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

Section 6 ▸

I/O System – 750 and 753 Series
Contents

			Page
General Product Information			138
Variants			139
Interfaces and Types			140
Marking and Mounting Accessories			141
Application and Installation Instructions			142
Item Number Key			144
Standards and Rated Conditions			145
Approvals			145
Fieldbus Couplers (FC)	PROFINET IO, PROFIBUS, Ethernet TCP/IP, BACnet/IP, EtherCAT, Modbus/TCP, DeviceNet, CANopen, sercos, MODBUS, INTERBUS, CC-Link	5.1	146
I/O Modules	Digital Input Modules (DI)	5.2	162
	Digital Output Modules (DO)	5.3	192
	Analog Input Modules (AI)	5.4	212
	Analog Output Modules (AO)	5.5	246
	Function/Technology Modules	5.6	256
	Communication Modules	5.7	276
	Functional Safety Modules	5.8	296
	Intrinsically Safe Modules	5.9	308
	Supply/Segment Modules	5.10	322
Accessories Marking and Mounting Accessories		Section 10	

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").

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.

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.

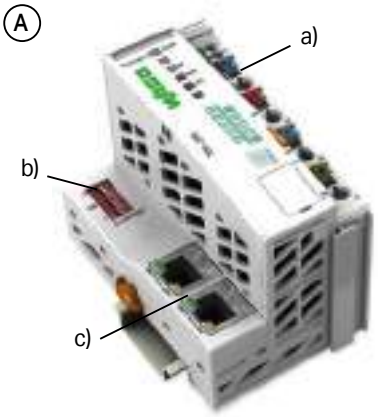
The mixed operation of safe and conventional I/O modules streamlines system configuration. For increased electromagnetic immunity (EMC standard), WAGO offers compact power supply filter modules. Specific power supply features must be considered, which are described in detail in the corresponding manuals.

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.

I/O System – 750 and 753 Series
Interfaces and Types

A



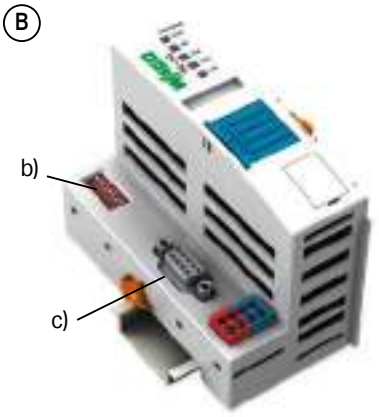
Housing design: fieldbus coupler (A)

- 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

B



C

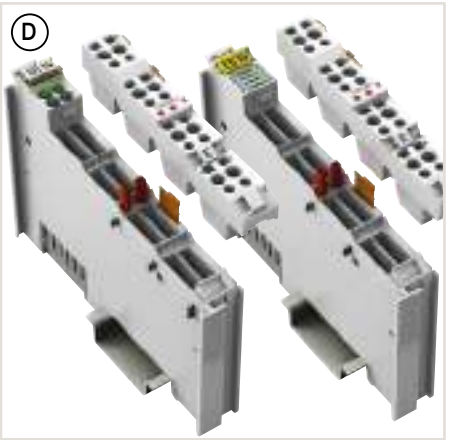
Housing design: 750 (C)

- 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.

D



E

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

F

G

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)

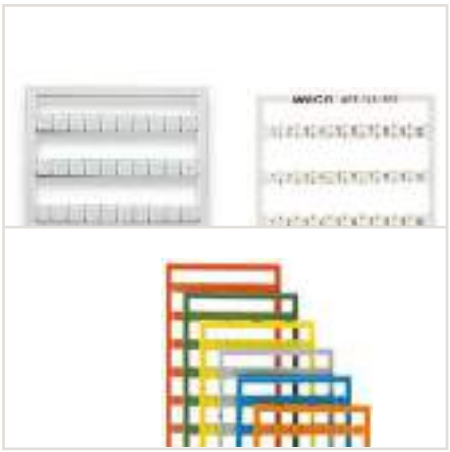
- Some modules are integrated into a specialized housing with a specific width and pluggable connectors. The dimensions are specified on the respective catalog page.

H

I/O System – 750 and 753 Series
Marking and Mounting Accessories

Transparent group marker carriers indicate module type by color.

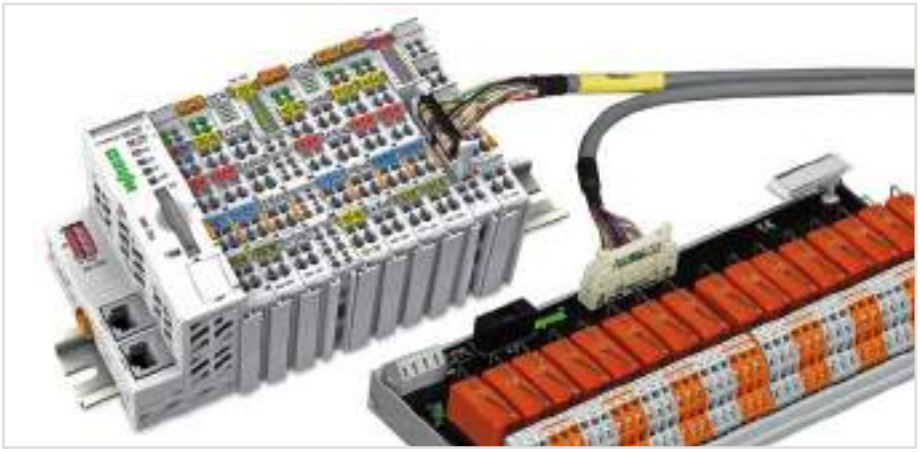
Removable group marker carriers are available for all 750 and 753 Series I/O Modules with a maximum of four LEDs, as well as all fieldbus couplers with a supply module.



Mini-WSB Quick Marking System, blank, premarked 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

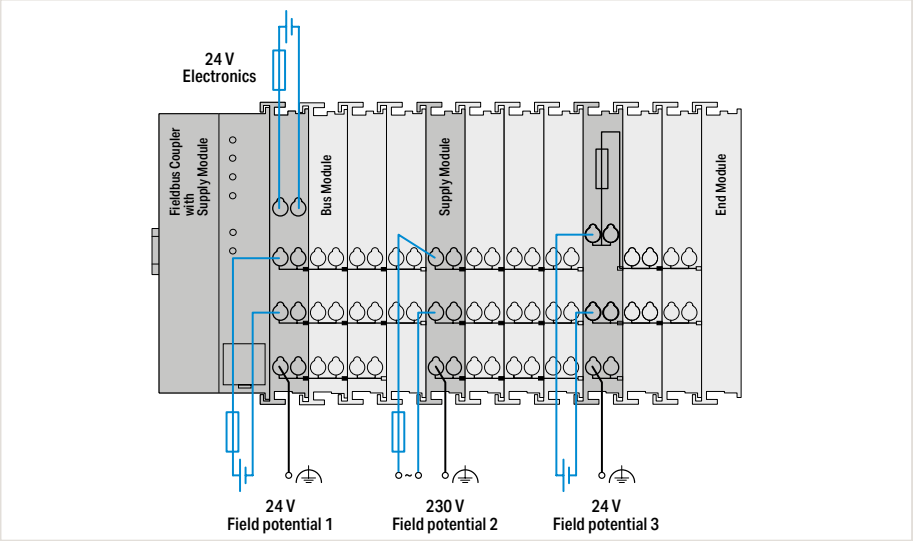
The internal electronics are powered by the fieldbus coupler. The field-side power supply is electrically isolated via the supply module on the coupler or a separate power supply module. This division enables a separate supply for sensors and actuators. Snapping the I/O modules together automatically 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:

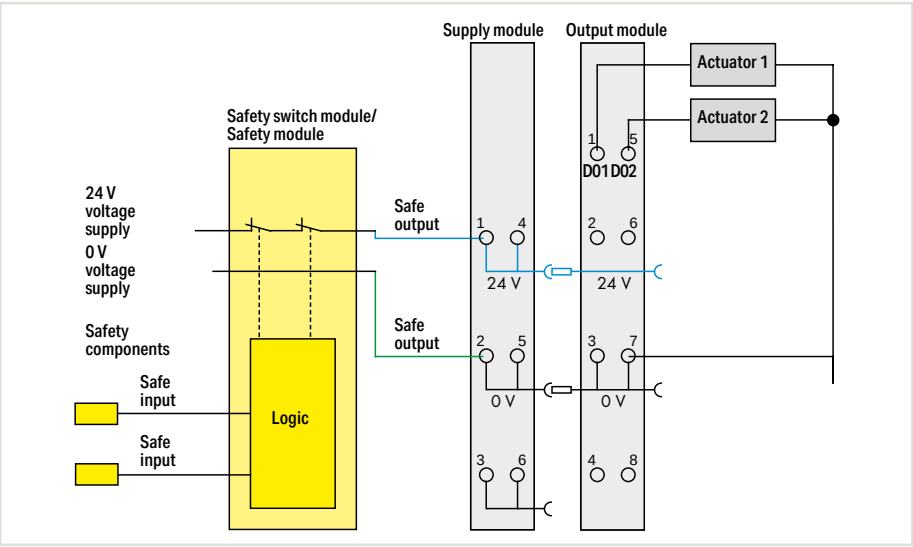
Specific field-side power supply filters (750-624) or power supply filters (750-626) are required for marine and onshore/offshore applications.

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.

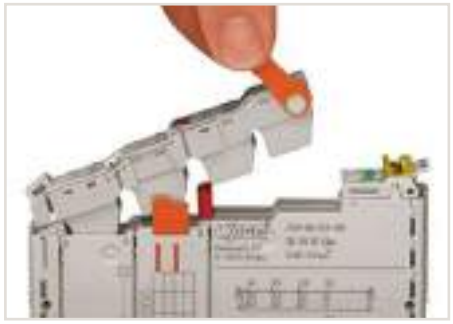
Please refer to the manual for details about the power supply's design.



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 mismating of pluggable connectors via coding elements

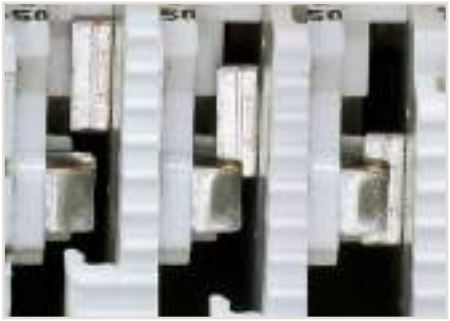
Service interface for configuring the fieldbus coupler; connectivity via configuration cable or radio adapter

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

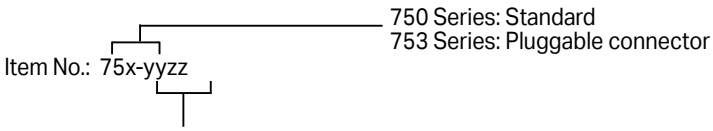
Secure, automatic data and electronics power supply connection via gold-plated pressure contacts

Securing a cable to the connector.

5

I/O System – 750 and 753 Series
Item Number Key

Explanation of item number key's components



01zz: Marker
03zz: Fieldbus coupler
zz: Consecutive number

1yzz: 16 connection points or ribbon cable
y4zz: Input
00 ... 49 = Digital input
50 ... 99 = Analog input
04: Counter
y5zz: Output
00 ... 49 = Digital output
50 ... 99 = Analog input
11: PWM
y6zz: Function/technology/communication/system module
0z: Power supply, field-side connection, end module
1z: Power supply, field-side connection, spacer module
2z: Power supply, bus extension, filter, spacer module
3z: Distance and angle measurement, DC drive controller, counter
4z: Communication (building), radio, RTC, vibration monitoring
5z: Serial interfaces, communication
6z: Functional safety
.../000-001: PROFIsafe V1.3
.../000-002: PROFIsafe V2
.../000-003: PROFIsafe V2 iPar
7z: Stepper

09zz: Accessories

.../025-000: Extended temperature range of –20 to +60 °C
.../000-800: Interference-free
.../040-000: 750 XTR Series, see Section 6

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_2S 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 mm²/28 … 14 AWG; 8 … 9 mm/0.31 … 0.35 inch 0.08 … 2.5 mm²/28 … 14 AWG; 9 … 10 mm/0.35 … 0.39 inch 0.08 … 1.5 mm²/28 … 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 mm²/28 … 16 AWG, Fine-stranded: 0.25 … 1.5 mm²/22 … 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 mm² / 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 mm² / 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 mm² / 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 mm² / 28 … 16 AWG
Strip length	5 … 6 mm / 0.22 inch

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

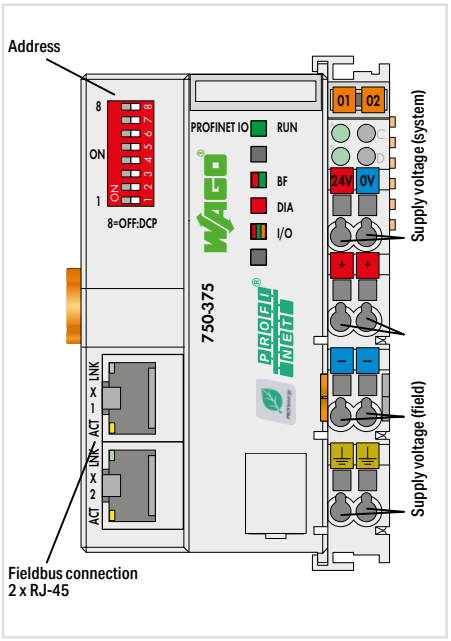
Fieldbus System	Housing Design: With Field Supply		Without Field Supply	Eco	Description	Item No.	Page
PROFINET		☐			PROFINET IO; 3rd generation; Advanced	750-375	148
		☐			PROFINET IO; 3rd generation; Extended temperature; Advanced	750-375/025-000	148
			☐		PROFINET IO; 3rd generation; Eco Advanced	750-377	148
			☐		PROFINET IO; 3rd generation; Extended temperature; Eco Advanced	750-377/025-000	148
PROFIBUS	☐				PROFIBUS DP; 1st generation; 12 MBd	750-303	149
	☐				PROFIBUS DP; 2nd generation; 12 MBd	750-333*	149
	☐				PROFIBUS DP; 2nd generation; 12 MBd; Extended temperature	750-333/025-000	149
				☐	PROFIBUS DP; 12 MBd; Eco	750-343	150
	☐				PROFIBUS DP; Fiber-optic connection; 1.5 MBd	750-331	150
EtherNet/IP			☐		ETHERNET; 3rd generation	750-352*	151
MODBUS/TCP			☐		ETHERNET; 3rd generation	750-352/000-001	151
MODBUS/TCP			☐		Modbus TCP; 4th generation	750-362	151
	☐				ETHERNET; 1st generation	750-342	152
BACnet INTEREST GROUP EUROPE		☐			BACnet/IP	750-330	153
EtherCAT Conformance tested			☐		EtherCAT	750-354	154
			☐		EtherCAT; ID switch	750-354/000-001	154
					EtherCAT; ID switch; Diagnostics	750-354/000-002	154
DeviceNet	☐				DeviceNet	750-306	155
				☐	DeviceNet; Eco	750-346	155
CANopen	☐				CANopen	750-307	156
	☐				CANopen; *MCS*	750-337	156
	☐				CANopen; *MCS*; Extended temperature	750-337/025-000	156
	☐				CANopen; D-Sub	750-338*	157
				☐	CANopen; *MCS*; Eco	750-347	157
				☐	CANopen; D-Sub; Eco	750-348	157
sercos the automation bus	☐				Sercos®	750-351	158
MODBUS	☐				MODBUS; RS-485; 115.2 kBd	750-315/300-000	159
	☐				MODBUS; RS-232; 115.2 kBd	750-316/300-000	159
INTERBUS	☐				INTERBUS	750-304	160
				☐	INTERBUS; 500 kBit/s; Eco	750-344	160
CC-Link	☐				CC-Link	750-310	161
		☐			CC-Link; 156 kBaud ... 10 MBaud	750-325	161
*This coupler is also available as a 750 XTR Series variant.						See Section 6	

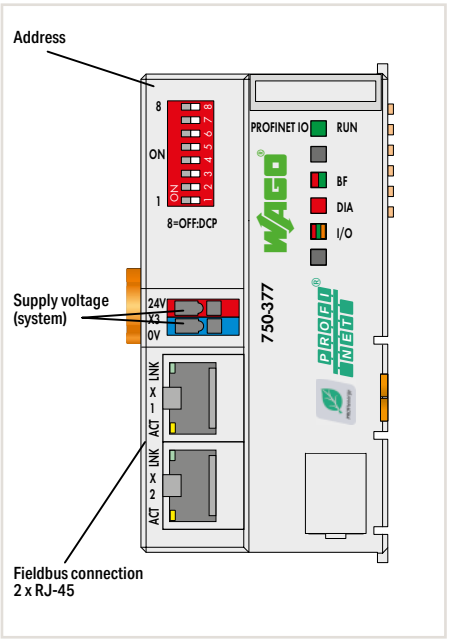
5.1 FC

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; PROFIenergy V1.0		PROFIsafe V2; PROFIenergy 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; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx		CE; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx	
Data sheet and further information, see:	wago.com/750-375		wago.com/750-377	

