Contact-less voltage test AC > 100 V (optical and acoustical)
- Resistance measurement up to 20 MΩ
- Acoustical continuity test
- Diode test
- Data hold function
- Auto power-off function
- LED torch lamp function
- CAT IV 600 V
- TÜV/GS tested and approved
- IEC/EN 61010-1 (DIN VDE 0411)



Voltage testing in control cabinet:

- Additional Clamp-Multi-Tester features:
- DC and AC current up to 600 A
- True RMS and min./max. value measurement
- DC and AC voltage up to 600 V
- Manual or automatic measurement range selection
- Resistance up to 60 MΩ
- Capacitance measurement, acoustical continuity test
- Diode test, data hold function
- Large LCD with backlight
- LED measuring point lighting
- CAT III 600 V overvoltage protection
- IEC/EN 61010-1 (DIN VDE 0411)
- Includes batteries, measurement leads and carrying bag



A device that will reliably detect AC voltage in cables, sockets, fuses, switches, outlets and other installations.

Testboy can detect the following:

- Live conductors
- Cable breaks
- Blown fuses (in cartridges or holders)
- Defective switches
- Defective lamps in strings of lights



Current measurement in a control cabinet

Test and Measurement Devices

206 Series



Profi-LCD+; 2-pole voltage tester with LCD display; removable 4 mm Ø test probes		
Item No.	Pack. Unit	
206-707	1	



Profi-LED+; 2-pole voltage tester with LED display		
Item No.	Pack. Unit	
206-706	1	



Spare test probes; 4 mm Ø (2 pieces)		
Item No.	Pack. Unit	
206-808	25	



- Additional Profi-LCD+ features:
- Automatic measurement range selection
 - Single-pole phase testing AC >100 V
 - Two-pole sequence testing (R and L)
 - Continuity testing
 - RDC/RCD testing (30 mA) via buttons
 - One-hand operation for SCHUKO® and CEE sockets
 - LED torch lamp function
 - Automatic backlight
 - Auto power-off function
 - CAT IV 1000 V
 - TÜV/GS tested and approved
 - IEC/EN 61243-3 (DIN VDE 0682-401)



- Additional Profi-LED+ features:
- Automatic measurement range selection
 - Single-pole phase testing AC >100 V
 - Two-pole sequence testing (R and L)
 - Continuity testing
 - RDC/RCD testing (30 mA) via buttons
 - One-hand operation for SCHUKO® and CEE sockets
 - LED torch lamp function
 - CAT IV 1000 V
 - TÜV/GS tested and approved
 - IEC/EN 61243-3 (DIN VDE 0682-401)



- Profi-LED+:
- Improved socket contact via 4 mm Ø test probes
 - Removable test probes for small test ports (suitable for all WAGO Terminal Blocks)

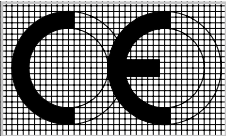




Technical Section

Technical Section

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Versions with an extended temperature range (Item No. with Suffix /025-...) see the following pages

	cULus OrdLoc	E175199 Sec. 1, UL 508, UL 61010	
	ABS (American Bureau of Shipping)	19-HG1821926-PDA; 18-HG1778162-PDA; 19-HG1821812-PDA	
	BV (Bureau Veritas)	13453/D0 BV, 30389/B0 BV	
	DNV (Det Norske Veritas) GL (Germanischer Lloyd)	TAA0000194; TAA00000Y7; TAA00001J4; TAA00001FS	
	KR (Korean Register of Shipping)	HMB05880-AC001	
	LR (Lloyd's Register)	02/20026 (E5); 17/20073 (E2)	
	NK (Nippon Kaiji Kyokai)	TA17255M	
	Polski Rejestr Statkow	TE/2210/880590/18; TE/2215/880590/18; TE/2214/880590/18	
	RINA (Registro Italiano Navale)	ELE343217XG	
	cULus HazLoc	E198726 Sec. 1, ANSI/ISA 12.12.01 E480271 Sec. 1, AEx UL60079	
	INMETRO	TÜV 12.1297 X; TÜV 14.1911 X	
	TÜV	07ATEX554086 X; IECEx TUN 09.0001 X 12ATEX106032 X; IECEx TUN 12.0039 X 14ATEX148929 X; IECEx TUN 14.0035 X 17ATEX193969 X; IECEx TUN 16.0046 X 17ATEX196484 X; IECEx TUN 17.0005 X DEKRA 11ATEX0203 X	TEX/IECEx RA-Ex azLoc RINA PRS NK LR KR DNV GL BV ABS rdLoc

Item No.	Item Description	A	B	H							O	See Page
PFC100/PFC200 ¹⁾		Ex	Marine Approvals								UL	
750-8100	PFC100; 2ETH; Eco	■		■		■				■	■	78
750-8101	PFC100; 2ETH	■		■		■				■	■	79
750-8102	PFC100; 2ETH RS	■		■		■				■	■	79
750-8207	PFC200; 2ETH RS 3G										□	85
750-8208	PFC200; 2ETH RS CAN DPM	■				■				■	□	86
750-8212	PFC200; G2; 2ETH RS	■		■						■	□	80
750-8213	PFC200; G2; 2ETH CAN	■		■						■	□	81
750-8214	PFC200; G2; 2ETH RS CAN	■		■						■	□	82
750-8215	PFC200; G2; 4ETH CAN USB	■		■						□	□	83
750-8216	PFC200; G2; 2ETH RS CAN DPS	■		■						■	□	84
PFC200 XTR ¹⁾												
750-8202/040-000	PFC200; 2ETH RS; XTR	■		■		■		■		■	■	100
750-8202/040-001	PFC200; 2ETH RS; Tele; XTR	■		■		■		■		■	■	100
750-8206/040-000	PFC200; 2ETH RS CAN DPS; XTR	■		■		■		■		■	■	101
750-8206/040-001	PFC200; 2ETH RS CAN DPS; Tele; XTR	■		■		■		■		■	■	101
Controllers 750 ¹⁾												
750-806	Controller DeviceNet	■	■	■	■	■	■	■	■	■	■	116
750-815/300-000	Controller Modbus®; RS485; 115.2kBd	■		■	■	■	■	■	■	■	■	117
750-816/300-000	Controller Modbus®; RS232; 115.2kBd	■		■	■	■	■	■	■	■	■	117
750-829	Controller BACnet MS/TP			■							■	115
750-831	Controller BACnet/IP					■				■	■	114
750-833	Controller PROFIBUS Slave	■	■	■	■	■	■	■	■	■	■	118
750-837	Controller CANopen; M1; MCS	■	■	■	■	■	■	■	■	■	■	119
750-838	Controller CANopen; M1; DSub	■	■	■	■	■	■	■	■	■	■	119
750-842	Controller ETHERNET; G1	■		■	■	■	■	■	■	■	■	112
750-843	Controller ETHERNET; G1; Eco	■		■	■	■	■	■	■	■	■	112
750-852	Controller ETHERNET; G3; Eco	■		■						■	■	111
750-862	Controller Modbus TCP; G4; Eco	■		■						■	□	111
750-880	Controller ETHERNET; G3; SD	■	■	■	■	■	■	■	■	■	■	108
750-881	Controller ETHERNET; G3	■	■	■	■	■	■	■	■	■	■	109
750-882	Controller ETHERNET; G3; MR	■	■	■	■	■	■	■	■	■	■	110
750-885	Controller ETHERNET; G3; SD; MR	■	■	■						■	■	110
750-889	Controller KNX/IP			■						■	■	113
750-890	Controller Modbus TCP; G4; SD	■		■						■	□	109
750-891	Controller Modbus TCP; G4	■		■						■	□	109
Controllers 750 XTR ¹⁾												
750-838/040-000	Controller CANopen; M3 DSub XTR	■		■		■		■		■	■	127
750-880/040-000	Controller ETHERNET; G3; SD; XTR	■		■		■		■		■	■	126
750-880/040-001	Controller ETHERNET; G3; SD; Tele; XTR	■		■		■		■		■	■	126

☒ Approval is available. ☐ Approval is pending.

Approvals Overview

Fieldbus Couplers – I/O System 750; Fieldbus Connectors

Versions with an extended temperature range (Item No. with Suffix /025-...) see the following pages

cULus LISTED	cULus OrdLoc	E175199 Sec. 1, UL 508, UL 61010
ABS	ABS (American Bureau of Shipping)	19-HG1821926-PDA; 18-HG1778162-PDA; 19-HG1821812-PDA
Bureau Veritas	BV (Bureau Veritas)	13453/D0 BV, 30389/B0 BV
DNV GL	DNV (Det Norske Veritas) GL (Germanischer Lloyd)	TAA0000194; TAA00000Y7; TAA00001J4; TAA00001FS
KR	KR (Korean Register of Shipping)	HMB05880-AC001
Lloyd's Register	LR (Lloyd's Register)	02/20026 (E5); 17/20073 (E2)
Nippon Kaiji Kyokai	NK (Nippon Kaiji Kyokai)	TA17255M
Polski Rejestr Statkow	Polski Rejestr Statkow	TE/2210/880590/18; TE/2215/880590/18; TE/2214/880590/18
RINA	RINA (Registro Italiano Navale)	ELE343217XG
cULus HazLoc INMETRO TÜV	cULus HazLoc	E198726 Sec. 1, ANSI/ISA 12.12.01 E480271 Sec. 1, AEx UL60079
	INMETRO	TÜV 12.1297 X; TÜV 14.1911 X
	TÜV	07ATEX554086 X; IECEx TUN 09.0001 X 12ATEX106032 X; IECEx TUN 12.0039 X 14ATEX148929 X; IECEx TUN 14.0035 X 17ATEX193969 X; IECEx TUN 16.0046 X 17ATEX196484 X; IECEx TUN 17.0005 X DEKRA 11ATEX0203 X
		ATEX/IECEX
		BRA-EX
		HazLoc
		RINA
		PRS
		NK
		LR
		KR
		DNV GL
		BV
		ABS
		OrdLoc
Item No.	Item Description	
Fieldbus Couplers – I/O System 750¹⁾		Ex Marine Approvals UL
750-303	FC PROFIBUS; G1; 12MBd	
750-304	FC INTERBUS	
750-306	FC DeviceNet	
750-307	FC CANopen	
750-310	FC CC-Link	
750-315/300-000	FC Modbus®; RS485; 115.2kBd	
750-316/300-000	FC Modbus®; RS232; 115.2kBd	
750-331	FC PROFIBUS; FOC; 1.5MBd	
750-333	FC PROFIBUS; G2; 12MBd	
750-337	FC CANopen; MCS	
750-338	FC CANopen; DSub	
750-342	FC ETHERNET; G1	
750-343	FC PROFIBUS; 12MBd; Eco	
750-344	FC INTERBUS; 500kbit/s; Eco	
750-346	FC DeviceNet; Eco	
750-347	FC CANopen; MCS; Eco	
750-348	FC CANopen; DSub; Eco	
750-351	FC Sercos®	
750-352	FC ETHERNET; G3	
750-354	FC EtherCAT®	
750-362	FC Modbus TCP; G4	
750-375	FC PROFINET; G3; Adv	
750-377	FC PROFINET; G3; Eco; Adv	
Fieldbus Connectors		
750-960	PROFIBUS Fieldbus Connector; with D-sub male connector; 9-pole	
750-961	INTERBUS Fieldbus Connector (IN); with D-sub female connector; 9-pole	
750-962	INTERBUS Fieldbus Connector (OUT); with D-sub male connector; 9-pole	
750-963	CANopen Fieldbus Connector; with D-sub female connector; 9-pole	
750-965	CC-Link Fieldbus Connector; with D-sub male connector; 9-pole	
750-975	ETHERNET RJ-45 connector, IP20; ETHERNET 10/100 Mbit/s; for field assembly	
750-976	PROFINET RJ-45 connector, IP20; ETHERNET 10/100 Mbit/s; for field assembly	

¹⁾ Notice: WAGO's 750-626 Filter Module is mandatory for marine approval (observe power supply instructions)!
☒ Approval is available. ☐ Approval is pending.

Versions with an extended temperature range (Item No. with Suffix /025-...) see the following pages

	cULus OrdLoc	E175199 Sec. 1, UL 508, UL 61010
	ABS (American Bureau of Shipping)	19-HG1821926-PDA; 18-HG1778162-PDA; 19-HG1821812-PDA
	BV (Bureau Veritas)	13453/D0 BV, 30389/B0 BV
	DNV (Det Norske Veritas) GL (Germanischer Lloyd)	TAA0000194; TAA00000Y7; TAA00001J4; TAA00001FS
	KR (Korean Register of Shipping)	HMB05880-AC001
	LR (Lloyd's Register)	02/20026 (E5); 17/20073 (E2)
	NK (Nippon Kaiji Kyokai)	TA17255M
	Polski Rejestr Statkow	TE/2210/880590/18; TE/2215/880590/18; TE/2214/880590/18
	RINA (Registro Italiano Navale)	ELE343217XG
	cULus HazLoc	E198726 Sec. 1, ANSI/ISA 12.12.01 E480271 Sec. 1, AEx UL60079
	INMETRO	TÜV 12.1297 X; TÜV 14.1911 X
	TÜV	07ATEX554086 X; IECEx TUN 09.0001 X 12ATEX106032 X; IECEx TUN 12.0039 X 14ATEX148929 X; IECEx TUN 14.0035 X 17ATEX193969 X; IECEx TUN 16.0046 X 17ATEX196484 X; IECEx TUN 17.0005 X DEKRA 11ATEX0203 X
		ATEX/IECEx RA-Ex azLoc RINA PRS NK LR KR DNV GL BV ABS rdLoc

Item No.	Item Description																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	</

²⁾ This I/O module shall only be used in connection with the 24 VDC Ex i supply module (observe power supply instructions)!

☒ Approval is available. ☐ Approval is pending.

Approvals Overview

Digital Output Modules – I/O System 750/753

Versions with an extended temperature range (Item No. with Suffix /025-...) see the following pages

	cULus OrdLoc	E175199 Sec. 1, UL 508, UL 61010													
	ABS (American Bureau of Shipping)	19-HG1821926-PDA; 18-HG1778162-PDA; 19-HG1821812-PDA													
	BV (Bureau Veritas)	13453/D0 BV, 30389/B0 BV													
	DNV (Det Norske Veritas) GL (Germanischer Lloyd)	TAA0000194; TAA00000Y7; TAA00001J4; TAA00001FS													
	KR (Korean Register of Shipping)	HMB05880-AC001													
	LR (Lloyd's Register)	02/20026 (E5); 17/20073 (E2)													
	NK (Nippon Kaiji Kyokai)	TA17255M													
	Polski Rejestr Statkow	TE/2210/880590/18; TE/2215/880590/18; TE/2214/880590/18													
	RINA (Registro Italiano Navale)	ELE343217XG													
	cULus HazLoc	E198726 Sec. 1, ANSI/ISA 12.12.01 E480271 Sec. 1, AEx UL60079													
	INMETRO	TÜV 12.1297 X; TÜV 14.1911 X													
	TÜV	07ATEX554086 X; IECEx TUN 09.0001 X 12ATEX106032 X; IECEx TUN 12.0039 X 14ATEX148929 X; IECEx TUN 14.0035 X 17ATEX193969 X; IECEx TUN 16.0046 X 17ATEX196484 X; IECEx TUN 17.0005 X DEKRA 11ATEX0203 X	ATEX/IECEx	BRA-Ex	HazLoc	RINA	PRS	NK	LR	KR	DNV GL	BV	ABS	OrdLoc	
Item No.	Item Description														See Page
Digital Output Modules			Ex	Marine Approvals										UL	
750-501	2DO; 24 VDC; 0.5A		■	■	■	■	■	■	■	■	■	■	■	■	195
750-502	2DO; 24 VDC; 2A		■	■	■	■	■	■	■	■	■	■	■	■	196
750-504	4DO; 24 VDC; 0.5A		■	■	■	■	■	■	■	■	■	■	■	■	198
750-506	2DO; 24 VDC; 0.5A; Diagn		■	■	■	■	■	■	■	■	■	■	■	■	197
750-508	2DO; 24 VDC; 2A; Diagn		■	■	■	■	■	■	■	■	■	■	■	■	197
750-509	2DO; 230 VAC; 0.3A; SSR		■	■	■	■	■	■	■	■	■	■	■	■	206
750-512	2RO; 250 VAC; 2A; Relay2NO		■	■	■	■	■	■	■	■	■	■	■	■	208
750-513	2RO; 250 VAC; 2A; Pot-free; Relay2NO		■	■	■	■	■	■	■	■	■	■	■	■	209
750-514	2RO; 125 VAC; 0.5A; Pot-free; Relay2CO		■	■	■	■	■	■	■	■	■	■	■	■	207
750-515	4RO; 250 VAC; 2A; Pot-free; Relay4NO		■	■	■	■	■	■	■	■	■	■	■	■	210
750-516	4DO; 24 VDC; 0.5A; LSS		■	■	■	■	■	■	■	■	■	■	■	■	200
750-517	2RO; 250 VAC; 1A; Pot-free; Relay2CO		■	■	■	■	■	■	■	■	■	■	■	■	208
750-519	4DO; 5 VDC; 20mA		■	■	■	■	■	■	■	■	■	■	■	■	194
750-523	1RO; 230 VAC; 16A; Pot-free; Relay1NO		■	■	■	■	■	■	■	■	■	■	■	■	211
750-530	8DO; 24 VDC; 0.5A		■	■	■	■	■	■	■	■	■	■	■	■	201
750-531	4DO; 24 VDC; 0.5A; 2-wire		■	■	■	■	■	■	■	■	■	■	■	■	199
750-532	4DO; 24 VDC; 0.5A; Diagn		■	■	■	■	■	■	■	■	■	■	■	■	200
750-534	8DO; 12 VDC; 1A		■	■	■	■	■	■	■	■	■	■	■	■	194
750-535 ²⁾	2DO; 24 VDC; Ex i		■	■	■	■	■	■	■	■	■	■	■	■	314
750-536	8DO; 24 VDC; 0.5A; LSS		■	■	■	■	■	■	■	■	■	■	■	■	201
750-537	8DO; 24 VDC; 0.5A; Diagn		■	■	■	■	■	■	■	■	■	■	■	■	201
750-538 ²⁾	2RO; 100 VAC/ 30 VDC; Pot-free; Relay2CO; Ex i		■	■	■	■	■	■	■	■	■	■	■	■	315
750-539 ²⁾	4DO; 24 VDC; Valve; Ex i		■	■	■	■	■	■	■	■	■	■	■	■	314
750-1500	16DO; 24 VDC; 0.5A; Ribbon Cable		■	■	■	■	■	■	■	■	■	■	■	■	204
750-1501	16DO; 24 VDC; 0.5A; LSS; Ribbon Cable		■	■	■	■	■	■	■	■	■	■	■	■	205
750-1502	8DIO; 24 VDC; 0.5A; Ribbon Cable		■	■	■	■	■	■	■	■	■	■	■	■	203
750-1504	16DO; 24 VDC; 0.5A		■	■	■	■	■	■	■	■	■	■	■	■	204
750-1505	16DO; 24 VDC; 0.5A; LSS		■	■	■	■	■	■	■	■	■	■	■	■	205
750-1506	8DIO; 24 VDC; 0.5A		■	■	■	■	■	■	■	■	■	■	■	■	203
750-1515	8DO; 24 VDC; 0.5A; 2-wire		■	■	■	■	■	■	■	■	■	■	■	■	202
750-1516	8DO; 24 VDC; 0.5A; LSS; 2-wire		■	■	■	■	■	■	■	■	■	■	■	■	202
753-540	4DO; 230 VAC; 0.25A; SSR		■	■	■	■	■	■	■	■	■	■	■	■	206

*Approval also applies to WAGO's I/O module variant equipped with 753 Series Pluggable Connector.

²⁾ This I/O module shall only be used in connection with the 24 VDC Ex i supply module (observe power supply instructions)!

■ Approval is available. □ Approval is pending.