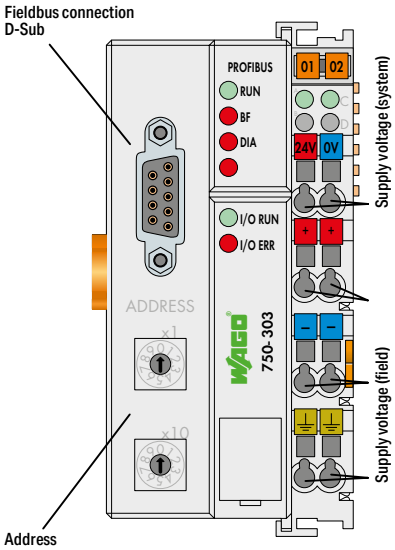
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

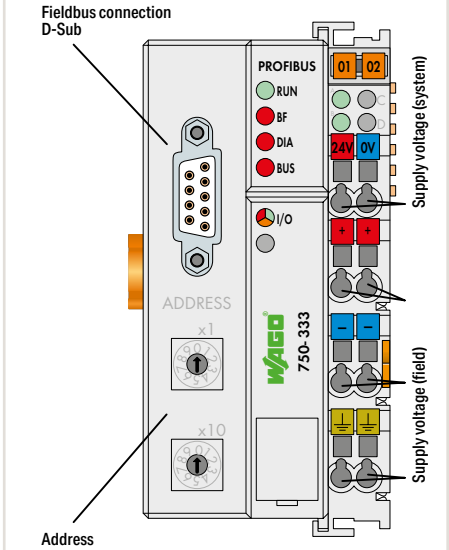
„ Approvals and corresponding ratings, see page 517 or www.wago.com

Fieldbus Coupler PROFIBUS DP

Figure: 750-303

Figure: 750-333





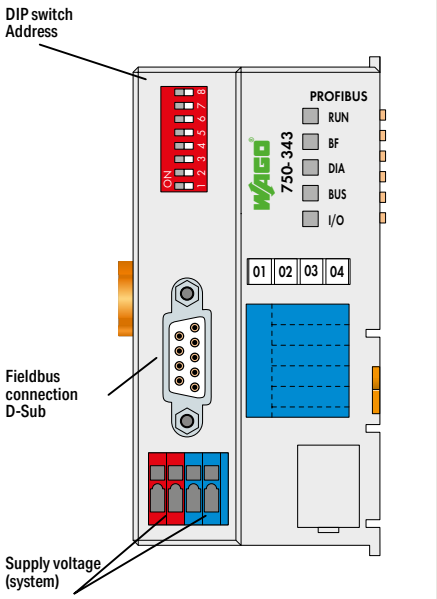
Item Description	Fieldbus Coupler PROFIBUS DP; 1st generation; 12 MBd	Fieldbus Coupler PROFIBUS DP; 2nd generation; 12 MBd	
Version	**Standard**	**Standard**	**Extended Temperature**
Item No.	**750-303**	**750-333**	**750-333/025-000**
Order Text	FC PROFIBUS; G1; 12MBd	FC PROFIBUS; G2; 12MBd	FC PROFIBUS; 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	–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; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx	CE; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx	
Data sheet and further information, see:	wago.com/750-303	wago.com/750-333	

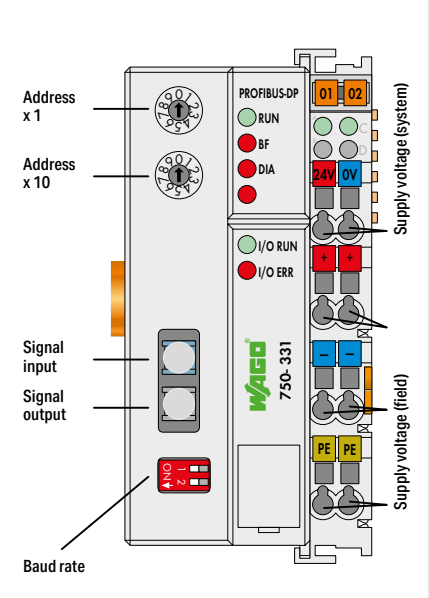
Accessories	Item No.	Item No.
GSD files	Download: www.wago.com	Download: www.wago.com

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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx	CE; KC; OrdLoc
Data sheet and further information, see:	wago.com/750-343	wago.com/750-331

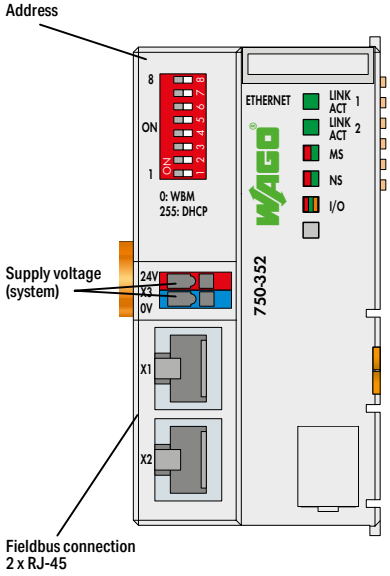
Accessories	Item No.	Item No.
GSD files	Download: www.wago.com	Download: www.wago.com

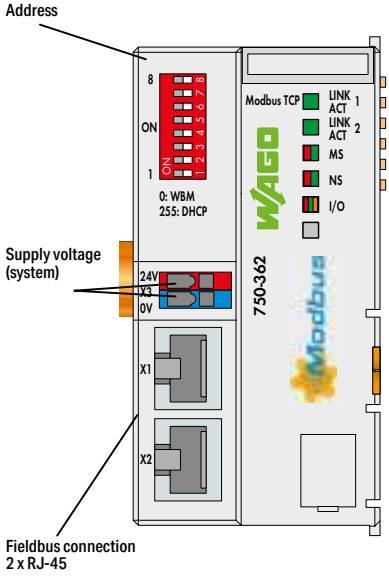
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

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

Fieldbus Coupler ETHERNET; Modbus TCP

Figure: 750-352

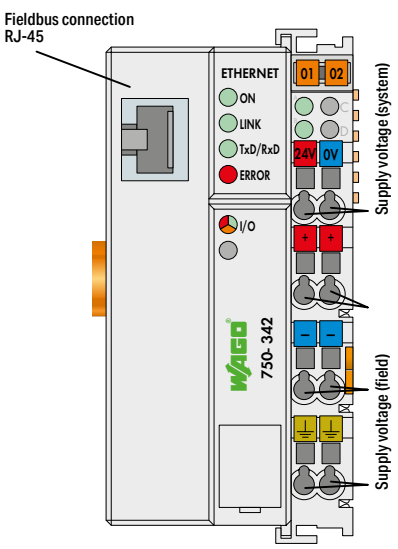




Item Description	Fieldbus Coupler ETHERNET; 3rd generation		Fieldbus Coupler Modbus TCP; 4th generation
Version	Standard	Eco	Standard
Item No.	750-352	750-352/000-001	750-362
Order Text	FC ETHERNET; G3	FC ETHERNET; G3; Eco	FC Modbus TCP; G4
	For new installations, please consider the 750-362 Fieldbus Coupler with extended functionality.		
Technical Data			
Fieldbus	EtherNet/IP*; Modbus (TCP, UDP)		Modbus (TCP, UDP)
Protocols	HTTP; BootP; DHCP; DNS; FTP; SNMP		HTTP(S), BootP, DHCP, DNS, (S)FTP, SNMP
Connection technology: Fieldbus input/output	2 x RJ-45		RJ-45
Bus segment length (max.)	100 m		100 m
Baud rate	10/100 Mbit/s		10/100 Mbit/s
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		250
Input and output (internal) process image (max.)	1020 words		1020 words
Supply voltage (system)	24 VDC (–25 … +30 %); via wiring interface		24 VDC (–25 … +30 %); via wiring interface
Input current (typ.) at nominal load (24 V)	280 mA		280 mA
Current consumption – system supply (5 V)	450 mA		350 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/750-352		wago.com/750-362
	*For variant 750-352/000-001, EtherNet/IP is activated as a standard protocol.		*Pending

5.1

Fieldbus Coupler ETHERNET



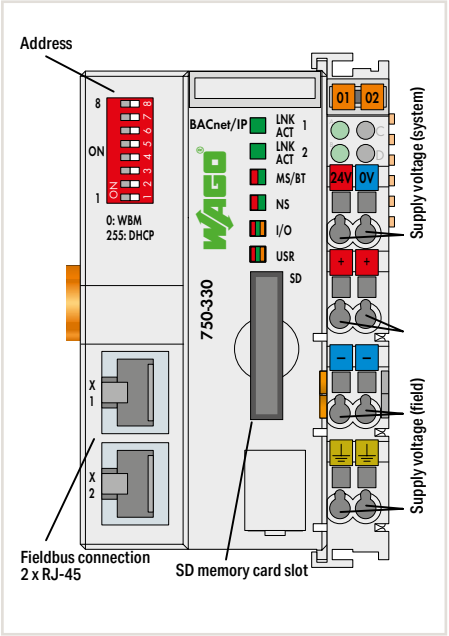
Item Description	Fieldbus Coupler ETHERNET; 1st generation
Item No.	750-342
Order Text	FC ETHERNET; G1
Technical Data	
Fieldbus	Modbus (TCP, UDP)
Protocols	HTTP; BootP
Connection technology: Fieldbus input/output	RJ-45
Bus segment length (max.)	100 m
Baud rate	10 Mbit/s
Transmission medium	Twisted Pair 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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-342

5.1

„ 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; KC
Data sheet and further information, see:	wago.com/750-330

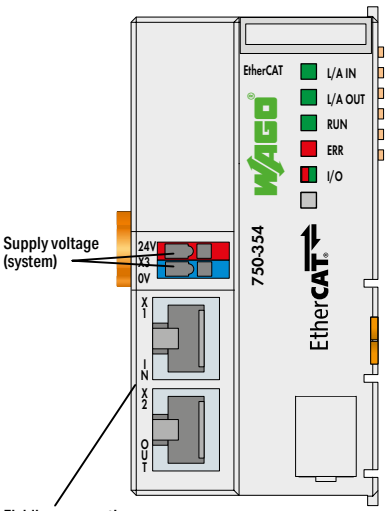
Accessories	Item No.	Page
SD memory card, 2 GB	758-879/000-001	470
BACnet Configurator	Download	See Section 2

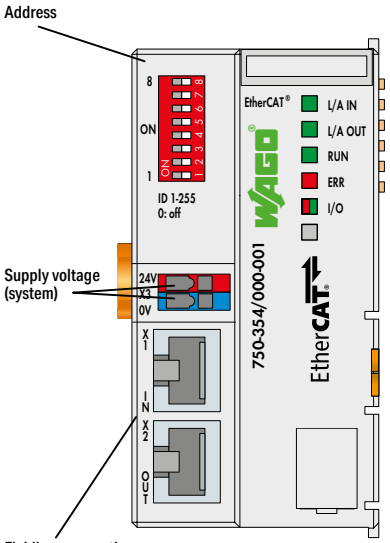
*All guaranteed specifications are only valid with the WAGO Memory Card listed as an accessory.

Fieldbus Coupler EtherCAT®

Figure: 750-354

Figure: 750-354/000-001





Item Description	Fieldbus Coupler EtherCAT	Fieldbus Coupler EtherCAT	
Version	Standard	ID Switch	ID Switch; Diagnostics
Item No.	750-354	750-354/000-001	750-354/000-002
Order Text	FC EtherCAT	FC EtherCAT; ID Switch	FC EtherCAT; ID Switch; Diagn
Technical Data			
Fieldbus	EtherCAT	EtherCAT	
Protocols	EtherCAT (direct mode)	EtherCAT (direct mode)	
Connection technology: Fieldbus input/output	2 x RJ-45	2 x RJ-45	
Baud rate	100 Mbit/s	100 Mbit/s	
Transmission medium	Shielded Twisted Pair S/FTP, F/FTP or SF/FTP; 100 Ω; Cat. 6	Shielded Twisted Pair S/FTP, F/FTP or SF/FTP; 100 Ω; Cat. 6	
Number of modules per node (max.)	64	64	
Input and output (internal) process image (max.)	1024 bytes	1024 bytes	
Supply voltage (system)	24 VDC (−25 … +30 %); via wiring interface	24 VDC (−25 … +30 %); via wiring interface	
Input current (typ.) at nominal load (24 V)	250 mA	250 mA	
Current consumption – system supply (5 V)	300 mA	300 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; KC; cULus OrdLoc/HazLoc; ATEX/IECEx	CE; KC; cULus OrdLoc/HazLoc; ATEX/IECEx	
		Marine	
Data sheet and further information, see:	wago.com/750-354	wago.com/750-354/000-001	

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

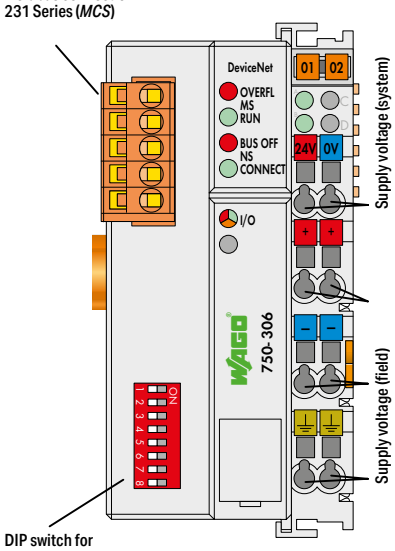
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

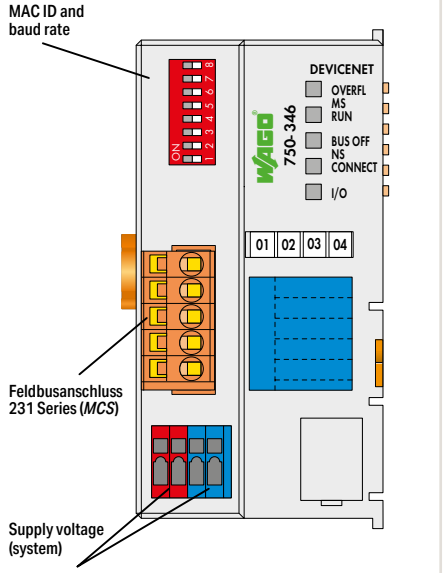
„ Approvals and corresponding ratings, see page 517 or www.wago.com

Fieldbus Coupler DeviceNet®

Figure: 750-306

Figure: 750-346





Item Description	Fieldbus Coupler DeviceNet®	Fieldbus Coupler DeviceNet®
Version	Standard	Eco
Item No.	750-306	750-346
Order Text	FC DeviceNet®	FC DeviceNet®; Eco
Technical Data		
Fieldbus	DeviceNet®	DeviceNet®
Connection technology: Fieldbus input/output	5-pole male connector	5-pole male connector
Number of fieldbus nodes on master (max.)	64 with scanner	64 with scanner
Number of I/O points	Approx. 6000 (dependent on master)	Approx. 6000 (dependent on master)
Baud rate	125 kBd; 250 kBd; 500 kBd	125 kBd; 250 kBd; 500 kBd
Transmission medium	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	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
Number of modules per node (max.)	64	64
Input and output (internal) process image (max.)	512 bytes	32 bytes
Supply voltage (system)	24 VDC (–25 … +30 %); via wiring interface (CAGE CLAMP® connection)	24 VDC (–15 … +20 %); via wiring interface
Supply voltage (field)	24 VDC (–25 … +30 %); via power jumper contacts	
Input current (typ.) at nominal load (24 V)	500 mA	260 mA
Input current via DeviceNet interface at 11 V	120 mA	120 mA
Current consumption – system supply (5 V)	350 mA	350 mA
Total current (system supply)	1650 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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx	CE; KC; OrdLoc/HazLoc; ATEX/IECEx
Certification	ODVA	
Data sheet and further information, see:	wago.com/750-306	wago.com/750-346

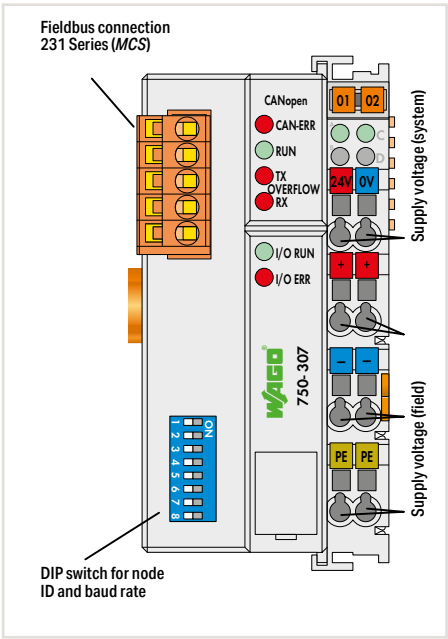
Accessories	Item No.	Item No.
EDS files	Download: www.wago.com	Download: www.wago.com