Approvals Overview

Analog Input Modules – I/O System 750/753

Versions with an extended temperature range (Item No. with Suffix /025-...) see the following pages

	cULus OrdLoc	E175199 Sec. 1, UL 508, UL 61010													
	ABS (American Bureau of Shipping)	19-HG1821926-PDA; 18-HG1778162-PDA; 19-HG1821812-PDA													
	BV (Bureau Veritas)	13453/D0 BV, 30389/B0 BV													
	DNV (Det Norske Veritas) GL (Germanischer Lloyd)	TAA0000194; TAA00000Y7; TAA00001J4; TAA00001FS													
	KR (Korean Register of Shipping)	HMB05880-AC001													
	LR (Lloyd's Register)	02/20026 (E5); 17/20073 (E2)													
	NK (Nippon Kaiji Kyokai)	TA17255M													
	Polski Rejestr Statkow	TE/2210/880590/18; TE/2215/880590/18; TE/2214/880590/18													
	RINA (Registro Italiano Navale)	ELE343217XG													
	cULus HazLoc	E198726 Sec. 1, ANSI/ISA 12.12.01 E480271 Sec. 1, AEx UL60079													
	INMETRO	TÜV 12.1297 X; TÜV 14.1911 X													
	TÜV	07ATEX554086 X; IECEx TUN 09.0001 X 12ATEX106032 X; IECEx TUN 12.0039 X 14ATEX148929 X; IECEx TUN 14.0035 X 17ATEX193969 X; IECEx TUN 16.0046 X 17ATEX196484 X; IECEx TUN 17.0005 X DEKRA 11ATEX0203 X	ATEX/IECEx	BRA-Ex	HazLoc	RINA	PRS	NK	LR	KR	DNV GL	BV	ABS	OrdLoc	
Item No.	Item Description														See Page
Analog Input Modules			Ex	Marine Approvals										UL	
750-450	4AI; RTD; Adjust		■		■			■				■			237
750-451	8AI; RTD; Adjust		■		■			■				■			237
750-452	2AI; 0-20mA; Diff		■	■	■	■	■	■	■	■	■	■	■	■	214
750-453	4AI; 0-20mA; SE		■	■	■	■	■	■	■	■	■	■	■	■	216
750-454	2AI; 4-20mA; Diff		■	■	■	■	■	■	■	■	■	■	■	■	217
750-455	4AI; 4-20mA; SE		■	■	■	■	■	■	■	■	■	■	■	■	224
750-456	2AI; ±10 VDC; Diff		■	■	■	■	■	■	■	■	■	■	■	■	227
750-457	4AI; ±10 VDC; SE		■	■	■	■	■	■	■	■	■	■	■	■	228
750-458	8AI; TC; Adjust		■	■	■	■	■	■	■	■	■	■	■	■	239
750-459	4AI; 0-10 VDC; SE		■	■	■	■	■	■	■	■	■	■	■	■	230
750-461	2AI; Pt100/RTD		■	■	■	■	■	■	■	■	■	■	■	■	234
750-463	4AI; RTD; -30°C...+150°C		■	■	■	■	■	■	■	■	■	■	■	■	237
750-464	2/4AI; RTD; Adjust		■	■	■	■	■	■	■	■	■	■	■	■	236
750-465	2AI; 0-20mA; SE		■	■	■	■	■	■	■	■	■	■	■	■	215
750-466	2AI; 4-20mA; SE		■	■	■	■	■	■	■	■	■	■	■	■	219
750-467	2AI; 0-10 VDC; SE		■	■	■	■	■	■	■	■	■	■	■	■	229
750-468	4AI; 0-10 VDC; SE		■	■	■	■	■	■	■	■	■	■	■	■	230
750-469	2AI; TC K; Diagn		■	■	■	■	■	■	■	■	■	■	■	■	238
750-470	2AI; 0-20mA; SE		■	■	■	■	■	■	■	■	■	■	■	■	215
750-471	4AI; U/I; Diff; Galv		■	■	■	■	■	■	■	■	■	■	■	■	233
750-472	2AI; 0-20mA; SE; 16bits		■	■	■	■	■	■	■	■	■	■	■	■	216
750-473	2AI; 4-20mA; SE		■	■	■	■	■	■	■	■	■	■	■	■	220
750-474	2AI; 4-20mA; SE; 16bits		■	■	■	■	■	■	■	■	■	■	■	■	221
750-475	2AI; 0-1A AC/DC; Diff		■	■	■	■	■	■	■	■	■	■	■	■	226
750-476	2AI; ±10 VDC; SE; 16bits		■	■	■	■	■	■	■	■	■	■	■	■	228
750-477	2AI; 0-10 VAC/VDC; Diff		■	■	■	■	■	■	■	■	■	■	■	■	232
750-478	2AI; 0-10 VDC; SE; 16bits		■	■	■	■	■	■	■	■	■	■	■	■	229
750-479	2AI; ±10 VDC; Diff		■	■	■	■	■	■	■	■	■	■	■	■	227
750-480	2AI; 0-20mA; Diff		■	■	■	■	■	■	■	■	■	■	■	■	214
750-481/003-000 ²⁾	2AI; RTD; Ex i		■	■	■	■	■	■	■	■	■	■	■	■	318
750-482	2AI; 4-20mA HART		■	■	■	■	■	■	■	■	■	■	■	■	222
750-483	2AI; 0-30 VDC; Diff		■	■	■	■	■	■	■	■	■	■	■	■	232
750-484 ²⁾	2AI; 4-20mA HART; Ex i		■	■	■	■	■	■	■	■	■	■	■	■	317
750-484/000-001 ²⁾	2AI 4-20mA HART NAMUR NE43 Ex i		■	■	■	■	■	■	■	■	■	■	■	■	317
750-485 ²⁾	4AI; 4-20mA; Ex i		■	■	■	■	■	■	■	■	■	■	■	■	316
750-486 ²⁾	4AI; 0/4-20mA; NE43; Ex i		■	■	■	■	■	■	■	■	■	■	■	■	316
750-487/003-000 ²⁾	2AI; TC; Ex i		■	■	■	■	■	■	■	■	■	■	■	■	318
750-491	1AI; DMS		■	■	■	■	■	■	■	■	■	■	■	□	240
750-492	2AI; 4-20mA; Diff		■	■	■	■	■	■	■	■	■	■	■	■	218
750-493	3-PHASE POM; 480VAC 1A		■	■	■	■	■	■	■	■	■	■	■	■	241
750-494	3-PHASE POM; 480VAC 1A		■	■	■	■	■	■	■	■	■	■	■	■	242
750-495	3-PHASE POM; 690VAC 1A		■	■	■	■	■	■	■	■	■	■	■	■	244
750-496	8AI; 0/4-20mA; SE		■	■	■	■	■	■	■	■	■	■	■	■	225
750-497	8AI; 0-10 V/±10 VDC; SE		■	■	■	■	■	■	■	■	■	■	■	■	231

*Approval also applies to WAGO's I/O module variant equipped with 753 Series Pluggable Connector.

²⁾ This I/O module shall only be used in connection with the 24 VDC Ex i supply module (observe power supply instructions)!

■ Approval is available. □ Approval is pending.

Approvals Overview

Analog Output Modules – I/O System 750/753

Versions with an extended temperature range (Item No. with Suffix /025-...) see the following pages

	cULus OrdLoc	E175199 Sec. 1, UL 508, UL 61010													
	ABS (American Bureau of Shipping)	19-HG1821926-PDA; 18-HG1778162-PDA; 19-HG1821812-PDA													
	BV (Bureau Veritas)	13453/D0 BV, 30389/B0 BV													
	DNV (Det Norske Veritas) GL (Germanischer Lloyd)	TAA0000194; TAA00000Y7; TAA00001J4; TAA00001FS													
	KR (Korean Register of Shipping)	HMB05880-AC001													
	LR (Lloyd's Register)	02/20026 (E5); 17/20073 (E2)													
	NK (Nippon Kaiji Kyokai)	TA17255M													
	Polski Rejestr Statkow	TE/2210/880590/18; TE/2215/880590/18; TE/2214/880590/18													
	RINA (Registro Italiano Navale)	ELE343217XG													
	cULus HazLoc	E198726 Sec. 1, ANSI/ISA 12.12.01 E480271 Sec. 1, AEx UL60079													
	INMETRO	TÜV 12.1297 X; TÜV 14.1911 X													
	TÜV	07ATEX554086 X; IECEx TUN 09.0001 X 12ATEX106032 X; IECEx TUN 12.0039 X 14ATEX148929 X; IECEx TUN 14.0035 X 17ATEX193969 X; IECEx TUN 16.0046 X 17ATEX196484 X; IECEx TUN 17.0005 X DEKRA 11ATEX0203 X	ATEX/IECEx	BRA-Ex	HazLoc	RINA	PRS	NK	LR	KR	DNV GL	BV	ABS	OrdLoc	
Item No. Item Description															See Page
Analog Output Modules			Ex	Marine Approvals									UL		
750-550	2AO; 0-10 VDC		■	■	■	■	■	■	■	■	■	■	■	■	252
750-552	2AO; 0-20mA		■	■	■	■	■	■	■	■	■	■	■	■	248
750-553	4AO; 0-20mA		■	■	■	■	■	■	■	■	■	■	■	■	249
750-554	2AO; 4-20mA		■	■	■	■	■	■	■	■	■	■	■	■	250
750-555	4AO; 4-20mA		■	■	■	■	■	■	■	■	■	■	■	■	251
750-556	2AO; ±10 VDC		■	■	■	■	■	■	■	■	■	■	■	■	254
750-557	4AO; ±10 VDC		■	■	■	■	■	■	■	■	■	■	■	■	254
750-559	4AO; 0-10 VDC		■	■	■	■	■	■	■	■	■	■	■	■	253
750-560	2AO; 0-10 VDC; 10Bit; 100mW/ 24V		■	■	■	■	■	■	■	■	■	■	■	■	252
750-562	2AO; 0-10 V/±10 VDC; 16bits		■	■	■	■	■	■	■	■	■	■	■	■	255
750-563	2AO; 0/4-20mA; 16bits; 6-18 VDC		■	■	■	■	■	■	■	■	■	■	■	■	251
750-585 ²⁾	2AO; 0-20mA; Ex i		■	■	■	■	■	■	■	■	■	■	■	■	319
750-586 ²⁾	2AO; 4-20mA; Ex i		■	■	■	■	■	■	■	■	■	■	■	■	319

*Approval also applies to WAGO's I/O module variant equipped with 753 Series Pluggable Connector.

²⁾ This I/O module shall only be used in connection with the 24 VDC Ex i supply module (observe power supply instructions)!

■ Approval is available. □ Approval is pending.