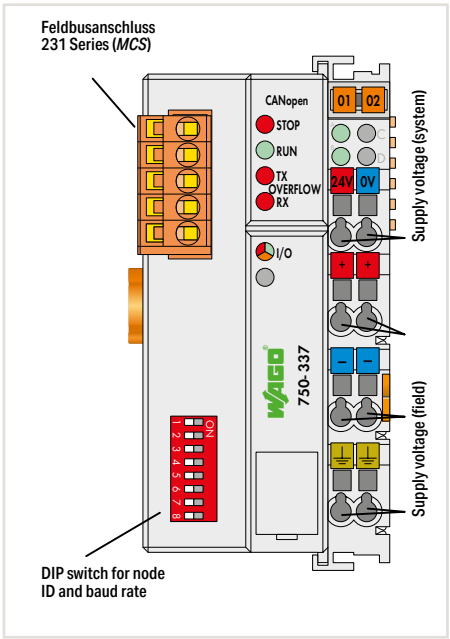
5.1

Fieldbus Coupler CANopen

Figure: 750-337

Figure: 750-347



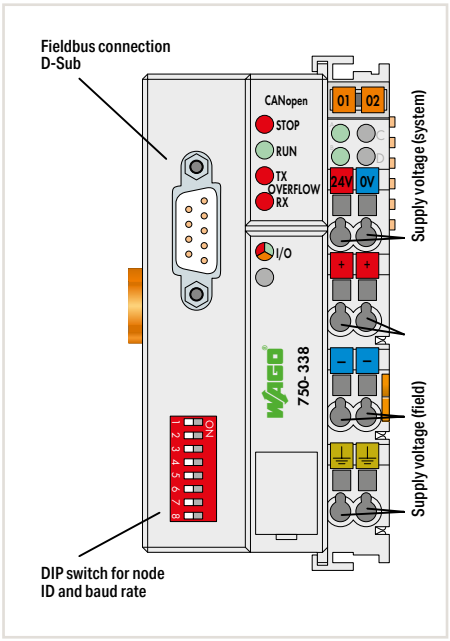


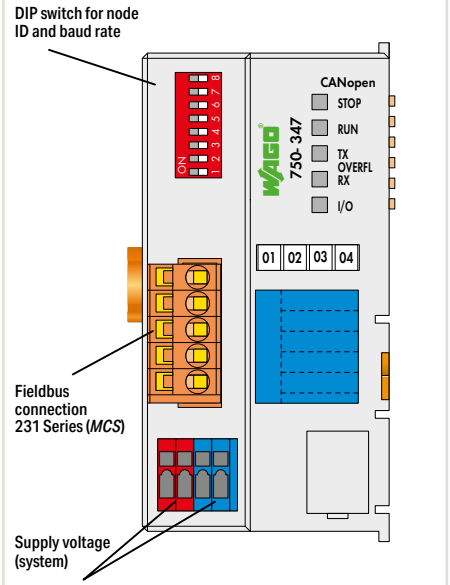
Item Description	Fieldbus Coupler CANopen	Fieldbus Coupler CANopen *MCS*	
Version	**Standard**	**Standard**	**Extended Temperature**
Item No.	**750-307**	**750-337**	**750-337/025-000**
Order Text	FC CANopen	FC CANopen; *MCS*	FC CANopen; *MCS*; T
Technical Data			
Fieldbus	CANopen	CANopen	
Connection 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; KC; cULus OrdLoc/HazLoc; ATEX/IECEx	CE; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx	
Data sheet and further information, see:	wago.com/750-307	wago.com/750-337	

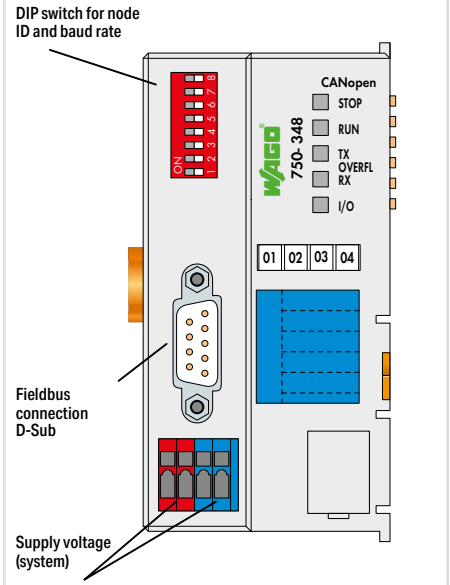
Accessories	Item No.	Item No.
EDS files	Download: www.wago.com	Download: www.wago.com

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

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





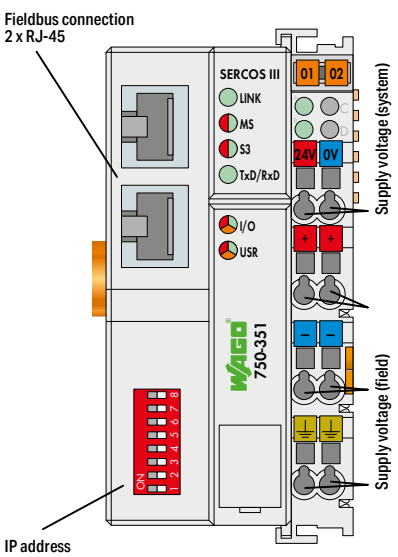


Fieldbus Coupler CANopen D-Sub
Standard
750-338
FC CANopen; DSub
CANopen
Plug D-Sub 9
110
30 … 1000 m (depends on baud rate/cable)
Shielded Cu cable 3 x 0.25 mm²
10 kBd … 1 MBd
64
512 bytes
32 Tx / 32 Rx
2 SDO servers
DS-301 V4.01
DS-401 V2.0; Additional functions: limit monitoring; flank-triggered PDOs; 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; KC; Marine; cULus 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; KC; Marine; cULus 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; KC; Marine; cULus 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; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-351

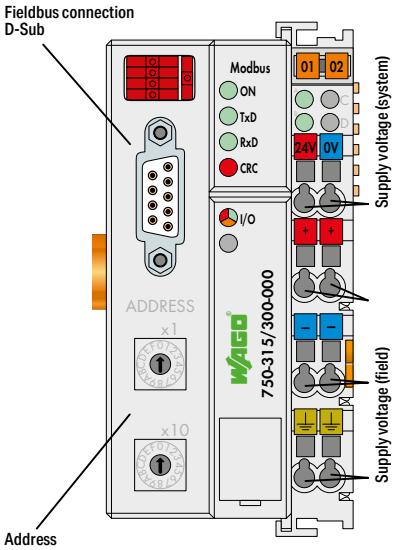
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

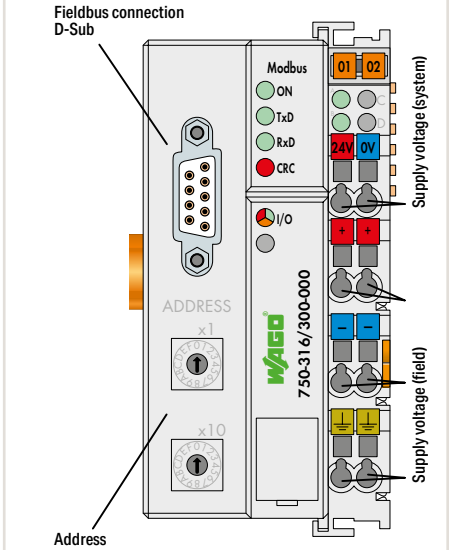
„ Approvals and corresponding ratings, see page 517 or www.wago.com

Fieldbus Coupler Modbus®

Figure: 750-315/300-000

Figure: 750-316/300-000



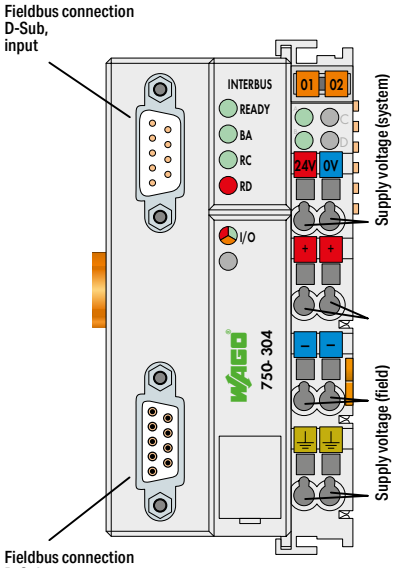


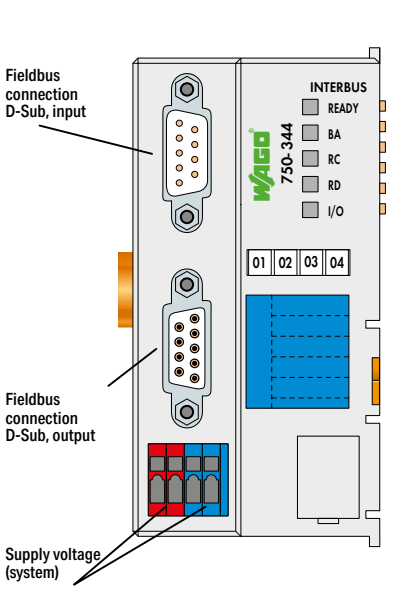
Item Description	Fieldbus Coupler Modbus®	Fieldbus Coupler Modbus®
Version	RS-485; 115.2 kBd	RS-232; 115.2 kBd
Item No.	750-315/300-000	750-316/300-000
Order Text	FC Modbus; RS485; 115.2kBd	FC Modbus; RS232; 115.2kBd
Technical Data		
Fieldbus	Modbus®	Modbus®
Connection technology: Fieldbus input/output	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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx	CE; KC; 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; KC; cULus OrdLoc/HazLoc; Ex ATEX/IECEx	CE; KC; cULus OrdLoc/HazLoc; Ex 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	Item No.	Item No.
INTERBUS files	Download: www.wago.com	Download: www.wago.com

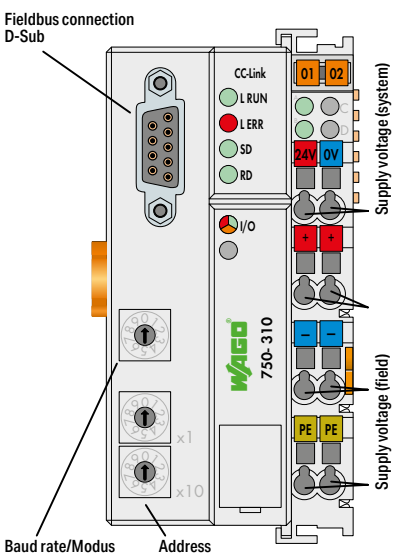
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

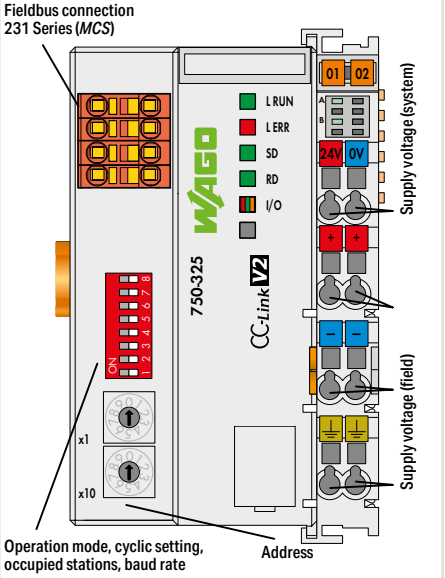
„ Approvals and corresponding ratings, see page 517 or www.wago.com

Fieldbus Coupler CC-Link

Figure: 750-310

Figure: 750-325



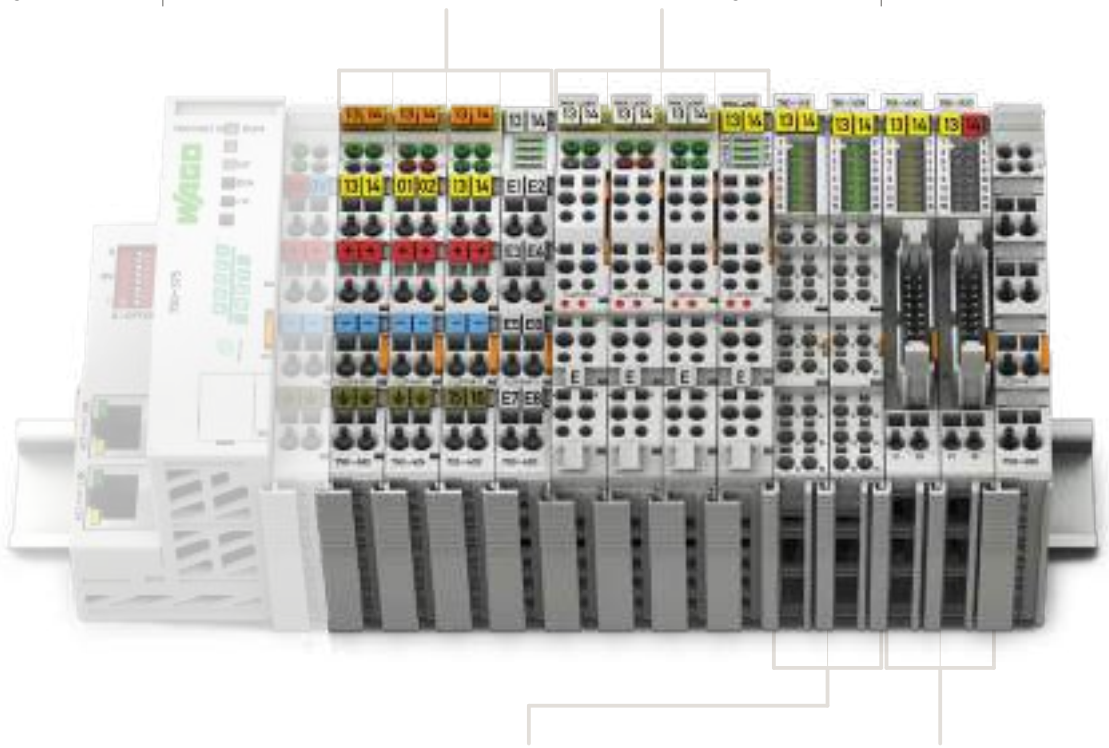


Item Description	Fieldbus Coupler CC-Link	Fieldbus Coupler CC-Link
Item No.	**750-310**	**750-325**
Order Text	FC CC-Link	FC CC-Link
Technical Data		
Fieldbus	CC-Link	CC-Link
Connection technology: Fieldbus input/output	Socket D-Sub 9	MCS pluggable connectors (included)
Number of fieldbus nodes on master (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; cULus OrdLoc/HazLoc; ATEX/IECEx	CE; cULus
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

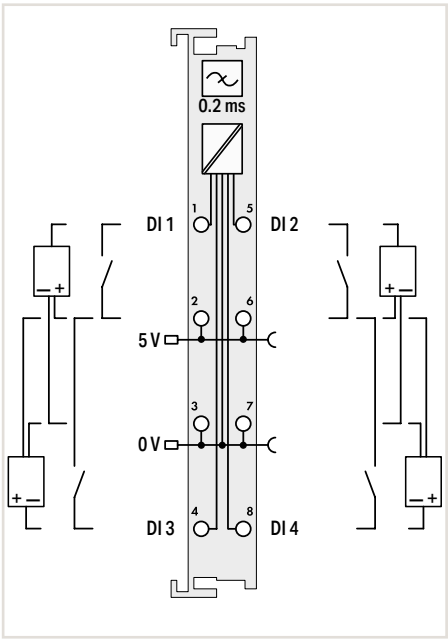
I/O System – 750 and 753 Series, Digital Input Modules
Contents