Versions with an extended temperature range (Item No. with Suffix /025-...) see the following pages

	cULus OrdLoc	E175199 Sec. 1, UL 508, UL 61010
	ABS (American Bureau of Shipping)	19-HG1821926-PDA; 18-HG1778162-PDA; 19-HG1821812-PDA
	BV (Bureau Veritas)	13453/D0 BV, 30389/B0 BV
	DNV (Det Norske Veritas) GL (Germanischer Lloyd)	TAA0000194; TAA00000Y7; TAA00001J4; TAA00001FS
	KR (Korean Register of Shipping)	HMB05880-AC001
	LR (Lloyd's Register)	02/20026 (E5); 17/20073 (E2)
	NK (Nippon Kaiji Kyokai)	TA17255M
	Polski Rejestr Statkow	TE/2210/880590/18; TE/2215/880590/18; TE/2214/880590/18
	RINA (Registro Italiano Navale)	ELE343217XG
	cULus HazLoc	E198726 Sec. 1, ANSI/ISA 12.12.01 E480271 Sec. 1, AEx UL60079
	INMETRO	TÜV 12.1297 X; TÜV 14.1911 X
	TÜV	07ATEX554086 X; IECEx TUN 09.0001 X 12ATEX106032 X; IECEx TUN 12.0039 X 14ATEX148929 X; IECEx TUN 14.0035 X 17ATEX193969 X; IECEx TUN 16.0046 X 17ATEX196484 X; IECEx TUN 17.0005 X DEKRA 11ATEX0203 X

[illegible]

*Approval also applies to WAGO's I/O module variant equipped with 753 Series Pluggable Connector.

²⁾ This I/O module shall only be used in connection with the 24 VDC Ex i supply module (observe power supply instructions)!

☒ Approval is available. ☐ Approval is pending.

Approvals Overview

Supply and Segment Modules – I/O System 750/753

Versions with an extended temperature range (Item No. with Suffix /025-...) see the following pages

[illegible]

*Approval also applies to WAGO's I/O module variant equipped with 753 Series Pluggable Connector.

¹⁾ Notice: WAGO's 750-626 Filter Module is mandatory for marine approval (observe power supply instructions)!

³⁾ Notice: WAGO's 750-624 Filter Module is mandatory for marine approval (observe power supply instructions)!

⁴⁾ Notice: WAGO's 750-626 Filter Module is mandatory for marine approval at 24 VDC power supply (observe power supply instructions)!

☐ Approval is available. ☐ Approval is pending.

Surrounding air temperature (operation): -20 ... +60 °C

	cULus OrdLoc	E175199 Sec. 1, UL 508, UL 61010
	ABS (American Bureau of Shipping)	19-HG1821926-PDA; 18-HG1778162-PDA; 19-HG1821812-PDA
	BV (Bureau Veritas)	13453/D0 BV, 30389/B0 BV
	DNV (Det Norske Veritas) GL (Germanischer Lloyd)	TAA0000194; TAA00000Y7; TAA00001J4; TAA00001FS
	KR (Korean Register of Shipping)	HMB05880-AC001
	LR (Lloyd's Register)	02/20026 (E5); 17/20073 (E2)
	NK (Nippon Kaiji Kyokai)	TA17255M
	Polski Rejestr Statkow	TE/2210/880590/18; TE/2215/880590/18; TE/2214/880590/18
	RINA (Registro Italiano Navale)	ELE343217XG
	cULus HazLoc	E198726 Sec. 1, ANSI/ISA 12.12.01 E480271 Sec. 1, AEx UL60079
	INMETRO	TÜV 12.1297 X; TÜV 14.1911 X
	TÜV	07ATEX554086 X; IECEx TUN 09.0001 X 12ATEX106032 X; IECEx TUN 12.0039 X 14ATEX148929 X; IECEx TUN 14.0035 X 17ATEX193969 X; IECEx TUN 16.0046 X 17ATEX196484 X; IECEx TUN 17.0005 X DEKRA 11ATEX0203 X

Item No.	Item Description	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	1221	1222	1223	1224	1225	1226	1227	1228	1229	1230	1231	1232	1233	1234	1235	1236	1237	1238	1239	1240	1241	1242	1243	1244	1245	1246	1247	1248	1249	1250	1251	1252	1253	1254	1255	1256	1257	1258	1259	1260	1261	1262	1263	1264	1265	1266	1267	1268	1269	1270	1271	1272	1273	1274	1275	1276	1277	1278	1279	1280	1281	1282	1283	1284	1285	1286	1287	1288	1289	1290	1291	1292	1293	1294	1295	1296	1297	1298	1299	1300	1301	1302	1303	1304	1305	1306	1307	1308	1309	1310	1311	1312	1313	1314	1315	1316	1317	1318	1319	1320	1321	1322	1323	1324	1325	1326	1327	1328	1329	1330	1331	1332	1333	1334	1335	1336	1337	1338	1339	1340	1341	1342	1343	1344	1345	1346	1347	1348	1349	1350	1351	1352	1353	1354	1355	1356	1357	1358	1359	1360	1361	1362	1363	1364	1365	1366	1367	1368	1369	1370	1371	1372	1373	1374	1375	1376	1377	1378	1379	1380	1381	1382	1383	1384	1385	1386	1387	1388	1389	1390	1391	1392	1393	1394	1395	1396	1397	1398	1399	1400	1401	1402	1403	1404	1405	1406	1407	1408	1409	1410	1411	1412	1413	1414	1415	1416	1417	1418	1419	1420	1421	1422	1423	1424	1425	1426	1427	1428	1429	1430	1431	1432	1433	1434	1435	1436	1437	1438	1439	1440	1441	1442	1443	1444	1445	1446	1447	1448	1449	1450	1451	1452	1453	1454	1455	1456	1457	1458	1459	1460	1461	1462	1463	1464	1465	1466	1467	1468	1469	1470	1471	1472	1473	1474	1475	1476	1477	1478	1479	1480	1481	1482	1483	1484	1485	1486	1487	1488	1489	1490	1491	1492	1493	1494	1495	1496	1497	1498	1499

☒ Approval is available. ☐ Approval is pending.

Approvals Overview

I/O System 750; Versions with an extended temperature range

Surrounding air temperature (operation): -20 ... +60 °C

	cULus OrdLoc	E175199 Sec. 1, UL 508, UL 61010													
	ABS (American Bureau of Shipping)	19-HG1821926-PDA; 18-HG1778162-PDA; 19-HG1821812-PDA													
	BV (Bureau Veritas)	13453/D0 BV, 30389/B0 BV													
	DNV (Det Norske Veritas) GL (Germanischer Lloyd)	TAA0000194; TAA00000Y7; TAA00001J4; TAA00001FS													
	KR (Korean Register of Shipping)	HMB05880-AC001													
	LR (Lloyd's Register)	02/20026 (E5); 17/20073 (E2)													
	NK (Nippon Kaiji Kyokai)	TA17255M													
	Polski Rejestr Statkow	TE/2210/880590/18; TE/2215/880590/18; TE/2214/880590/18													
	RINA (Registro Italiano Navale)	ELE343217XG													
	cULus HazLoc	E198726 Sec. 1, ANSI/ISA 12.12.01 E480271 Sec. 1, AEx UL60079													
	INMETRO	TÜV 12.1297 X; TÜV 14.1911 X													
	TÜV	07ATEX554086 X; IECEx TUN 09.0001 X 12ATEX106032 X; IECEx TUN 12.0039 X 14ATEX148929 X; IECEx TUN 14.0035 X 17ATEX193969 X; IECEx TUN 16.0046 X 17ATEX196484 X; IECEx TUN 17.0005 X DEKRA 11ATEX0203 X	ATEX/IECEx	BRA-Ex	HazLoc	RINA	PRS	NK	LR	KR	DNV GL	BV	ABS	OrdLoc	
Item No.	Item Description			Ex											See Page
Analog Input Modules														UL	
750-451/025-000	8AI; RTD; Adjust; T														237
750-454/025-000	2AI; 4-20mA; Diff; T														217
750-454/025-003	2AI; 4-20mA; Diff; T; EM														217
750-455/025-000	4AI; 4-20mA; SE; T														224
750-457/025-000	4AI; ±10 VDC; SE; T														228
750-461/025-000	2AI; Pt100/RTD; T														234
750-465/025-000	2AI; 0-20mA; SE; T														215
750-466/025-000	2AI; 4-20mA; SE; T														219
750-468/025-000	4AI; 0-10 VDC; SE; T														230
750-482/025-000	2AI; 4-20mA HART; T														222
750-493/025-000	3-PHASE POM; 480VAC 1A; T														241
750-494/025-000	3-PHASE POM; 480VAC 1A; T														242
750-494/025-001	3-PHASE POM; 480VAC 5A; T														242
Analog Output Modules															
750-552/025-000	2AO; 0-20mA; T														248
750-554/025-000	2AO; 4-20mA; T														250
750-559/025-000	4AO; 0-10 VDC; T														253
Function/Technology and Communication Modules															
750-638/025-000	2Up/Down Counter; 16bits; 500Hz; T														260
750-652/025-000	RS232/485 Interface; T														282
750-653/025-000	RS485 Interface; T														280
750-653/025-018	RS485 Interface; 9600Bd; N; 8/1														280
Supply and Segment Modules															
750-600/025-000	End Module; T														342
750-602/025-000 ³⁾	Power Supply; 24 VDC; T														324
750-626/025-000	Supply Filter; 24 VDC; T														336
750-626/025-001	Supply Filter; 24 VDC; HI; T														336

³⁾ Notice: WAGO's 750-624 Filter Module is mandatory for marine approval (observe power supply instructions)!

■ Approval is available. □ Approval is pending.