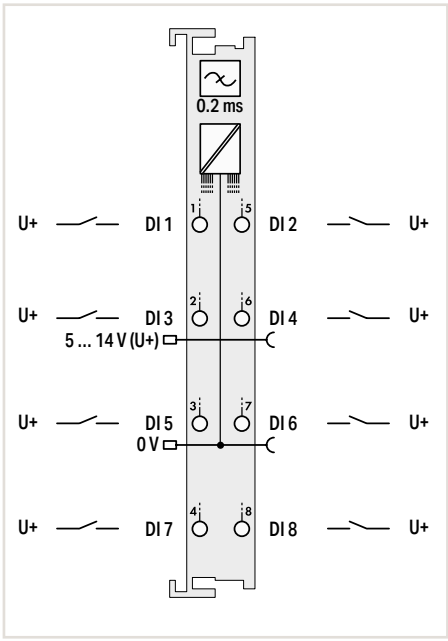
Function	2-Channel DI	4-Channel DI	8-Channel DI	16-Channel DI	8-Channel DIO	Description	Item Number: Standard	Item Number: Extended Temperature	Item Number: Pluggable	Page
5 VDC		☐				4-Channel Digital Input; 5 VDC; 0.2 ms	750-414			164
5/12 VDC			☐			8-Channel Digital Input; 5/12 VDC; 0.2 ms			753-434	164
24 VDC	☐					2-Channel Digital Input; 24 VDC; 3 ms	750-400	750-400/025-000	753-400	165
	☐					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
		☐				4-Channel Digital Input; 24 VDC; 3 ms; 3-wire connection	750-1420			167
			☐			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
					☐	8-Channel Digital Input/Output; 24 VDC; 0.5 A; Ribbon cable	750-1502			170
					☐	8-Channel Digital Input/Output; 24 VDC; 0.5 A	750-1506			170
3 ms; High-side switching										
	☐					2-Channel Digital Input; 24 VDC; 0.2 ms	750-401		753-401	171
		☐				4-Channel Digital Input; 24 VDC; 0.2 ms	750-403		753-403	171
		☐				4-Channel Digital Input; 24 VDC; 0.2 ms; 2-wire connection	750-433		753-433	172
		☐				4-Channel Digital Input; 24 VDC; 0.2 ms; 3-wire connection	750-1421			172
			☐			8-Channel Digital Input; 24 VDC; 0.2 ms	750-431*		753-431	173
			☐			8-Channel Digital Input; 24 VDC; 0.2 ms; 2-wire connection	750-1416*			173
				☐		16-Channel Digital Input; 24 VDC; 0.2 ms	750-1406			173
0.2 ms; High-side switching										
		☐				4-Channel Digital Input; 24 VDC; 3 ms; Low-side switching	750-408	750-408/025-000	753-408	174
		☐				4-Channel Digital Input; 24 VDC; 3 ms; Low-side switching; 3-wire connection	750-1422			174
			☐			8-Channel Digital Input; 24 VDC; 3 ms; Low-side switching	750-436		753-436	175
			☐			8-Channel Digital Input; 24 VDC; 3 ms; Low-side switching; 2-wire connection	750-1417			175
				☐		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
3 ms; Low-side switching										
		☐				4-Channel Digital Input; 24 VDC; 0.2 ms; Low-side switching	750-409		753-409	177
		☐				4-Channel Digital Input; 24 VDC; 0.2 ms; Low-side switching; 3-wire connection	750-1423			177
			☐			8-Channel Digital Input; 24 VDC; 0.2 ms; Low-side switching	750-437		753-437	178
			☐			8-Channel Digital Input; 24 VDC; 0.2 ms; Low-side switching; 2-wire connection	750-1418			178
0.2 ms; Low-side switching										
	☐					2-Channel Digital Input; 24 VDC; 3 ms; Proximity sensor	750-410		753-410	179
	☐					2-Channel Digital Input; 24 VDC; 0.2 ms; Proximity sensor	750-411		753-411	179
	☐					2-Channel Digital Input; NAMUR	750-425		753-425	180
	☐					2-Channel Digital Input; Intruder detection	750-424		753-424	181
		☐				4-Channel Digital Input; 24 VDC; Pulse extension	750-422		753-422	182
24 VAC/DC		☐				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
42 VAC/VDC		☐				4-Channel Digital Input; 24 VAC/DC; 20 ms	750-428		753-428	184
48 VDC	☐					2-Channel Digital Input; 48 VDC; 3 ms	750-412		753-412	185
60 VDC	☐					2-Channel Digital Input; 60 VDC; 3 ms	*		753-429	186
110 VDC	☐					2-Channel Digital Input; 110 VDC; High-side/low-side switching	750-427*		753-427	187
220 VDC	☐					2-Channel Digital Input; 220 VDC	750-407*			187
120 VAC	☐					2-Channel Digital Input; 120 VAC	750-406		753-406	188
120/230 VAC		☐				4-Channel Digital Input; 120/230 VAC			753-440	189
230 VAC	☐					2-Channel Digital Input; 230 VAC	750-405		753-405	188
PTC			☐			8-Channel Digital Input; PTC	750-1425			189
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; KC; cULus OrdLoc/HazLoc	CE; KC; Marine; cULus 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!

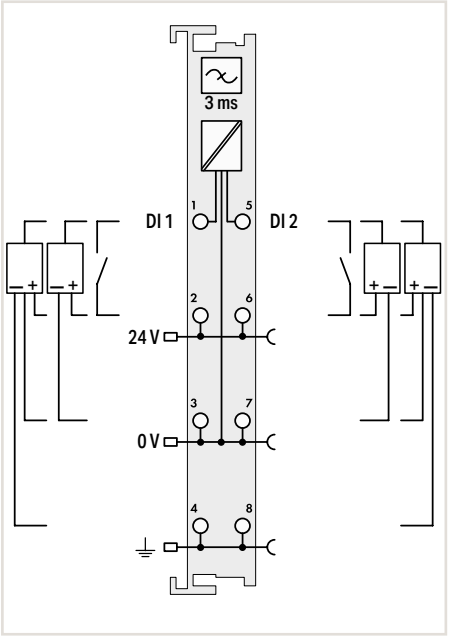
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

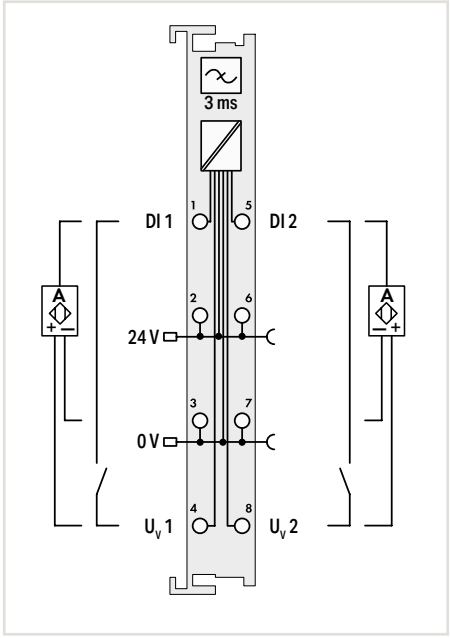
„ Approvals and corresponding ratings, see page 518 or www.wago.com

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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx			CE; KC; 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

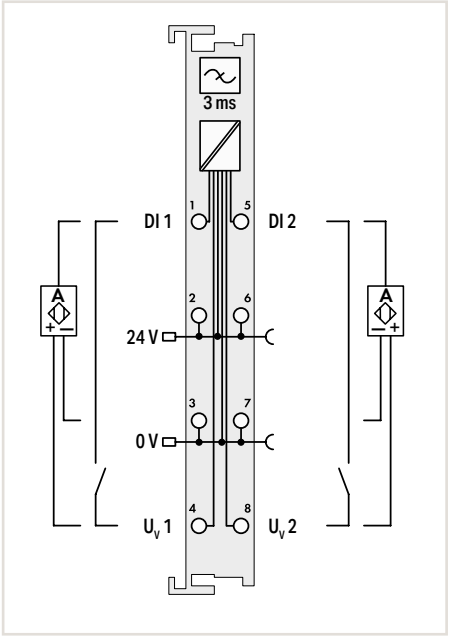
Accessories		Item No.		Item No.
Pluggable connector		753-110		753-110
Coding keys		753-150		753-150

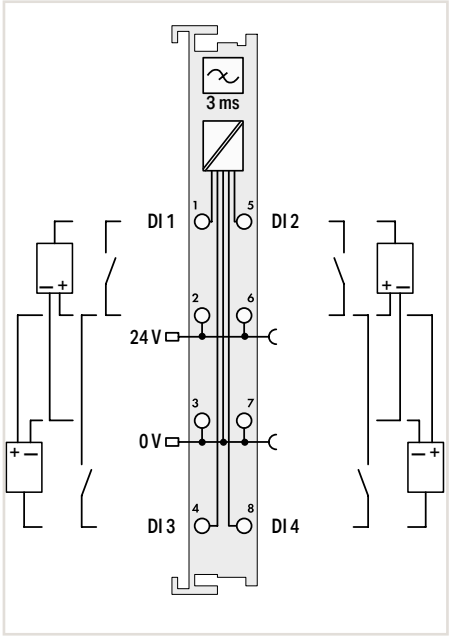
5.2

Digital Input; 24 VDC; 3 ms

Figure: 750-421

Figure: 750-402





Item Description	2-Channel Digital Input; 24 VDC; 3 ms; Diagnostics		4-Channel Digital Input; 24 VDC; 3 ms		
Version	**Standard**	**Pluggable** (delivery without connector)	**Standard**	**Extended temperature**	**Pluggable** (delivery without connector)
Item No.	**750-421**	**753-421**	**750-402**	**750-402/025-000**	**753-402**
Order Text	2DI; 24 VDC; 3ms; Diagn	2DI; 24 VDC; 3ms; Diagn	4DI; 24 VDC; 3ms	4DI; 24 VDC; 3ms; T	4DI; 24 VDC; 3ms
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		2 x (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.	3.7 mA		4.5 mA		
Supply voltage (sensor)	24 VDC; short-circuit-protected; isolated channels		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)	12 mA		7.5 mA		
Data width (internal)	4 bits		4 bits		
Diagnostics	Short circuit; automatic acknowledgement after error rectified				
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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx		CE; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx		
Data sheet and further information, see:	wago.com/750-421	wago.com/753-421	wago.com/750-402		wago.com/753-402

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.

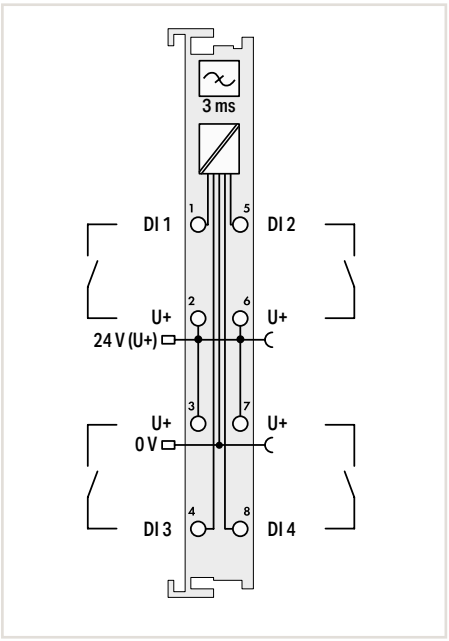
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

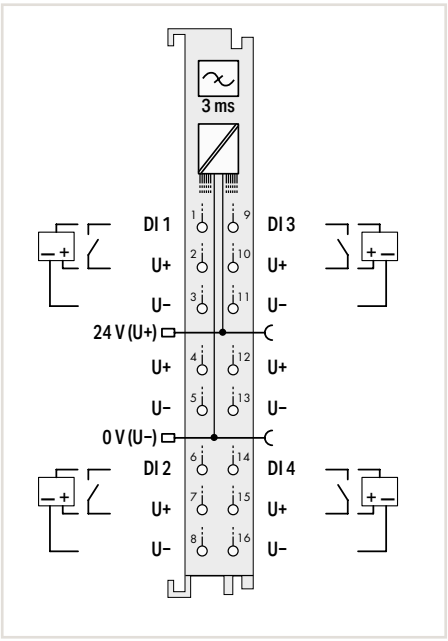
„ Approvals and corresponding ratings, see page 518 or www.wago.com

Digital Input; 24 VDC; 3 ms

Figure: 750-432

Figure: 750-1420





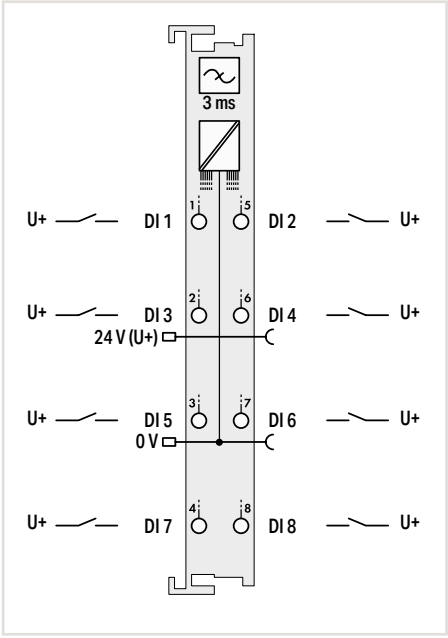
Item Description	4-Channel Digital Input; 24 VDC; 3 ms; 2-wire connection		4-Channel Digital Input; 24 VDC; 3 ms; 3-wire connection
Version	**Standard**	**Pluggable** (delivery without connector)	**Standard with 16 connectors**
Item No.	**750-432**	**753-432**	**750-1420**
Order Text	4DI; 24 VDC; 3ms; 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; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx		CE; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-432	wago.com/753-432	wago.com/750-1420

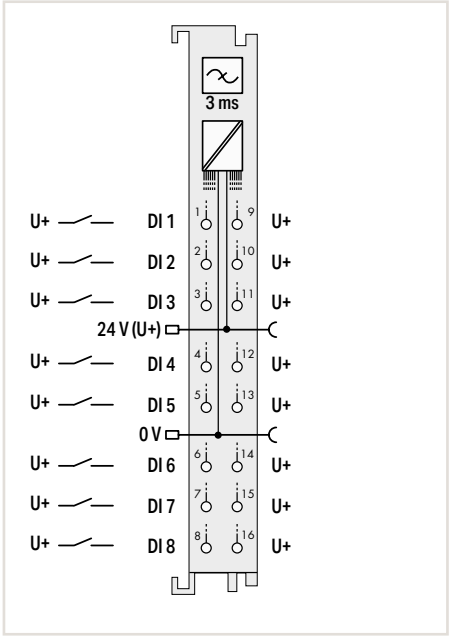
Accessories		Item No.	
Pluggable connector		**753-110**	
Coding keys		**753-150**	

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; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx			CE; KC; Marine; cULus 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	

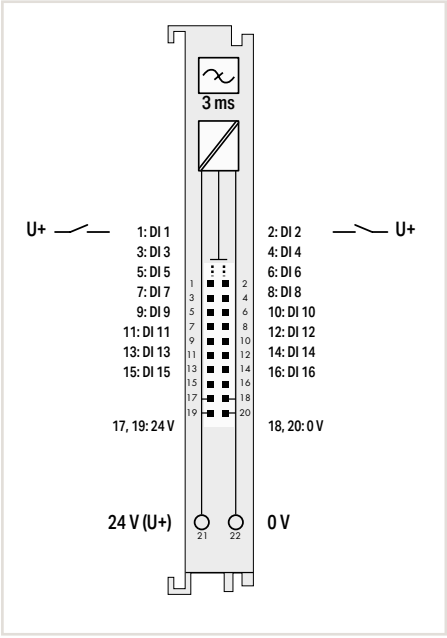
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

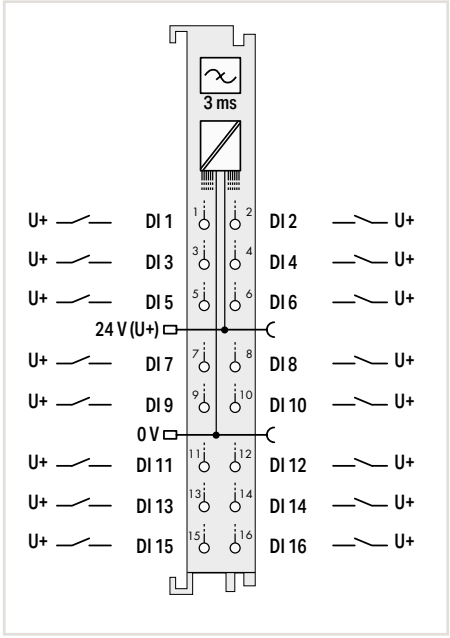
„ Approvals and corresponding ratings, see page 518 or www.wago.com

Digital Input; 24 VDC; 3 ms

Figure: 750-1400

Figure: 750-1405





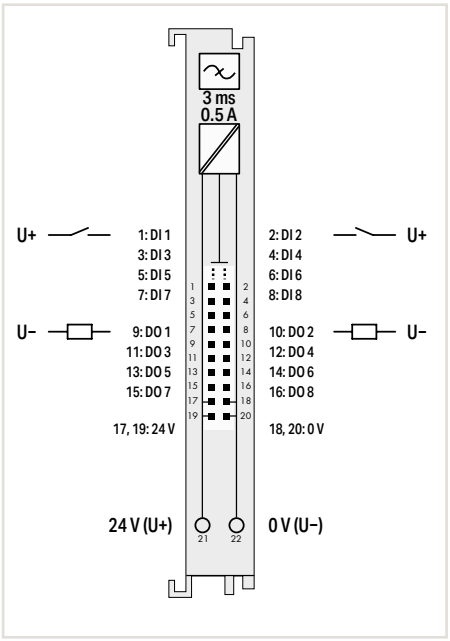
Item Description	16-Channel Digital Input; 24 VDC; 3 ms; Ribbon cable	16-Channel Digital Input; 24 VDC; 3 ms
Version	**Standard with ribbon cable connector**	**Standard with 16 connectors**
Item No.	**750-1400**	**750-1405**
Order Text	16DI; 24 VDC; 3ms; Ribbon Cable	16DI; 24 VDC; 3ms
Technical Data		
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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx	CE; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-1400	wago.com/750-1405

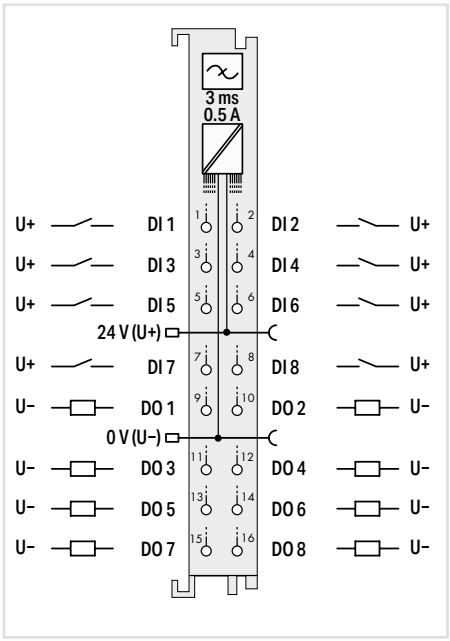
Accessories	Item No.
Interface modules for system wiring and interface cable	See Section 10