Surrounding air temperature (operation): -40 ... +70 °C

	cULus OrdLoc	E175199 Sec. 1, UL 508, UL 61010	
	ABS (American Bureau of Shipping)	19-HG1821926-PDA; 18-HG1778162-PDA; 19-HG1821812-PDA	
	BV (Bureau Veritas)	13453/D0 BV, 30389/B0 BV	
	DNV (Det Norske Veritas) GL (Germanischer Lloyd)	TAA0000194; TAA00000Y7; TAA00001J4; TAA00001FS	
	KR (Korean Register of Shipping)	HMB05880-AC001	
	LR (Lloyd's Register)	02/20026 (E5); 17/20073 (E2)	
	NK (Nippon Kaiji Kyokai)	TA17255M	
	Polski Rejestr Statkow	TE/2210/880590/18; TE/2215/880590/18; TE/2214/880590/18	
	RINA (Registro Italiano Navale)	ELE343217XG	
	cULus HazLoc	E198726 Sec. 1, ANSI/ISA 12.12.01 E480271 Sec. 1, AEx UL60079	
	INMETRO	TÜV 12.1297 X; TÜV 14.1911 X	
	TÜV	07ATEX554086 X; IECEx TUN 09.0001 X 12ATEX106032 X; IECEx TUN 12.0039 X 14ATEX148929 X; IECEx TUN 14.0035 X 17ATEX193969 X; IECEx TUN 16.0046 X 17ATEX196484 X; IECEx TUN 17.0005 X DEKRA 11ATEX0203 X	TEX/IECEx RA-Ex azLoc RINA PRS NK LR KR DNV GL BV ABS rdLoc

Item No.	Item Description	4	5	1					U	See Page
Fieldbus Couplers – I/O System 750 XTR ¹⁾		Ex			Marine Approvals				UL	
750-333/040-000	FC PROFIBUS; G2; 12 MBd; XTR	■		■	■	■	■	■	■	352
750-338/040-000	FC CANopen; DSub; XTR	■		■	■	■	■	■	■	354
750-352/040-000	FC ETHERNET; G3; XTR	■		■	■	■	■	■	■	353
Digital Input Modules XTR										
750-407/040-000	2DI; 220 VDC; XTR	■		■	■	■	■	■	■	359
750-427/040-000	2DI; 110 VDC; XTR	■		■	■	■	■	■	■	358
750-429/040-001	2DI; 60 VDC; 3ms; XTR	■		■	■	■	■	■	■	358
750-430/040-000	8DI; 24 VDC; 3ms;; XTR	■		■	■	■	■	■	■	355
750-431/040-000	8DI; 24 VDC; 0.2ms; XTR	■		■	■	■	■	■	■	357
750-439/040-000 ²⁾	8DI; NAMUR; Ex i; XTR	■		■	■	■	■	■	■	386
750-1405/040-000	16DI; 24 VDC; 3ms; XTR	■		■	■	■	■	■	■	356
750-1415/040-000	8DI; 24 VDC; 3ms; 2-wire; XTR	■		■	■	■	■	■	■	355
750-1416/040-000	8DI; 24 VDC; 0.2ms; 2-wire; XTR	■		■	■	■	■	■	■	357
Digital Output Modules XTR										
750-508/040-000	2DO; 24 VDC; 2A; Diagn; XTR	■		■	■	■	■	■	■	360
750-517/040-000	2RO; 250 VAC; 1A; Relay2CO; XTR	■		■	■	■	■	■	■	362
750-535/040-000 ²⁾	2DO; 24 VDC; Ex i; XTR	■		■	■	■	■	■	■	387
750-537/040-000	8DO; 24 VDC; 0.5A; Diagn; XTR	■		■	■	■	■	■	■	360
750-1515/040-000	8DO; 24 VDC; 0.5A; 2-wire; XTR	■		■	■	■	■	■	■	361
Analog Input Modules XTR										
750-453/040-000	4AI; 0-20mA; SE; XTR	■		■	■	■	■	■	■	363
750-455/040-000	4AI; 4-20mA; SE; XTR	■		■	■	■	■	■	■	363
750-457/040-000	4AI; ±10 VDC; SE; XTR	■		■	■	■	■	■	■	365
750-464/040-000	2/4AI; RTD; Adjust; XTR	■		■	■	■	■	■	■	367
750-468/040-000	4AI; 0-10 VDC; SE; XTR	■		■	■	■	■	■	■	365
750-469/040-000	2AI; TC; Adjust; XTR	■		■	■	■	■	■	■	367
750-481/040-000 ²⁾	2AI; RTD; Ex i; XTR	■		■	■	■	■	■	■	390
750-483/040-000	2AI; 0-30 VDC; Diff; XTR	■		■	■	■	■	■	■	368
750-484/040-000 ²⁾	2AI; 4-20mA HART; Ex i; XTR	■		■	■	■	■	■	■	389
750-486/040-000 ²⁾	4AI; 0/4-20mA; Ex i; XTR	■		■	■	■	■	■	■	388
750-492/040-001	2AI; 4-20mA; Diff; NE43; XTR	■		■	■	■	■	■	■	364
750-495/040-000	3-PHASE POM; 690VAC 1A; XTR	■		■	■	■	■	■	■	368
750-495/040-001	3-PHASE POM; 690VAC 5A; XTR	■		■	■	■	■	■	■	368
750-495/040-002	3-PHASE POM; 690VAC R.C.; XTR	■		■	■	■	■	■	■	368
Analog Output Modules XTR										
750-557/040-000	4AO; ±10V DC; XTR	■		■	■	■	■	■	■	370
750-559/040-000	4AO; 0-10V DC; XTR	■		■	■	■	■	■	■	370
750-563/040-000	2AO; 0/4-20mA; 16Bit; 6-18 VDC; XTR	■		■	■	■	■	■	■	369
750-585/040-000 ²⁾	2AO; 0-20mA; Ex i; XTR	■		■	■	■	■	■	■	391

²⁾ This I/O module shall only be used in connection with the 24 VDC Ex i XTR supply module (observe power supply instructions)!

☒ Approval is available. ☐ Approval is pending.

Approvals Overview

I/O System 750 XTR

Surrounding air temperature (operation): -40 ... +70 °C

	cULus OrdLoc	E175199 Sec. 1, UL 508, UL 61010													
	ABS (American Bureau of Shipping)	19-HG1821926-PDA; 18-HG1778162-PDA; 19-HG1821812-PDA													
	BV (Bureau Veritas)	13453/D0 BV, 30389/B0 BV													
	DNV (Det Norske Veritas) GL (Germanischer Lloyd)	TAA0000194; TAA00000Y7; TAA00001J4; TAA00001FS													
	KR (Korean Register of Shipping)	HMB05880-AC001													
	LR (Lloyd's Register)	02/20026 (E5); 17/20073 (E2)													
	NK (Nippon Kaiji Kyokai)	TA17255M													
	Polski Rejestr Statkow	TE/2210/880590/18; TE/2215/880590/18; TE/2214/880590/18													
	RINA (Registro Italiano Navale)	ELE343217XG													
	cULus HazLoc	E198726 Sec. 1, ANSI/ISA 12.12.01 E480271 Sec. 1, AEx UL60079													
	INMETRO	TÜV 12.1297 X; TÜV 14.1911 X													
	TÜV	07ATEX554086 X; IECEx TUN 09.0001 X 12ATEX106032 X; IECEx TUN 12.0039 X 14ATEX148929 X; IECEx TUN 14.0035 X 17ATEX193969 X; IECEx TUN 16.0046 X 17ATEX196484 X; IECEx TUN 17.0005 X DEKRA 11ATEX0203 X	ATEX/IECEx	BRA-Ex	HazLoc	RINA	PRS	NK	LR	KR	DNV GL	BV	ABS	OrdLoc	
Item No.	Item Description														
Function/Technology Modules XTR			Ex	Marine Approvals										UL	See Page
750-404/040-003	Counter; Adjust; XTR		■	■	■	■	■	■	■	■	■	■	■	■	371
750-630/040-001	SSI Interface; Adjust; XTR		■	■	■	■	■	■	■	■	■	■	■	■	372
750-633/040-000 ²⁾	Up/Down Counter; Ex i; XTR		■	■	■	■	■	■	■	■	■	■	■	■	392
750-637/040-001	Inc. Encoder; 24 VDC; Diff; 32Bit; XTR		■	■	■	■	■	■	■	■	■	■	■	■	373
Communication Modules XTR															
750-652/040-000	RS232/485 Interface; XTR		■	■	■	■	■	■	■	■	■	■	■	■	374
750-658/040-000	CAN Gateway; XTR		■	■	■	■	■	■	■	■	■	■	■	■	375
Supply and Segment Modules XTR															
750-600/040-000	End Module; XTR		■	■	■	■	■	■	■	■	■	■	■	■	383
750-601/040-000	Power Supply; 24 VDC; Fuse; XTR		■	■	■	■	■	■	■	■	■	■	■	■	376
750-602/040-000	Power Supply; 24 VDC; XTR		■	■	■	■	■	■	■	■	■	■	■	■	376
750-606/040-000	Power supply; 24 VDC; Ex i; XTR		■	■	■	■	■	■	■	■	■	■	■	■	385
750-610/040-000	Power Supply; 24 VDC; Fuse Diagn; XTR		■	■	■	■	■	■	■	■	■	■	■	■	377
750-612/040-000	Power Supply; 0-230 VAC/VDC; XTR		■	■	■	■	■	■	■	■	■	■	■	■	377
750-613/040-000	System Power Supply; 24 VDC; XTR		■	■	■	■	■	■	■	■	■	■	■	■	377
750-614/040-000	Potential distribution; XTR		■	■	■	■	■	■	■	■	■	■	■	■	379
750-616/040-000	Distance Module; XTR		■	■	■	■	■	■	■	■	■	■	■	■	382
750-624/040-000	Field supply filter; 24 VDC; HI; XTR		■	■	■	■	■	■	■	■	■	■	■	■	380
750-624/040-001	Field Supply Filter; 24 VDC; HI; NC; XTR		■	■	■	■	■	■	■	■	■	■	■	■	380
750-626/040-000	Supply Filter; 24 VDC; HI; XTR		■	■	■	■	■	■	■	■	■	■	■	■	381
750-1605/040-000	Potential Distribution; 16*24V; XTR		■	■	■	■	■	■	■	■	■	■	■	■	378
750-1606/040-000	Potential Distribution; 16*0V; XTR		■	■	■	■	■	■	■	■	■	■	■	■	378

¹⁾ Notice: WAGO's 750-626/040-000 Filter Module is mandatory for marine approval (observe power supply instructions)!

²⁾ This I/O module shall only be used in connection with the 24 VDC Ex i XTR supply module (observe power supply instructions)!

■ Approval is available. □ Approval is pending.

Approvals Overview

Operation and Monitoring – Touch Panels

[illegible]

☒ Approval is available. ☐ Approval is pending.

Variants upon Request (Item No. with Suffix /...-...)

11

⁵⁾ DNV approval is only granted in combination with WAGO's 852-9101 DIN-Rail Adapter

Operating WAGO Connection Technologies

Please follow the applicable product-specific termination instructions:

PUSH-IN CAGE CLAMP®



Push-in CAGE CLAMP® terminates the following copper conductors:
solid



stranded



fine-stranded,
also with tinned
single strands



fine-stranded,
tip-bonded



fine-stranded,
with ferrule
(gastight crimped)



fine-stranded,
with pin terminal
(gastight crimped)

The universal connection with an additional advantage: Push-in connection
Terminate solid and stranded, as well as ferruled conductors, by simply
pushing them in – no tools required.

Termination for all conductor types:

- Open clamping unit.
- Insert the conductor.
- Release clamp – done!

CAGE CLAMP®



CAGE CLAMP® terminates the following copper conductors:
solid



stranded



fine-stranded,
also with tinned
single strands



fine-stranded,
tip-bonded



fine-stranded,
with ferrule
(gastight crimped)



fine-stranded,
with pin terminal
(gastight crimped)

The universal connection for solid, stranded and fine-stranded conductors

Termination:

- Open clamping unit.
- Insert the conductor.
- Release clamp – done!