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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx	CE; KC; 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 interface cable	See Section 10

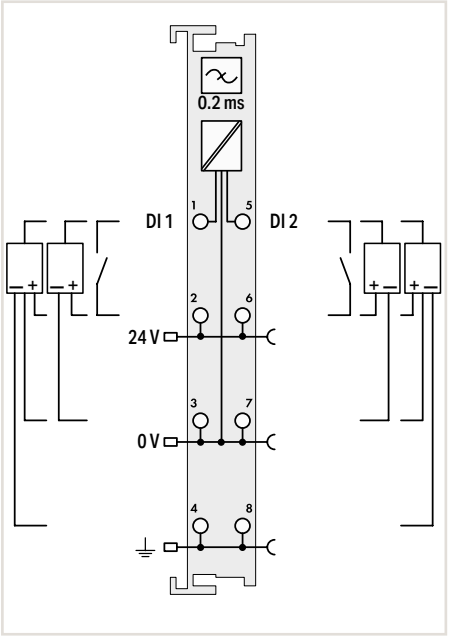
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

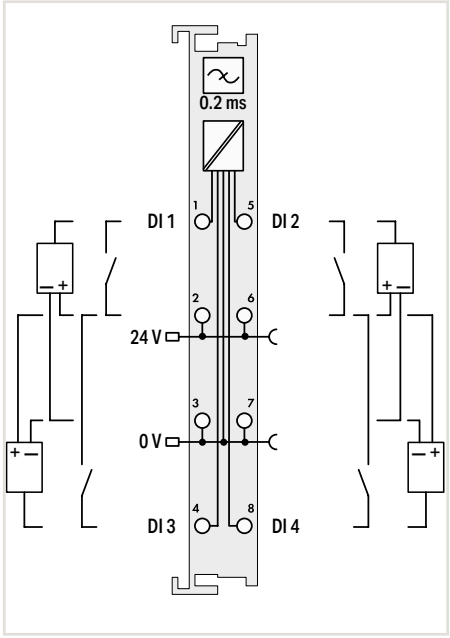
„ Approvals and corresponding ratings, see page 518 or www.wago.com

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; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx		CE; KC; Marine; cULus 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

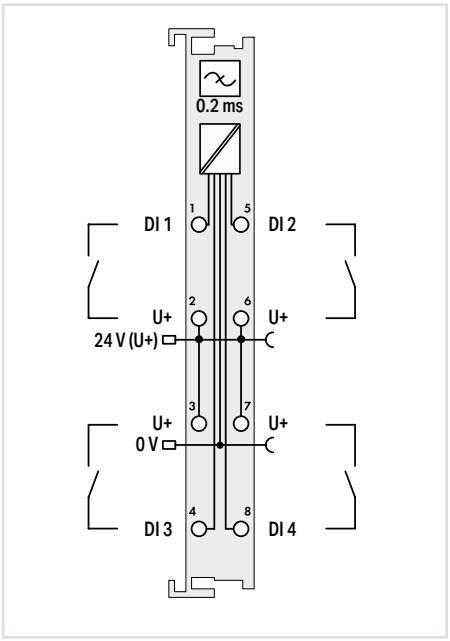
Accessories		Item No.		Item No.
Pluggable connector		**753-110**		**753-110**
Coding keys		**753-150**		**753-150**

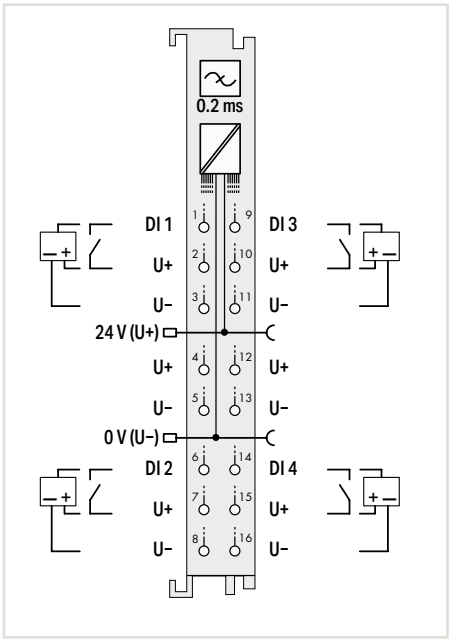
*A suitable field side connection module (e.g., 750-614) must also be used to connect other sensors.

Digital Input; 24 VDC; 0.2 ms

Figure: 750-433

Figure: 750-1421



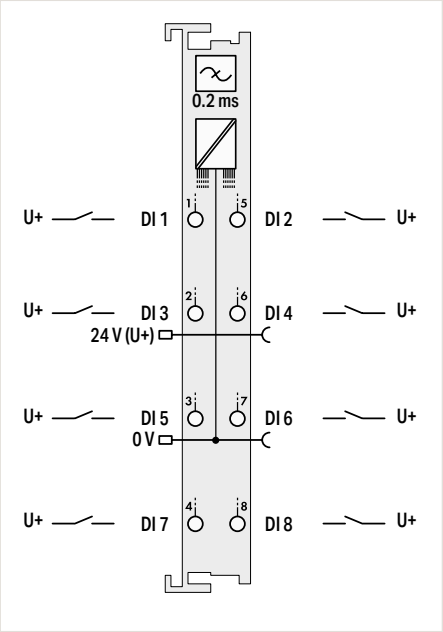


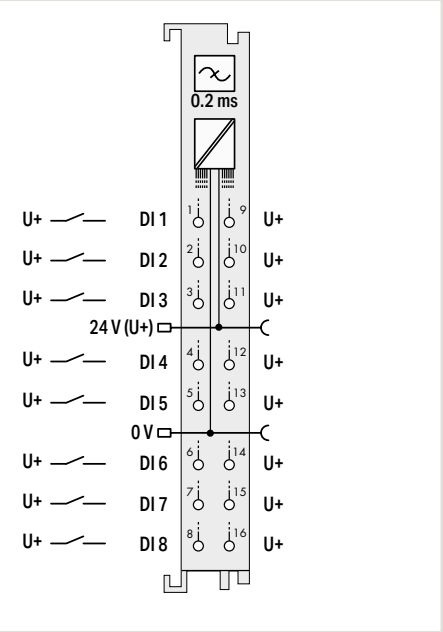
Item Description	4-Channel Digital Input; 24 VDC; 0.2 ms; 2-wire connection		4-Channel Digital Input; 24 VDC; 0.2 ms; 3-wire connection
Version	**Standard**	**Pluggable** (delivery without connector)	**Standard with 16 connectors**
Item No.	**750-433**	**753-433**	**750-1421**
Order Text	4DI; 24 VDC; 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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx		CE; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-433	wago.com/753-433	wago.com/750-1421

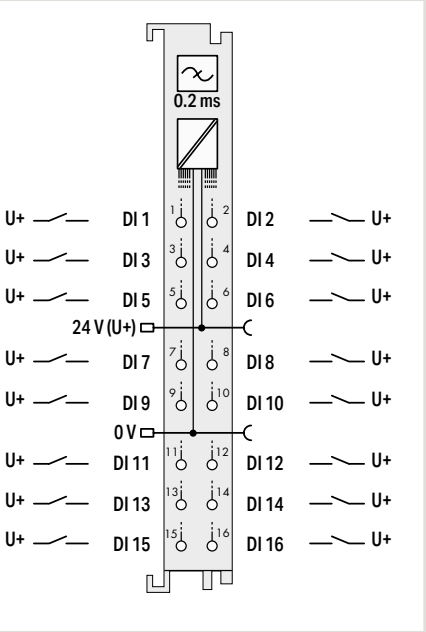
Accessories		Item No.	
Pluggable connector		**753-110**	
Coding keys		**753-150**	

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

„ Approvals and corresponding ratings, see page 518 or www.wago.com





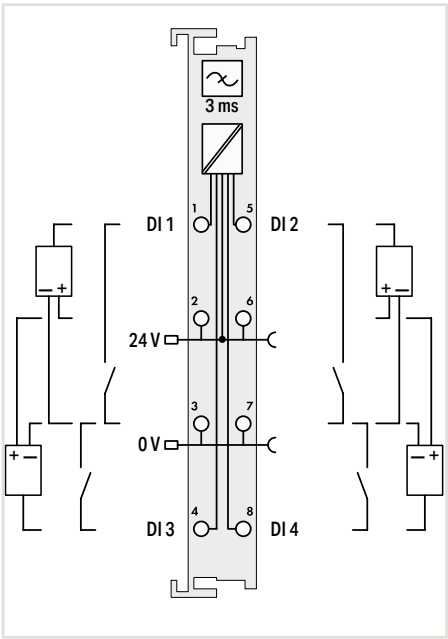


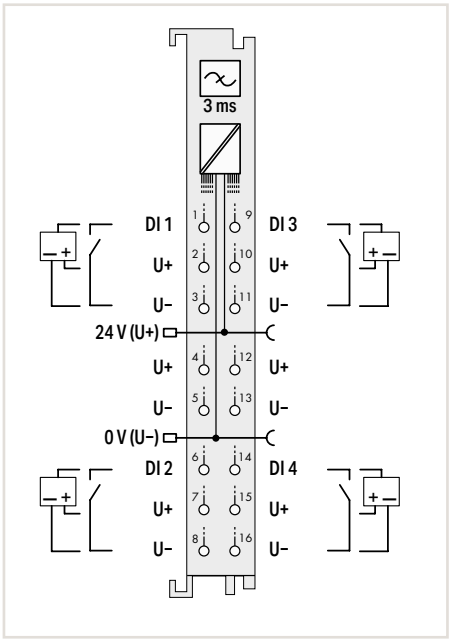
8-Channel Digital Input; 24 VDC; 0.2 ms		8-Channel Digital Input; 24 VDC; 0.2 ms; 2-wire connection	16-Channel Digital Input; 24 VDC; 0.2 ms
Standard	**Pluggable** (delivery without connector)	**Standard with 16 connectors**	**Standard with 16 connectors**
750-431	**753-431**	**750-1416**	**750-1406**
8DI; 24 VDC; 0.2ms	8DI; 24 VDC; 0.2ms	8DI; 24 VDC; 0.2ms; 2-wire	16DI; 24 VDC; 0.2ms
	•		
8		8	16
24 VDC		24 VDC	24 VDC
−3 … +5 VDC		−3 … +5 VDC	−3 … +5 VDC
15 … 30 VDC		11 … 30 VDC	15 … 30 VDC
1-wire		2-wire	1-wire
High-side switching		High-side switching	High-side switching
0.2 ms		0.2 ms	0.2 ms
2.8 mA		4.5 mA	2.3 mA
		24 VDC	
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)
17 mA		6 mA	25 mA
8 bits		8 bits	16 bits
500 V system/field		500 V system/field	500 V system/field
0 … +55 °C		0 … +55 °C	0 … +55 °C
12 x 67.8 x 100 mm	12 x 69 x 100 mm	12 x 69 x 100 mm	12 x 69 x 100 mm
CE; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx		CE; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx	CE; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx
wago.com/750-431	wago.com/753-431	wago.com/750-1416	wago.com/750-1406
	Item No.		
	753-110		
	753-150		

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; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx			CE; KC; Marine; cULus 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.

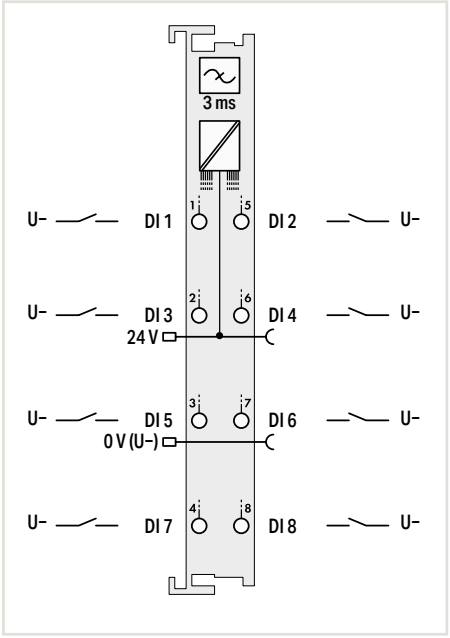
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

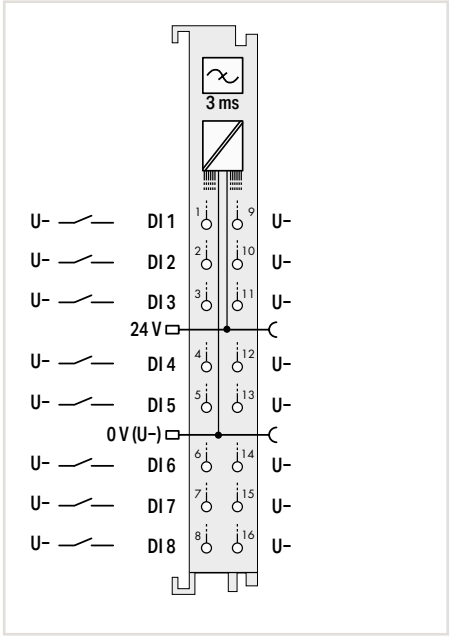
„ Approvals and corresponding ratings, see page 518 or www.wago.com

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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx		CE; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-436	wago.com/753-436	wago.com/750-1417

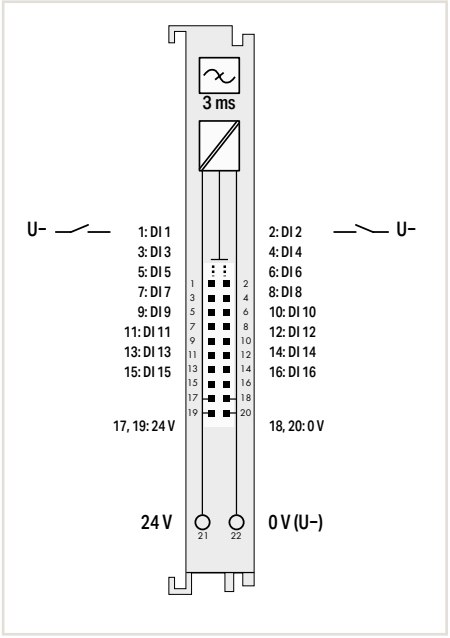
Accessories	Item No.
Pluggable connector	753-110
Coding keys	753-150

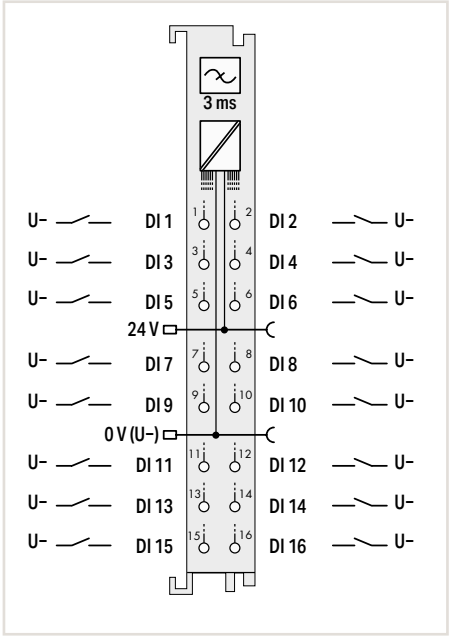
5.2

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	
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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx	CE; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-1402	wago.com/750-1407

Accessories	Item No.
Interface modules for system wiring and interface cable	See Section 10

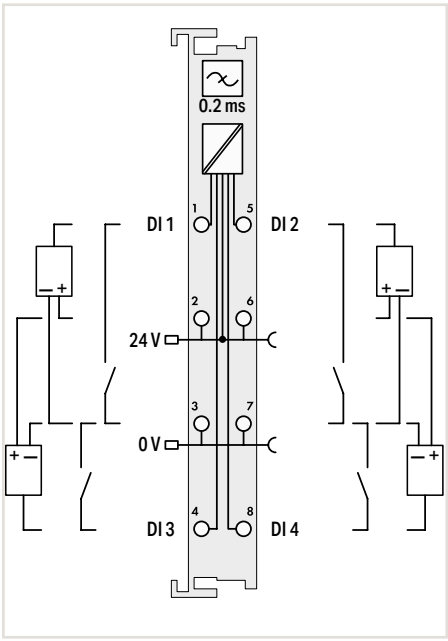
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