Operating WAGO Connection Technologies

Please follow the applicable product-specific termination instructions:

POWER CAGE CLAMP®



POWER CAGE CLAMP® terminates the following copper conductors: solid



stranded



fine-stranded, also with tinned single strands



fine-stranded, with ferrule (gastight crimped)

The universal connection for conductors larger than 35 mm² (2 AWG)

Termination:

- Open clamp by turning a T-wrench counter-clockwise.
- Press the integrated latch to open clamping unit for hands-free wiring.
- Insert the conductor.
- A short counter-clockwise rotation closes the clamp, securing the conductor.

PUSH WIRE®



PUSH WIRE® terminates the following copper conductors: solid

PUSH WIRE® connection for solid and stranded conductors (depending on the model used)

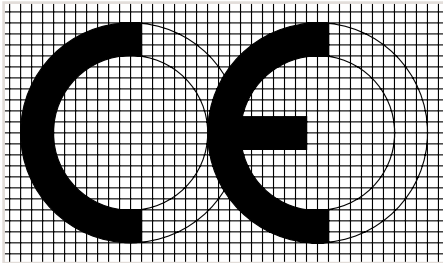
Termination:

Tool-free, twist-free terminations for solid and rigid stranded conductors – simply push into unit.

CE Marking and EU Directives

CE Conformity Marking

The CE conformity marking consists of the characters "CE" with the following script:



Communauté Européenne
(European Community)

The CE conformity marking must be applied to all electrical equipment; should on-unit marking not be possible, mark the smallest packaging unit. With this marking, manufacturers attest conformity of their products to relevant directives.

In addition to the CE marking, manufacturers provide an EU "Declaration of Conformity" for their products. This declaration of conformity must be retained and submitted to a national surveillance authority upon request.

EU directives are legally binding specifications for the European Union. Their goal is aligning legal and administrative specifications in the various EU member countries, in order to prevent trading hindrances arising from different national specifications.

In order to launch a product on the market, it must comply with the relevant directives. Several directives may apply for one single product, for example, EMC and low voltage directives.

Low Voltage Directive (LVD)

The safety of electrical equipment is guaranteed by the Low Voltage Directive (LVD). The LVD covers all electrical equipment operating with a voltage between 50 and 1000 VAC and between 75 and 1500 VDC. Products falling within the scope of the LVD that are designed in such a way that they can be used in other electrical devices and whose safety, for the most part, is dependant on how these components were built into the end product and what features the end product has are defined as basic components in accordance with the LVD. The LVD doesn't apply to basic components.

EMC Directive

The EMC Directive implies that a product must meet the limits of the radiated electromagnetic disturbance and also requires that a product must be immune to electromagnetic interference. Electromagnetic passive components or components with no direct function, like resistors, diodes, capacitors, switching relays or cables (in the form of passive printed circuit boards) are not considered as apparatus within the meaning of the EMC Directive.

Machinery Directive

The Machinery Directive does not apply to WAGO products.

Explosive Atmospheres Directive (ATEX)

Directive for devices and protective systems intended for use in hazardous locations.

Radio Equipment Directive

A device or relevant component thereof, capable of communication by emitting and/or receiving radio waves utilizing the spectrum allocated to terrestrial/space radio communication, falls within the scope of the Radio Equipment Directive. As such, these devices and components are tested and labeled accordingly. This label implicitly includes both Low Voltage and EMC Directives, since the Radio Equipment Directive also encompasses the safety targets for both of these directives.

General Technical Information for Electrical Equipment Used in Hazardous Areas

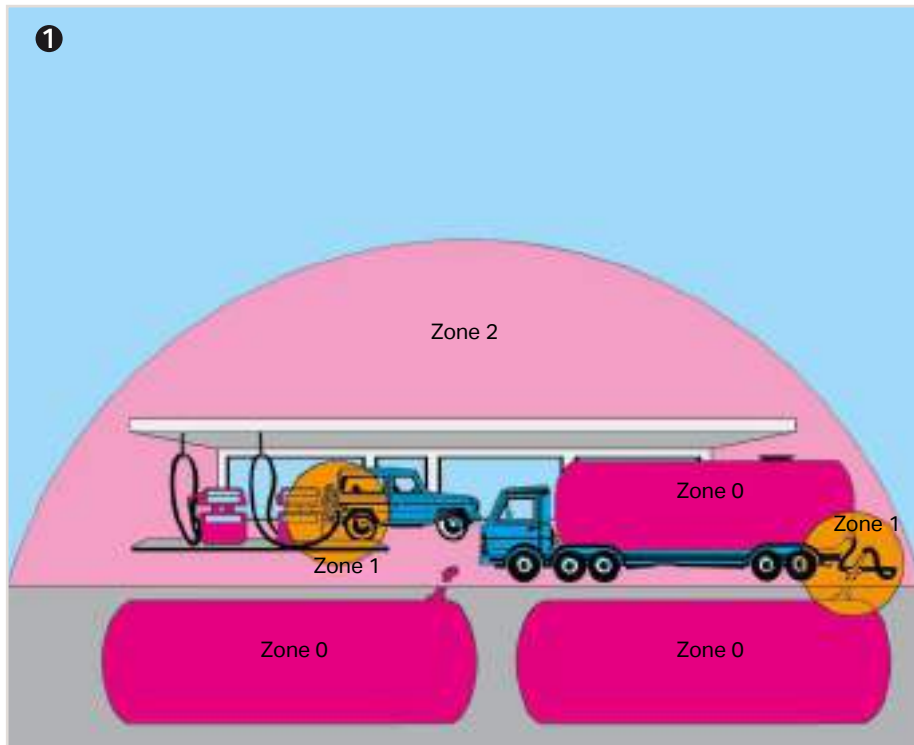
Hazardous Areas

Hazardous areas are zones in which the atmosphere may become explosive. An explosive atmosphere is a mixture of flammable substances in the form of gases, vapors or mixtures with air under atmospheric conditions in critically mixed ratios such that excessive

high temperature, arcs or sparks may cause an explosion.

DIN EN 1127-1 and all other well-known standards rank hazardous areas according to the

likelihood of the occurrence of an explosive atmosphere into the following zones:



- ① Hazardous areas due to explosive gases, vapors and mists

Zone 0

Areas in which an explosive atmosphere is present continuously, for long periods or frequently.

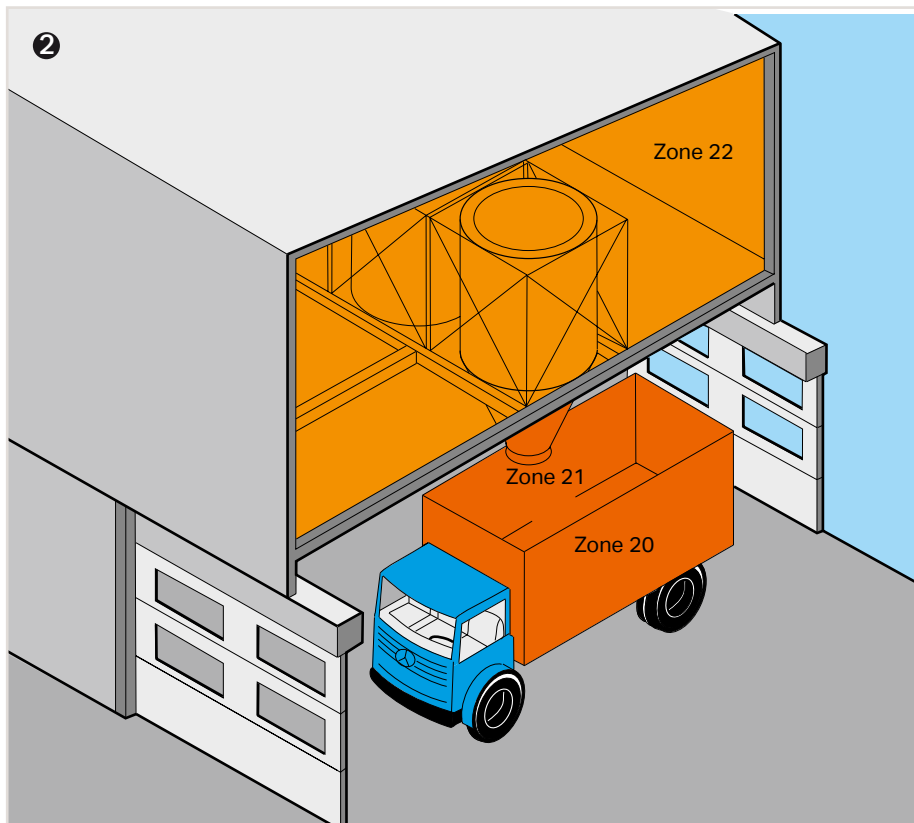
Zone 1

Areas in which an explosive atmosphere is likely to occur occasionally during normal operation.

Zone 2

Areas in which an explosive atmosphere is likely to occur rarely or only for a short period during normal operation.

- ② Hazardous areas due to explosive dust/air mixtures



Zone 20

Areas in which an explosive atmosphere due to dust/air mixtures is present continuously, for long periods or frequently and in which dust deposits of known or excessive thickness may form. Dust deposits alone do not constitute a Zone 20.

Zone 21

Areas in which the occurrence of an explosive atmosphere due to dust/air mixtures is to be expected occasionally and in which deposits or layers of combustible dust can generally be present.

Zone 22

Areas in which an explosive atmosphere due to dust/air mixtures is not likely to occur during normal operation and, if it occurs, will only exist for a short period, or in which accumulations or layers of combustible dust are present.

Please refer to the manuals for more information on explosion protection.

Electromagnetic Compatibility and Mechanical Strength (Industrial and Residential Environments)

Immunity for Industrial Environments per EN 61000-6-2

Test		Test Value	Evaluation Criteria *)
EN 61000-4-2	ESD	4 kV/8 kV (contact/air)	B
EN 61000-4-3	Electromagnetic fields	10 V/m: 80 MHz ... 1 GHz	A
		3 V/m: 1.4 ... 2.0 GHz	A
		1 V/m: 2.0 ... 2.7 GHz	A
EN 61000-4-4	Burst	1 kV/2 kV (data/supply)	B
EN 61000-4-5	Surge	Data: - / 1 kV (line : line – line : ground)	B
		DC supply: 0.5 kV / 0.5 kV (line : line – line : ground)	B
		AC supply: 1 kV / 2 kV (line : line – line : ground)	B
EN 61000-4-6	RF interference	10 V/m, 80 % AM (0.15 ... 80 MHz)	A
EN 61000-4-8	Magnetic field	30 A/m, 50/60Hz	A
*) Criteria A: The device must work in accordance with the regulations during and after the test. Criteria B: The device must work in accordance with the regulations after the test.			

Emission Standard for Residential Environments per EN 61000-6-3

Test		Limits (Quasi-Peak)	Frequency Range	Distance
EN 55016-2-1	AC supply, conducted	66 ... 56 dB(μV)	150 ... 500 kHz	
		56 dB(μV)	500 kHz ... 5 MHz	
		60 dB(μV)	5 ... 30 MHz	
EN 55016-2-1	DC supply/data lines, conducted	79 dB(μV)	150 ... 500 kHz	
		73 dB(μV)	500 kHz ... 30 MHz	
EN 55016-2-3	radiated	30 dB(μV/m)	30 ... 230 MHz	10 m
		37 dB(μV/m)	230 MHz ... 1 GHz	10 m
EN 55022	Telecommunications/ Mains connection, conducted	84 ... 74 dB(μV)	150 ... 500 kHz	
		74 dB(μV)	500 kHz ... 30 MHz	

Emission Standard for Industrial Environments per EN 61000-6-4

Test		Limits (Quasi-Peak)	Frequency Range	Distance
EN 55016-2-1	AC supply, conducted	79 dB(μV)	150 ... 500 kHz	
		73 dB(μV)	500 kHz ... 30 MHz	
EN 55016-2-3	radiated	40 dB(μV/m)	30 ... 230 MHz	10 m
		47 dB(μV/m)	230 MHz ... 1 GHz	10 m
EN 55022	Telecommunications/ Mains connection, conducted	97 ... 87 dB(μV)	150 ... 500 kHz	
		87 dB(μV)	500 kHz ... 30 MHz	

Mechanical Strength per EN 61131-2

Test		Frequency Range	Limits
IEC 60068-2-6	Vibration	5 Hz ≤ f < 9 Hz	1.75 mm amplitude (permanent)
			3.5 mm amplitude (short term)
		9 Hz ≤ f < 150 Hz	0.5g (permanent)
			1g (short term)
		Note on vibration test: a) Frequency change: max. 1 octave/minute b) Vibration direction: 3 axes	
IEC 60068-2-27	Shock		15g
		Note on shock test: a) Type of shock: half sine b) Shock duration: 11 ms	
		c) Shock direction: 3x in positive and 3x in negative direction for each of the three mutually perpendicular axes of the test specimen	

Electromagnetic Compatibility and Mechanical Strength (Marine Applications)

Immunity for Marine Applications per Class Guideline DNVGL-CG-0339 (Harmonized with IACS E10)

Test	EMC Class ¹⁾	Designation	Test Value	Performance Criterion ²⁾
IEC 61000-4-2	A and B	ESD	6 kV (contact) 8 kV (air)	B
IEC 61000-4-3	A and B	Electromagnetic fields	10 V/m; 80 MHz ... 2 GHz	A
IEC 61000-4-4	A and B	Burst	1 kV (data ports) 2 kV (power supply/ground ports)	B
IEC 61000-4-5	A and B	Surge	0.5 kV; line-to-line 1.0 kV; line-to-ground	B
IEC 61000-4-6	A B	RF interference	3 V r.m.s.; 150 kHz ... 80 MHz; 80 % AM at 1000 Hz 10 V r.m.s.; 2/3/4/6.2/8.2/12.6/16.5/18.8/22/25 MHz (spot frequencies)	A
Performance test	A and B	AF disturbances (harmonics)	3 V r.m.s.; 2 W; 50 Hz ... 10 kHz	A
Performance test	-	High voltage	775 VDC 1500 VAC	-
¹⁾ EMC Class A: All locations except bridge and open deck EMC Class B: All locations including bridge and open deck				
²⁾ Performance criteria A: The device must work in accordance with the regulations during and after the test. Performance criteria B: The device must work in accordance with the regulations after the test.				

Emission Standard for Marine Applications per Class Guideline DNVGL-CG-0339 (Harmonized with IACS E10)

Test	EMC Class ¹⁾	Emission	Frequency Range	Limits (Quasi-Peak)	Distance
Performance test	A	radiated	0.15 ... 30 MHz	80 ... 50 dBµV/m	3 m
			30 ... 100 MHz	60 ... 54 dBµV/m	3 m
			100 ... 2000 MHz (except 156 ... 165 MHz)	54 dBµV/m 24 dBµV/m	3 m
Performance test	A	conducted	10 ... 150 kHz	120 ... 69 dBµV	
			150 ... 500 kHz	79 dBµV	
			0.50 ... 30 MHz	73 dBµV	
Performance test	B	radiated	150 ... 300 kHz	80 ... 52 dBµV/m	3 m
			0.30 ... 30 MHz	52 ... 34 dBµV/m	3 m
			30 ... 2000 MHz (except 156 ... 165 MHz)	54 dBµV/m 24 dBµV/m	3 m
Performance test	B	conducted	10 ... 150 kHz	96 ... 50 dBµV	
			150 ... 350 kHz	60 ... 50 dBµV	
			0.35 ... 30 MHz	50 dBµV	
¹⁾ EMC Class A: All locations except bridge and open deck EMC Class B: All locations including bridge and open deck					

Mechanical Strength per Class Guideline DNVGL-CG-0339 (Harmonized with IACS E10)

Test	Vibration Class	Frequency Range	Amplitude	Location
IEC 60068-2-6	A	2 Hz (+3/-0) ≤ f < 13.2 Hz 13.2 Hz ≤ f < 100 Hz	1.0 mm (peak value) 0.7g (acceleration)	On bulkheads, beams, deck, bridge
IEC 60068-2-6	B	2 Hz (+3/-0) ≤ f < 25 Hz 25 Hz ≤ f < 100 Hz	1.6 mm (peak value) 4.0g (acceleration)	On machinery such as internal combustion engines, compressors, pumps, including piping on such machinery
		40 Hz ≤ f < 2000 Hz	10g (acceleration)	Only for equipment installed on the exhaust gas pipes of diesel engines
IEC 60068-2-6	C	2 Hz (+3/-0) ≤ f < 15 Hz 15 Hz ≤ f < 50 Hz	2.6 mm (peak value) 2.3g (acceleration)	Masts

Specifications and Test Results

The following standards apply to the design and application of the electrical components contained in this catalog:

DIN VDE 0100

Construction of high-current installations with nominal voltages up to 1000 V

EN 50110-1

VDE 0105-1

Operation of electrical installations

IEC 61140

EN 61140

VDE 0140-1

Protection against electric shock – Common aspects for installation and equipment

IEC 60664-1

EN 60664-1

VDE 0110-1

Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests

IEC 60204-1

EN 60204-1

VDE 0113-1

Safety of machinery – Electrical equipment of machines – Part 1: General requirements

EN 50178

VDE 0160

Electronic equipment for use in power installations

IEC 62305-1

EN 62305-1

VDE 0185-305-1

Protection against lightning – Part 1: General principles

IEC 60060-1

HD 588.1 S1

VDE 0432-1

High-voltage test techniques – Part 1: General specifications and test requirements

IEC 60085

EN 60085

VDE 0301-1

Electrical insulation – Thermal evaluation and designation

IEC 60529

EN 60529

VDE 0470-1

Degrees of protection provided by enclosures (IP code)

IEC 60603-1

EN 60603-1

Connectors for frequencies below 3 MHz for use with printed boards – Part 1: Generic specification: General requirements and guide for the preparation of detail specifications, with assessed quality

IEC 61984

EN 61984

VDE 0627

Connectors – Safety requirements and tests

IEC 60999-1

EN 60999-1

VDE 0609-1

Connecting devices – Electrical copper conductors; Safety requirements for screw-type and screwless-type clamping units – Part 1: General requirements and particular requirements for clamping units for conductors 0.2 mm² up to 35 mm²

IEC 60617-2

EN 60617-2

Graphical symbols for diagrams – Part 2: Symbol elements, qualifying symbols and other symbols having general application

IEC 61558-1

EN 61558-1

VDE 0570-1

Safety of power transformers, power supplies, reactors and similar products – Part 1: General requirements and tests

IEC 60669-2-1

EN 60669-2-1

VDE 0632-2-1

Switches for household and similar fixed electrical installations – Part 2-1: Particular requirements – Electronic switches

IEC 60947-7-1

EN 60947-7-1

VDE 0611-1

Low-voltage switchgear and controlgear – Part 7-1: Ancillary equipment – Terminal blocks for copper conductors

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UL 508
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ABS (American Bureau of Shipping)
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BV (Bureau Veritas)
Rules for the classification of steel ships and
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DNV (Det Norsk Veritas)
Det Norsk Veritas' Rules for Classification
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Norsk Veritas' Offshore Standards: 2007

GL (Germanischer Lloyd)
Rules for Classification and Construction
VI Additional Rules and Guidelines
7 Guidelines for the Performance of
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2 Test Requirements for Electrical/Electronic
Devices and Systems

LR (Lloyd's Register)
Type Approval System
Test Specification Number1

RINA (Registro Italiano Navale)
Rules for the classification of ships
Part C – Machinery, systems and fire protec-
tion Ch.3, Sect.6, Table1

BSH (Federal Maritime and Hydrographic
Agency)
Certificate measuring the safe distance to
the standard magnetic and steering magnetic
compass in accordance with ISO R 695 and
DIN EN 60945 Section 11.2

KR (Korean Register of Shipping)
List of approved Manufacturers And Type
Approval Equipment; Pt.6, Ch.1, Sec.3 of the
Rules for Classification, Steel Ships

NKK (Nippon Kaiji Kyokai)
Guidance for the approval and type approval
of materials and equipment for marine use

PRS (Polski Rejestr Statkow)
Publication No.11/P
Enviromental Tests on Marine Equipment

Electrical Engineering Laboratory

Product Safety for Our Customers

To use terminal blocks globally, they must satisfy certain standards and obtain test certificates.

These requirements apply to every manufacturer. WAGO also performs its own tests to increase standards and offer greater reliability with its products. Products undergo different mechanical, electrical and climatic testing, including the following examples.

WAGO Test Lab

Pull-Out Test (per EN 60947-7-1, EN 60998-2-2)

In the pull-out force test, a conductor is pulled on until it is removed from the clamping unit. The design of the terminals means that extraction only occurs after the standard pull-out force has been exceeded many times over.