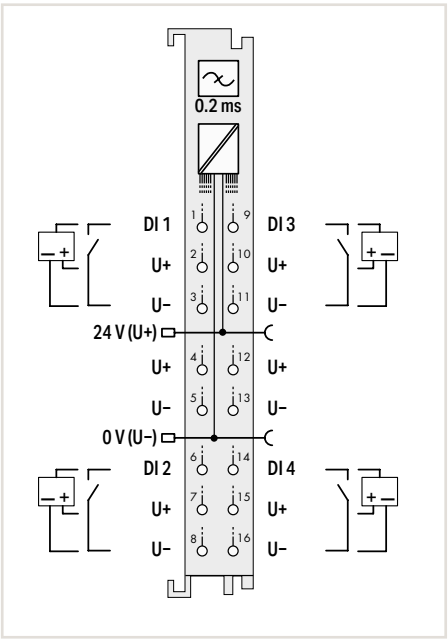
„ Approvals and corresponding ratings, see page 518 or www.wago.com

Digital Input; 24 VDC; 0.2 ms; 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 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)	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; KC; cULus OrdLoc/HazLoc; ATEX/IECEx		CE; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-409	wago.com/753-409	wago.com/750-1423

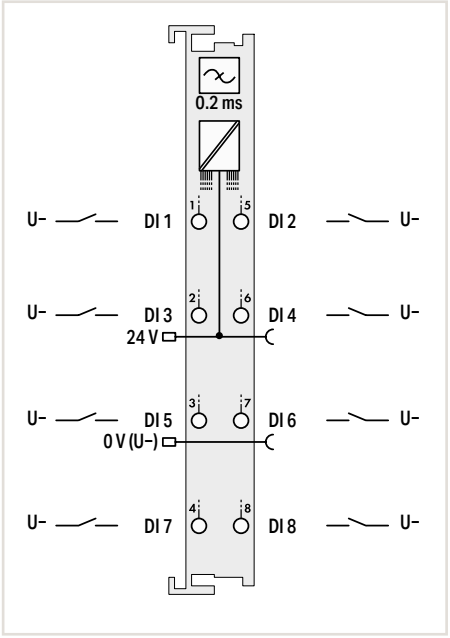
Accessories		Item No.	
Pluggable connector		**753-110**	
Coding keys		**753-150**	

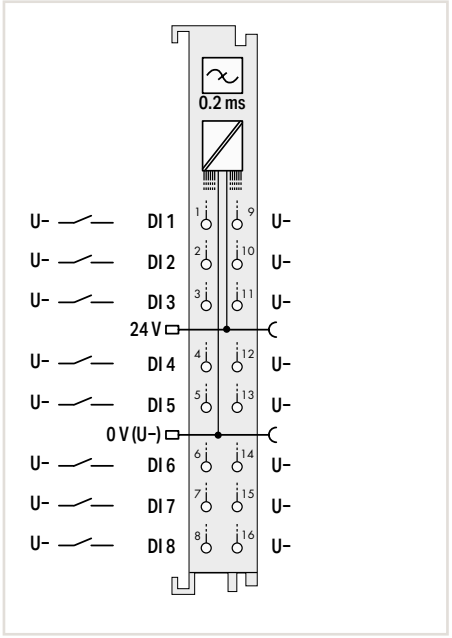
*A suitable field side connection module (e.g., 750-614) must also be used to connect other sensors.

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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx		CE; KC; 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**	

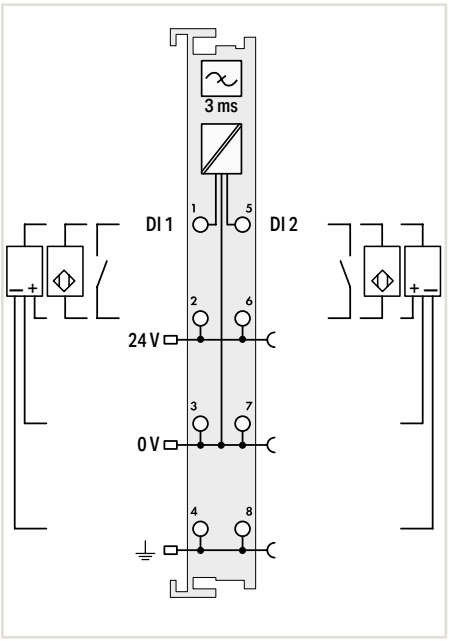
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

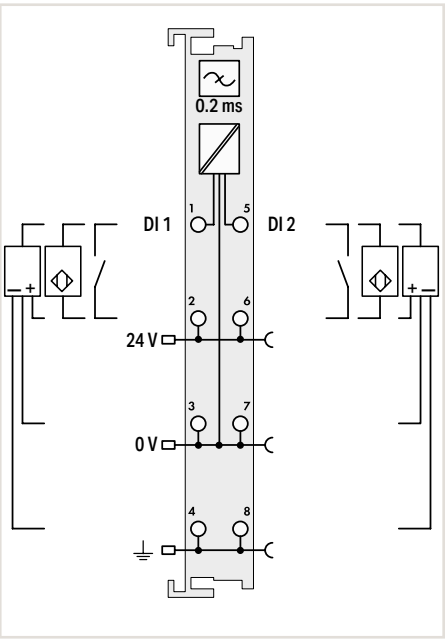
„ Approvals and corresponding ratings, see page 518 or www.wago.com

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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx		CE; KC; 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

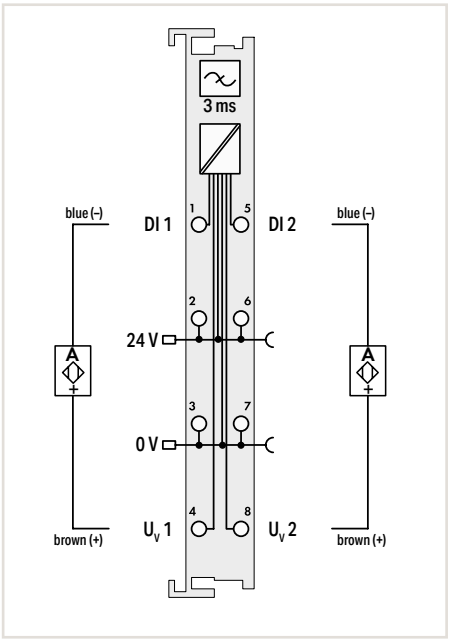
Accessories		Item No.		Item No.
Pluggable connector		753-110		753-110
Coding keys		753-150		753-150

5.2

Digital Input; NAMUR

Figure: 750-425

Figure: 753-425



Item Description	2-Channel Digital Input; NAMUR	
Version	**Standard**	**Pluggable** (delivery without connector)
Item No.	**750-425**	**753-425**
Order Text	2DI; NAMUR	2DI; NAMUR
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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx	
Data sheet and further information, see:	wago.com/750-425	wago.com/753-425

Accessories	Item No.
Pluggable connector	**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.

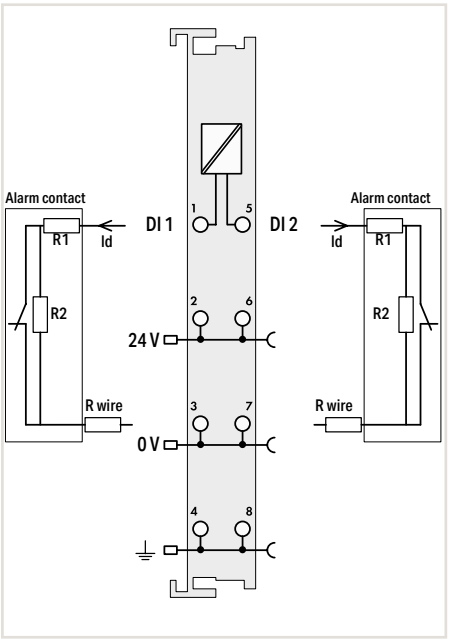
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ Approvals and corresponding ratings, see page 518 or www.wago.com

Digital Input; Intruder Detection

Figure: 750-424

Figure: 753-424



Item Description	2-Channel Digital Input; Intruder detection	
Version	**Standard**	**Pluggable** (delivery without connector)
Item No.	**750-424**	**753-424**
Order Text	2DI; Intruder Detection	2DI; Intruder Detection
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/750-424	wago.com/753-424

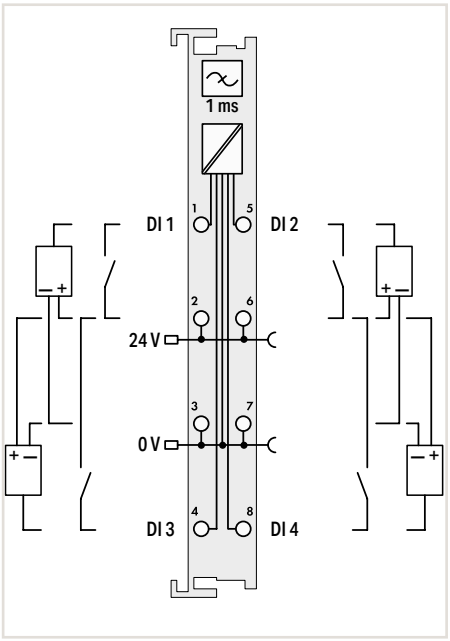
Accessories	Item No.
Pluggable connector	**753-110**
Coding keys	**753-150**

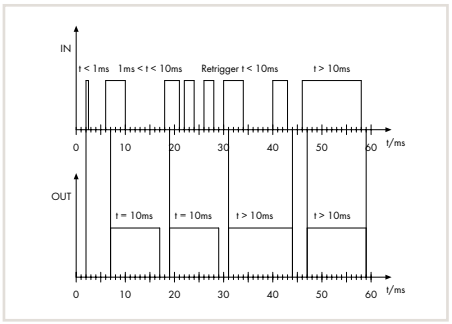
This I/O module incorporates a current loop, which makes it possible to monitor alarm contacts (window contacts) with a fixed resistance ratio (R1, R2), for intruder detection.
The module indicates the status of the connected contact via LEDs and status bits in the process image.

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 Extention	4DI; 24 VDC; Pulse Extention

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; KC; cULus OrdLoc/HazLoc; Ex 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.

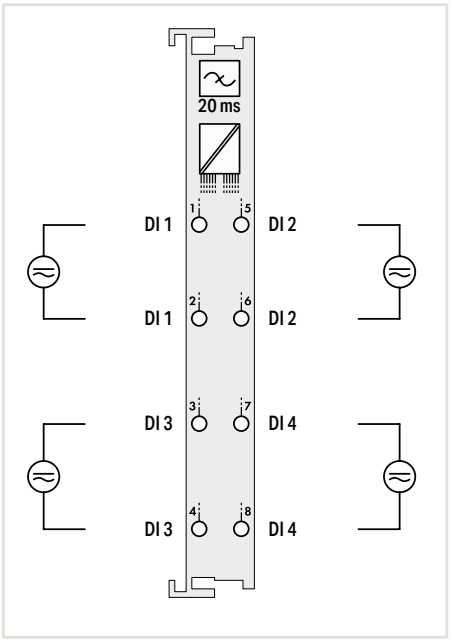
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

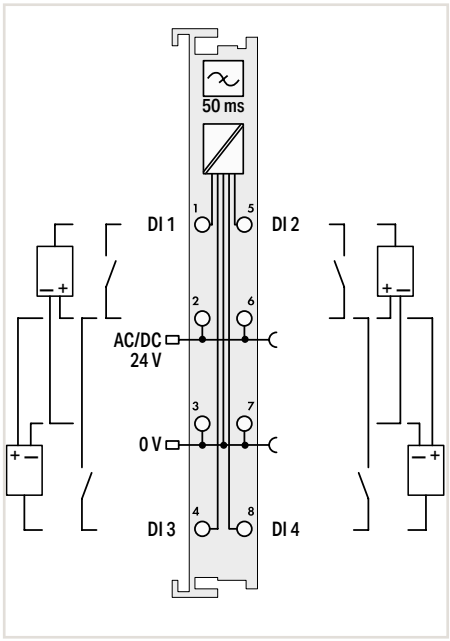
„ Approvals and corresponding ratings, see page 518 or www.wago.com

Digital Input; 24 VAC/DC

Figure: 750-415

Figure: 753-415





Item Description	4-Channel Digital Input; 24 VAC/DC; 20 ms		4-Channel Digital Input; 24 VAC/DC; 50 ms	
Version	**Standard**	**Pluggable** (delivery without connector)	**Standard**	**Pluggable** (delivery without connector)
Item No.	**750-415**	**753-415**	**750-423**	**753-423**
Order Text	4DI; 24 VAC/VDC; 20ms	4DI; 24 VAC/VDC; 20ms	4DI; 24 VAC/VDC; 50ms	4DI; 24 VAC/VDC; 50ms
Technical Data				
Pluggable connector		•		•
Number of digital inputs	4		4	
Signal type	24 VAC/DC		24 VAC/DC	
Voltage range for signal (0)	−3 … +5 VDC; 0 … 5 VAC		−3 … +5 VDC; 0 … 5 VAC	
Voltage range for signal (1)	11 … 30 VDC; 10 … 27 VAC		11 … 30 VDC; 10 … 27 VAC	
Sensor connection	2-wire		2 x (2-wire; 3-wire)*	
Input characteristic	High-side switching		High-side switching	
Input filter (digital)	20 ms		50 ms	
Input current (typ.) at 24 VDC	7.5 mA		7.5 mA	
Input current (typ.) at 24 VAC	9.5 mA		9.5 mA	
Supply voltage (sensor)			24 VAC/DC	
Supply voltage (field)			24 V AC/DC (−15 … +20 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)	
Current consumption – system supply (5 V)	10 mA		10 mA	
Data width (internal)	4 bits		4 bits	
Isolation	500 V (system/field); 50 V (channel/channel)		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; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx		CE; KC; Marine; cULus 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		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 24 VAC supply!

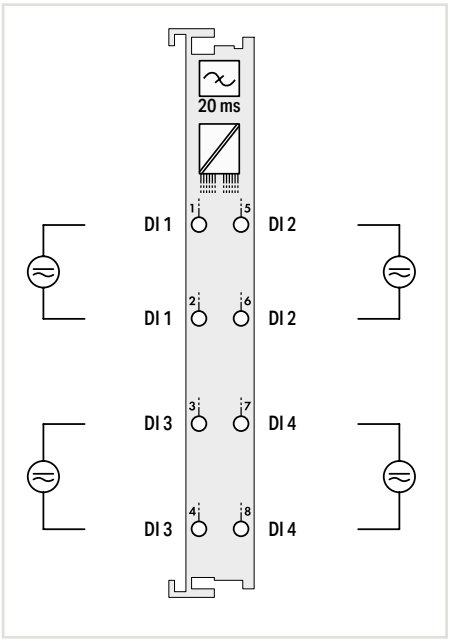
*A suitable field side connection module (e.g., 750-614) must also be used to connect other sensors.

5.2

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; KC; cULus OrdLoc/HazLoc; Ex 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**

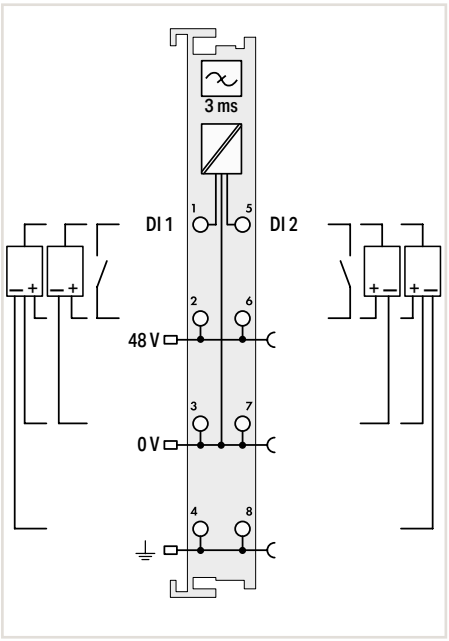
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ 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

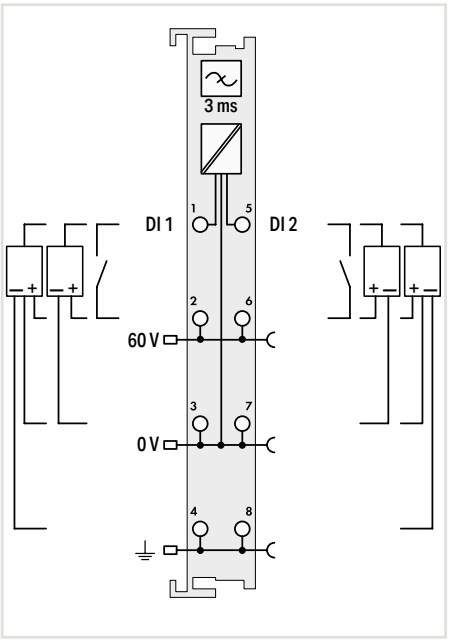
Technical Data		
Pluggable connector		•
Number of digital inputs	2	
Signal type	48 VDC	
Voltage range for signal (0)	−6 … +10 VDC	
Voltage range for signal (1)	34 … 60 VDC	
Sensor connection	2-wire; 3-wire; 4-wire	
Input characteristic	High-side switching	
Input filter (digital)	3 ms	
Input current per 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; KC; cULus 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!

5.2

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; KC; cULus OrdLoc/HazLoc; Ex ATEX/IECEx
Data sheet and further information, see:	wago.com/753-429

Accessories	Item No.
Pluggable connector	753-110
Coding keys	753-150

Notice:
An additional supply module must be added for 60 VDC supply!