Vibration Test (per IEC/EN 60068-2-6)

Depending on the application, such as railway (per EN 61373) or marine (per GL, LR, DNV), there are various testing requirements to determine if the long-term effects of vibrations degrade electrical connections. The test specimen is subjected to different loads on three axes in an electrodynamic vibration system. The amplitude, the acceleration and, in particular, the frequency of the vibration vary during the test. The test values are increased multiple times over the standard values to meet specific customer requirements.



Shock Test (per IEC/EN 60068-2-27)

The shock test is very similar to the vibration test except that single shocks are applied to the test specimen, instead of continuous vibrations. Shock tests are usually performed, for example, at an acceleration of 20g over a period of 11 ms. Tests for special requirements often call for much higher values and are also conducted in our laboratory. WAGO's single-deck TOPJOB® S Rail-Mount Terminal Blocks, for example, pass shock tests up to 500 g.



Voltage Drop Test under Bending Stress (per EN 60947-7-1, EN 60999-1)

The voltage drop test under bending stress simulates mechanical stress on the clamping unit. In everyday use, this stress can occur during installation, for example, when an electrician shoves connected conductors to the side in order to access a specific component. The quality of the clamping unit when moving a connected conductor can be validated by the constantly stable measured value of the voltage drop.





Deutsche Akkreditierungsstelle GmbH

Beliehene gemäß § 8 Absatz 1 AkkStelleG i.V.m. § 1 Absatz 1 AkkStelleGBV
Unterzeichnerin der Multilateralen Abkommen
von EA, ILAC und IAF zur gegenseitigen Anerkennung

Akkreditierung



Die Deutsche Akkreditierungsstelle GmbH bestätigt hiermit, dass das Prüflaboratorium

WAGO Kontakttechnik GmbH & Co. KG
Hansastraße 27, 32423 Minden

die Kompetenz nach DIN EN ISO/IEC 17025:2005 besitzt, Prüfungen in folgenden Bereichen durchzuführen:

**Elektrische und mechanische Prüfungen an Klemmen und Steckverbinder
sowie Umweltsimulation**

Die Akkreditierungsurkunde gilt nur in Verbindung mit dem Bescheid vom 18.12.2014 mit der Akkreditierungsnummer D-PL-19704-01 und ist gültig bis 17.12.2019. Sie besteht aus diesem Deckblatt, der Rückseite des Deckblatts und der folgenden Anlage mit insgesamt 5 Seiten.

Registrierungsnummer der Urkunde: **D-PL-19704-01-00**

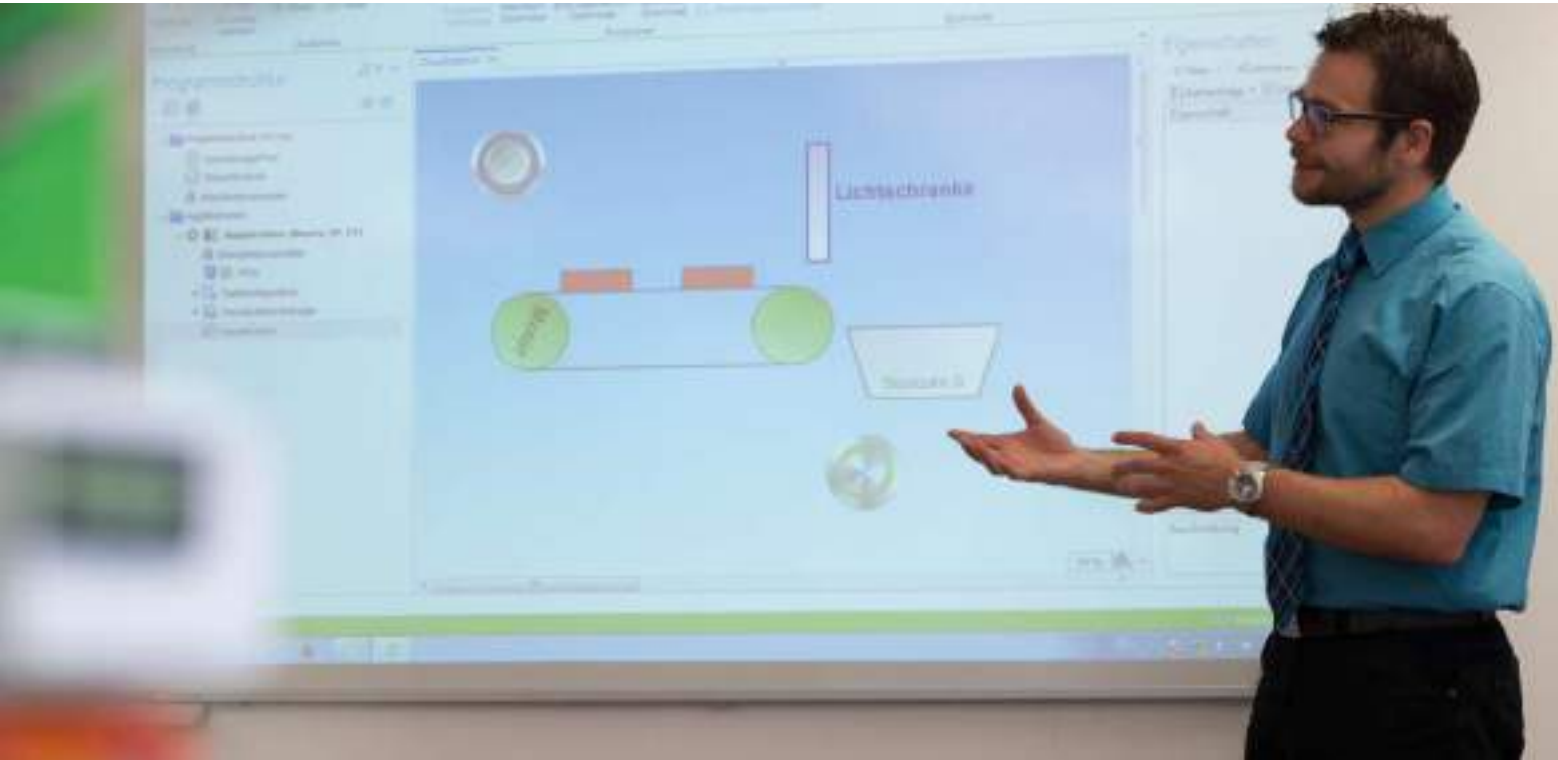
Frankfurt am Main, 18.12.2014

Bitte Hinweis auf der Rückseite:


Im Auftrag Dipl.-Ing. (FH) Ralf Eigner
Abteilungsleiter

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The small class sizes of WAGO training seminars ensures that no question goes unanswered and no one is overlooked.



Teamwork

Learning as a group is very effective. Ideas can be discussed and exchanged while experiences can be shared – all for the benefit of the participants.



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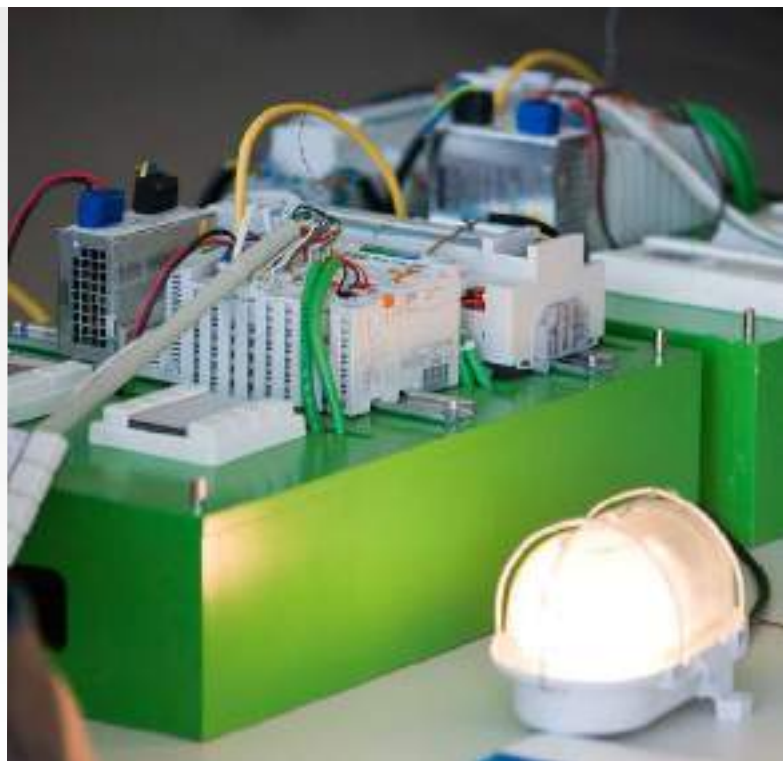
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850-817/002-000	486	2759-101/1110-3000	26		
850-818/002-000	487	2759-101/1110-4000	26		
850-818/002-001	487				
850-818/002-002	487	2759-263/210-1000	45		
850-818/002-003	487				
850-818/002-004	487	2759-402/1420-1000	28		
850-818/002-005	487	2759-403/1420-1000	29		
850-819/002-000	487	2759-404/1420-1000	30		
850-819/002-001	487				
850-819/002-002	487	2759-1061/651-010	10		
850-819/002-003	487	2759-1061/651-050	10		
850-819/002-004	487	2759-1061/651-100	10		
850-819/002-005	487				
850-820/000-001	487	2851 Series			
850-820/000-002	487	2851-8201	492		
850-825	488	2851-8202	492		
850-826	488				
850-826/002-000	488	2851-8301	490		
850-827	488	2851-8302	490		
850-827/002-000	488	2851-8303	490		
850-828	488	2852 Series			
850-828/002-000	488	2852-7112	17		
850-834	489	2852-7113	17		
850-835	489				
850-836	489	8003 Series			
		8003-001/K999-9999/000-1600	133		
850-903	485	8003-001/K999-9999/000-1700	132		
850-904	486	8003-001/K999-9999/000-901	135		
852 Series		8003-099/750-8100	130		
852-101	402	8003-099/750-831	134		
852-102	402				
852-103	403				
852-111	408				
852-112	408				
852-201/107-002	412				
852-201/107-030	412				
852-303	406				
852-1102	404				
852-1106	405				
852-1111	409				
852-1112	409				
852-1200	412				
852-1210	412				
852-1280	412				
852-1305	406				
852-1411	410				
852-1417	410				
852-1505	407				
852-9101	413				
857 Series					
857-981	453				
857-982	453				
857-986	453				

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