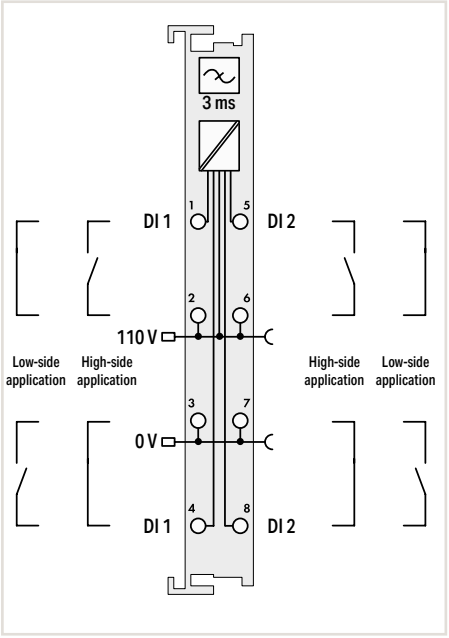
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

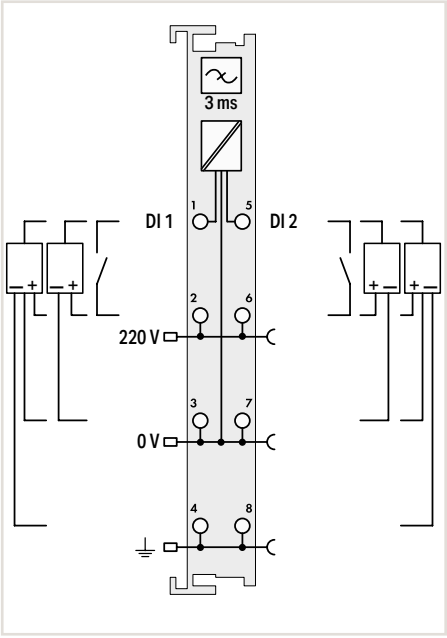
„ Approvals and corresponding ratings, see page 518 or www.wago.com

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; KC; cULus OrdLoc/HazLoc; ATEX/IECEx		CE; KC; cULus OrdLoc
Data sheet and further information, see:	wago.com/750-427	wago.com/753-427	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!

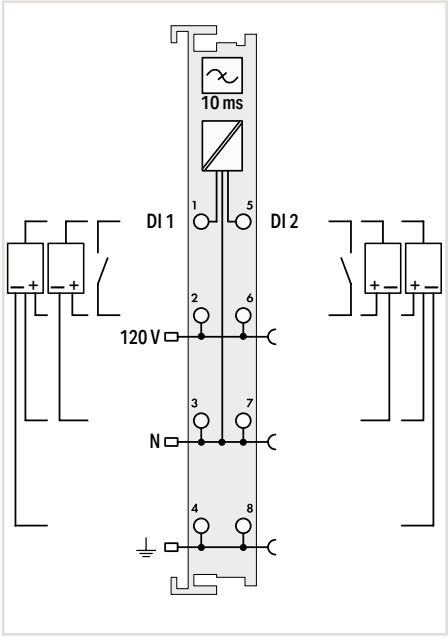
Notice:
An additional supply module must be added for 220 VDC supply!

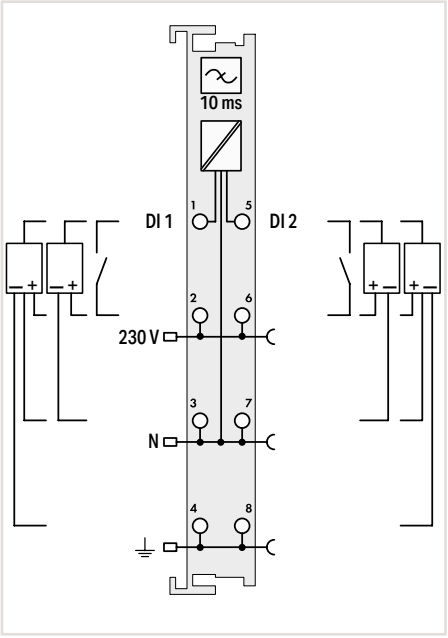
5.2

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; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx		CE; KC; Marine; cULus 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**

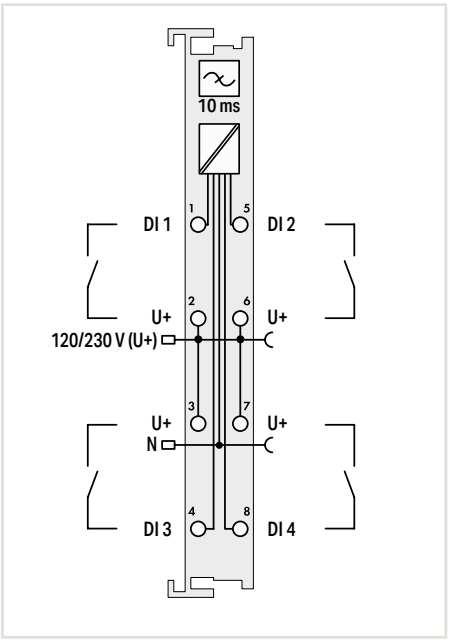
Notice:
An additional supply module must be added for 120 VAC supply!

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



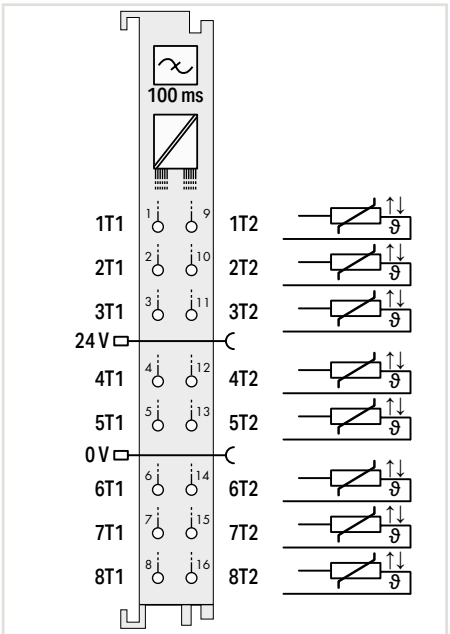
Item Description	**4-Channel Digital Input; 120/230 VAC**
Version	**Pluggable** (delivery without connector)
Item No.	**753-440**
Order Text	4DI; 120/230 VAC

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; transmission 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; KC; cULus OrdLoc/HazLoc; Ex 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: ≤ 2.5 V / ≤ 7.5 V (dependent on resistance value); Number of PTCs per channel: Max. 6 in a series; Operating value (status bit "1" to "0"): R ≥ 3 kΩ; Return value (status bit "0" to "1"): ≤ 1.5 kΩ; Hysteresis: R = 1.5 kΩ; Wire break value: R ≥ 8 kΩ; Short circuit value: R ≤ 20 Ω
Input filter (digital)	100 ms
Output current (max.)	0.001 A
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)	52 mA
Data width (internal)	16 bits
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/750-1425

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 (ϑnat) 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.

5.2

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

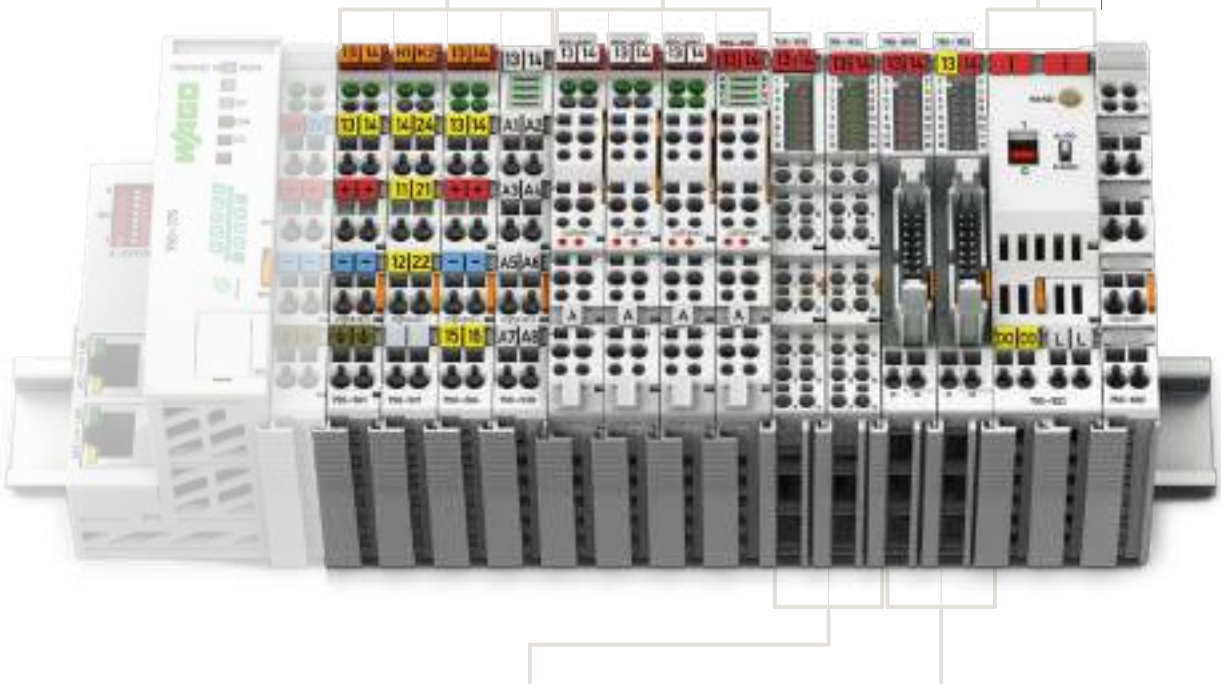
„ Approvals and corresponding ratings, see page 518 or www.wago.com

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

PROFIsafe

I/O System –
750 XTR Series

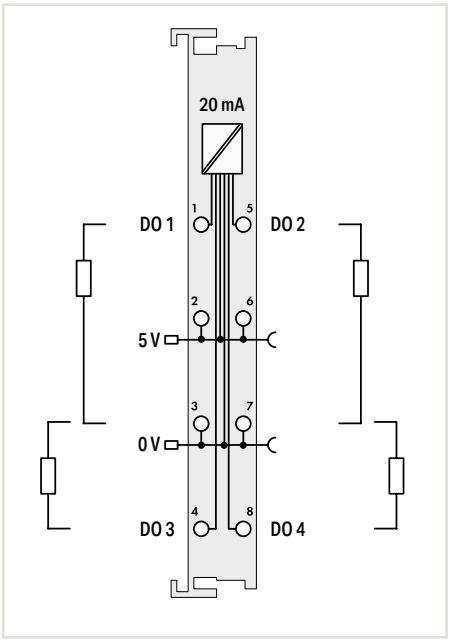
I/O System – 750 and 753 Series, Digital Output Modules
Contents

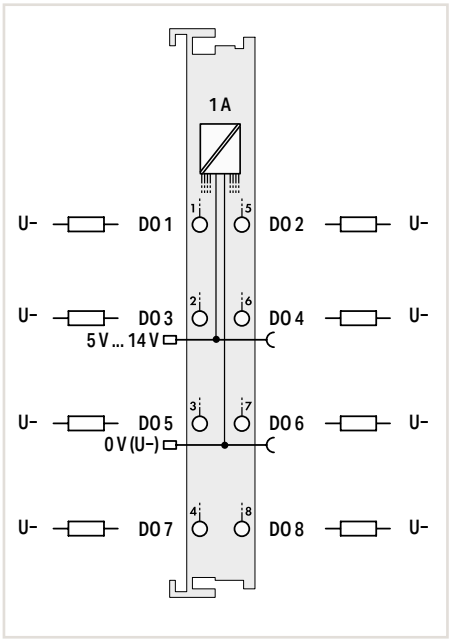
Function	1-Channel DO	2-Channel DO	4-Channel DO	8-Channel DO	8-Channel DIO	16-Channel DO	Description	Item Number			Page
								Standard	Extended Temperature	Pluggable	
5 VDC			■				4-Channel Digital Output; 5 VDC; 20 mA	750-519			194
5/12 VDC				■			8-Channel Digital Output; 12 VDC; 1 A	750-534		753-534	194
24 VDC		■					2-Channel Digital Output; 24 VDC; 0.5 A	750-501		753-501	195
		■					2-Channel Digital Output; 24 VDC; 0.5 A; Interference-free	750-501/000-800		753-501/000-800	195
		■					2-Channel Digital Output; 24 VDC; 2.0 A	750-502		753-502	196
		■					2-Channel Digital Output; 24 VDC; 2.0 A; Interference-free	750-502/000-800		753-502/000-800	196
		■					2-Channel Digital Output; 24 VDC; 0.5 A; Diagnostics	750-506		753-506	197
		■					2-Channel Digital Output; 24 VDC; 0.5 A; Interference-free; Diagnostics	750-506/000-800			197
		■					2-Channel Digital Output; 24 VDC; 2.0 A; Diagnostics	750-508*		753-508	197
		■					2-Channel Digital Output; 24 VDC; 2.0 A; Interference-free; Diagnostics	750-508/000-800			197
			■				4-Channel Digital Output; 24 VDC; 0.5 A	750-504	750-504/025-000	753-504	198
			■				4-Channel Digital Output; 24 VDC; 0.5 A; Interference-free	750-504/000-800	750-504/025-800		198
			■				4-Channel Digital Output; 24 VDC; 0.5 A; 2-wire connection	750-531		753-531	199
			■				4-Channel Digital Output; 24 VDC; 0.5 A; 2-wire connection; Interference-free	750-531/000-800		753-531/000-800	199
			■				4-Channel Digital Output; 24 VDC; 0.5 A; Low-side switching	750-516		753-516	200
			■				4-Channel Digital Output; 24 VDC; 0.5 A; Diagnostics	750-532			200
				■			8-Channel Digital Output; 24 VDC; 0.5 A	750-530	750-530/025-000	753-530	201
				■			8-Channel Digital Output; 24 VDC; 0.5 A; Low-side switching	750-536		753-536	201
				■			8-Channel Digital Output; 24 VDC; 0.5 A; Diagnostics	750-537*		753-537	201
				■			8-Channel Digital Output; 24 VDC; 0.5 A; 2-wire connection	750-1515*			202
				■			8-Channel Digital Output; 24 VDC; 0.5 A; Low-side switching; 2-wire connection	750-1516			202
					■		8-Channel Digital Input/Output; 24 VDC; 0.5 A; Ribbon cable	750-1502			203
					■		8-Channel Digital Input/Output; 24 VDC; 0.5 A	750-1506			203
						■	16-Channel Digital Output; 24 VDC; 0.5 A; Ribbon cable	750-1500			204
						■	16-Channel Digital Output; 24 VDC; 0.5 A	750-1504			204
						■	16-Channel Digital Output; 24 VDC; 0.5 A; Low-side switching; Ribbon cable	750-1501			205
						■	16-Channel Digital Output; 24 VDC; 0.5 A; Low-side switching	750-1505			205
120/230 VAC			■				4-Channel Digital Output; 230 VAC; 0.25 A; Solid-state			753-540	206
230 VAC/VDC		■					2-Channel Digital Output; 230 VAC; 0.3 A; Solid-state	750-509		753-509	206
Relays		■					2-Channel Relay Output; 125 VAC; 0.5 A; Potential-free; 2 changeover contacts	750-514		753-514	207
		■					2-Channel Relay Output; 250 VAC; 0.5 A; Potential-free; 2 changeover contacts	750-517*		753-517	208
		■					2-Channel Relay Output; 250 VAC; 2.0 A; 2 make contacts	750-512		753-512	208
		■					2-Channel Relay Output; 250 VAC; 2.0 A; Potential-free; 2 make contacts	750-513		753-513	209
		■					2-Channel Relay Output; 250 VAC; 2.0 A; Potential-free; 2 make contacts; without power jumper contacts	750-513/000-001		753-513/000-001	209
			■				4-Channel Relay Output; 250 VAC; 2.0 A; Potential-free; 4 make contacts	750-515			210
	■						1-Channel Relay Output; 250 VAC; 16 A; Potential-free; 1 make contact	750-523			211
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; KC; cULus OrdLoc/HazLoc	CE; KC; Marine; cULus 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!

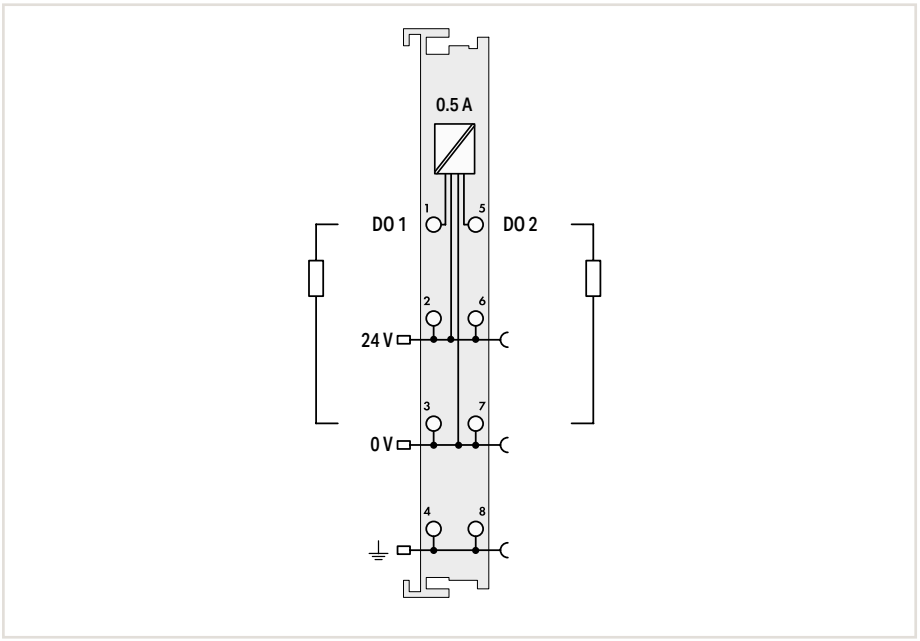
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ Approvals and corresponding ratings, see page 519 or www.wago.com

Digital Output; 24 VDC

Figure: 750-501

Figure: 753-501



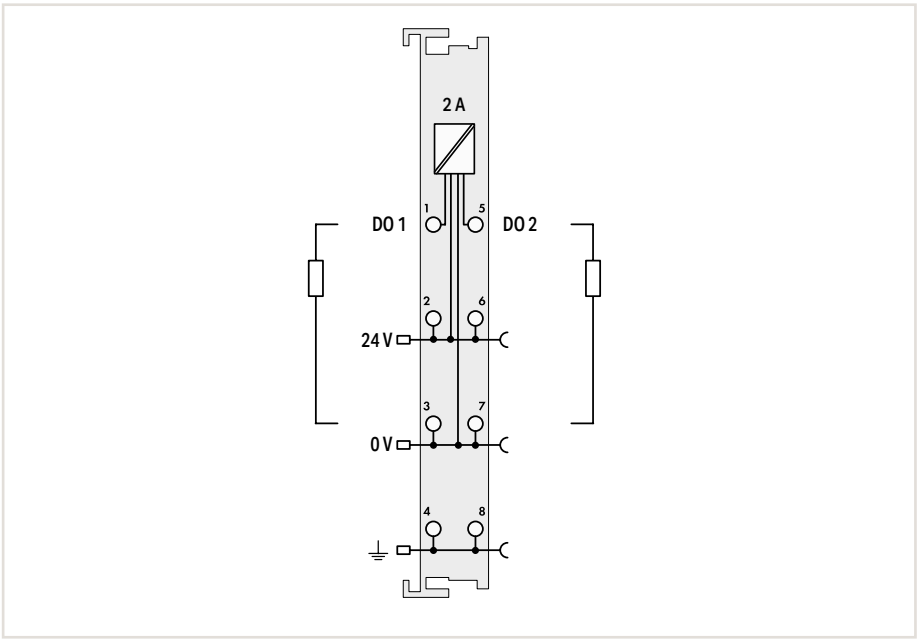
Item Description	2-Channel Digital Output; 24 VDC; 0.5 A			
Version	**Standard**	**Interference-free**	**Pluggable** (delivery without connector)	**Pluggable** (delivery without connector); **Interference-free**
Item No.	**750-501**	**750-501/000-800**	**753-501**	**753-501/000-800**
Order Text	2DO; 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; KC, Marine; cULus 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; KC; Marine; cULus 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**

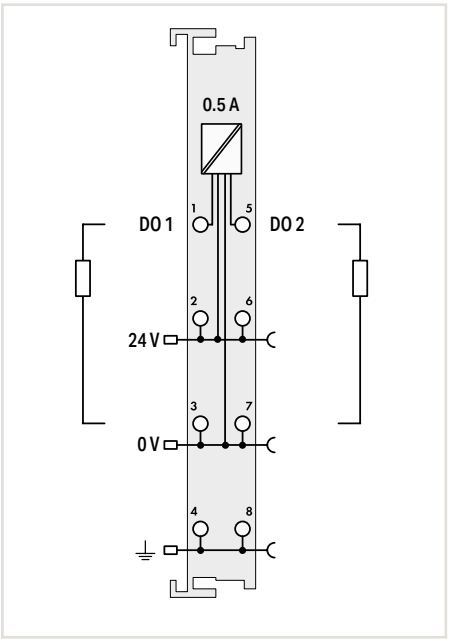
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

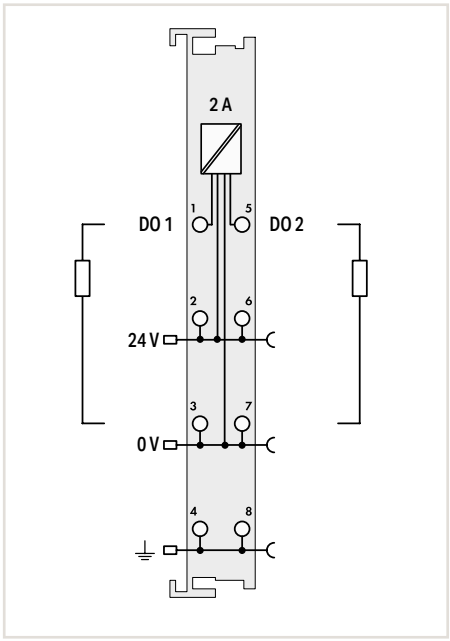
„ Approvals and corresponding ratings, see page 519 or www.wago.com

Digital Output; 24 VDC

Figure: 750-506

Figure: 753-506





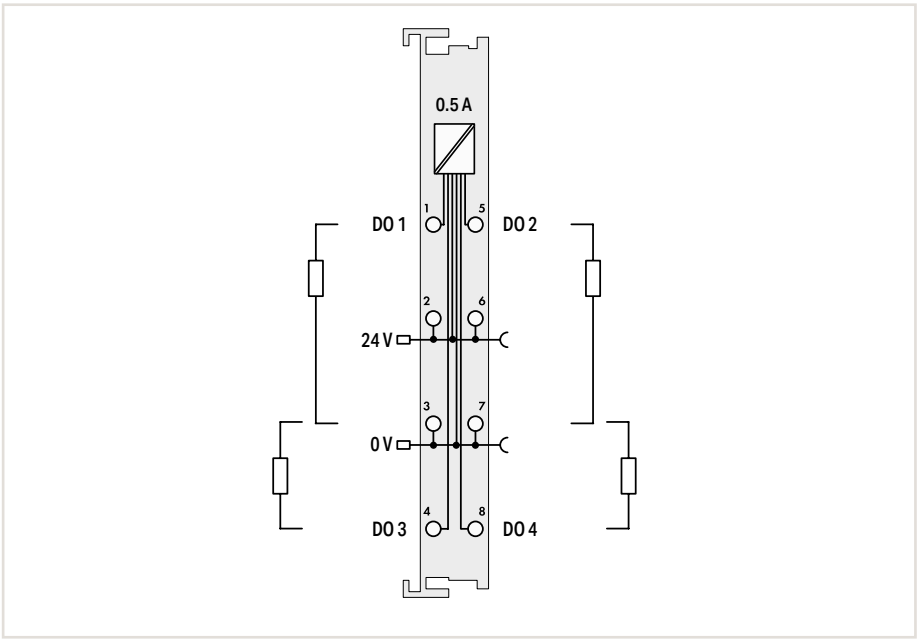
Item Description	2-Channel Digital Output; 24 VDC; 0.5 A; Diagnostics			2-Channel Digital Output; 24 VDC; 2.0 A; Diagnostics		
Version	**Standard**	**Interference-free**	**Pluggable** (delivery without connector)	**Standard**	**Interference-free**	**Pluggable** (delivery without connector)
Item No.	**750-506**	**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; KC; cULus OrdLoc/HazLoc; ATEX/IECEx			CE; KC; Marine; cULus 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; KC; Marine; cULus 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.

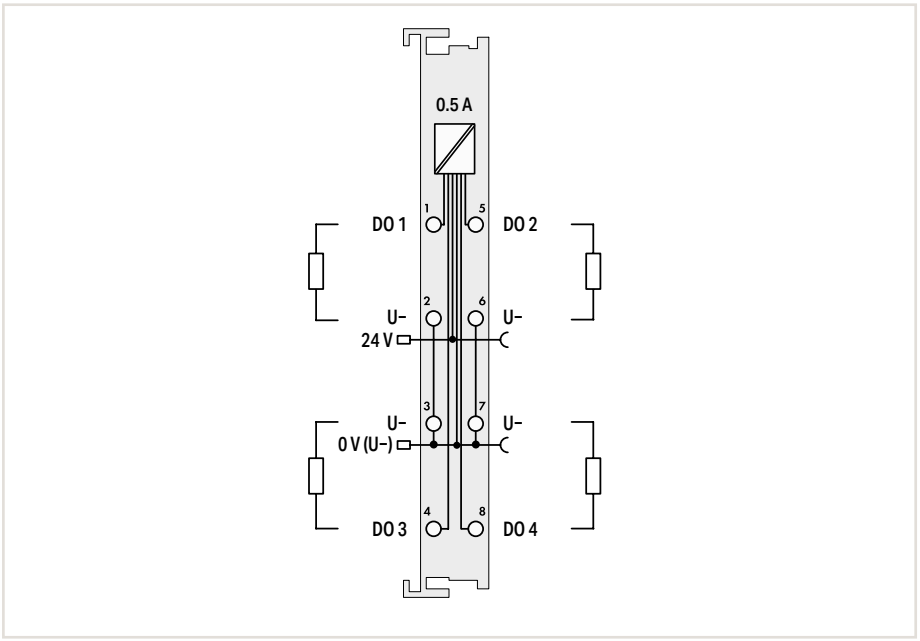
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ Approvals and corresponding ratings, see page 519 or www.wago.com

Digital Output; 24 VDC

Figure: 750-531

Figure: 753-531



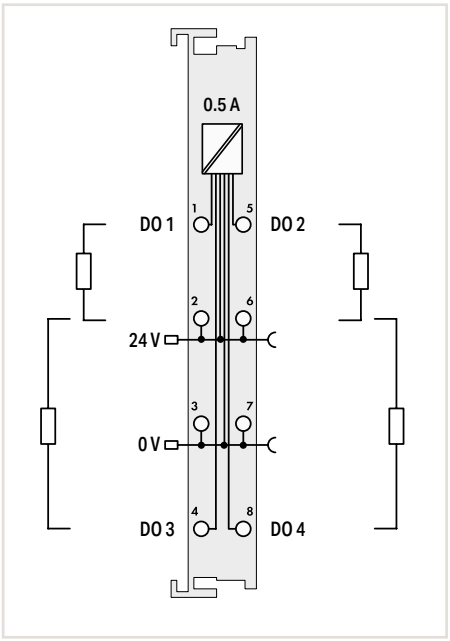
Item Description	4-Channel Digital Output; 24 VDC; 0.5 A; 2-wire connection			
Version	**Standard**	**Interference-free**	**Pluggable** (delivery without connector)	**Pluggable** (delivery without connector); **Interference-free**
Item No.	**750-531**	**750-531/000-800**	**753-531**	**753-531/000-800**
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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx			
Data sheet and further information, see:	wago.com/750-531		wago.com/753-531	

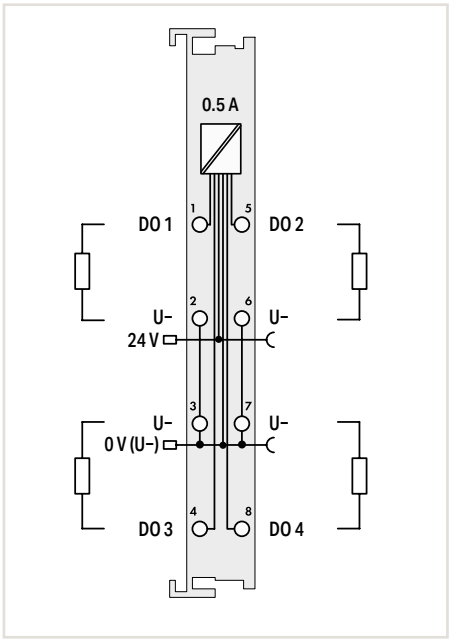
Accessories	Item No.
Pluggable connector	**753-110**
Coding keys	**753-150**

Digital Output; 24 VDC

Figure: 750-516

Figure: 750-532





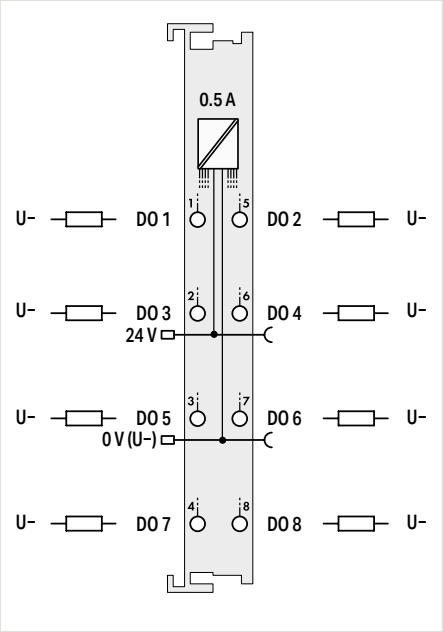
Item Description	4-Channel Digital Output; 24 VDC; 0.5 A; Low-side switching		4-Channel Digital Output; 24 VDC; 0.5 A; Diagnostics
Version	**Standard**	**Pluggable** (delivery without connector)	**Standard**
Item No.	**750-516**	**753-516**	**750-532**
Order Text	4DO; 24 VDC; 0.5A; LSS	4DO; 24 VDC; 0.5A; 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; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx		CE; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-516	wago.com/753-516	wago.com/750-532

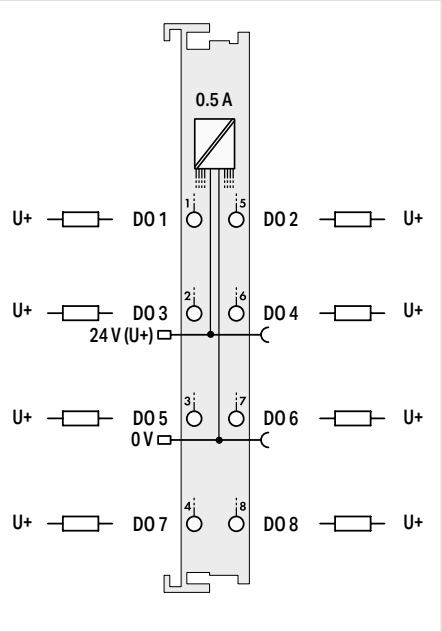
Accessories	Item No.
Pluggable connector	753-110
Coding keys	753-150

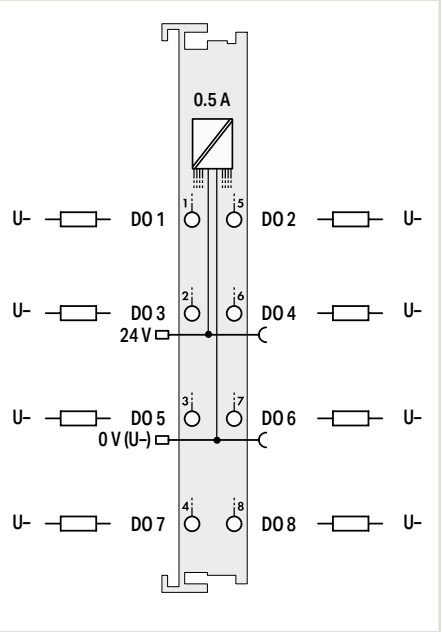
*A suitable field side connection module (e.g., 750-614) must also be used to connect other actuators.

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

„ Approvals and corresponding ratings, see page 519 or www.wago.com







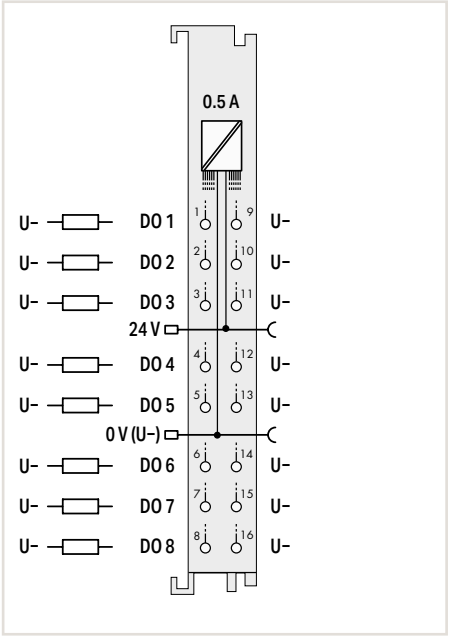
8-Channel Digital Output; 24 VDC; 0.5 A		
Standard	**Extended temperature**	**Pluggable** (delivery without connector)
750-530	750-530/025-000	753-530
8DO; 24 VDC; 0.5A	8DO; 24 VDC; 0.5A; T	8DO; 24 VDC; 0.5A
		•
8		
24 VDC		
High-side switching		
0.5 A; short-circuit-protected		
Resistive; inductive; 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; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx		
wago.com/750-530		wago.com/753-530
		Item No.
		753-110
		753-150

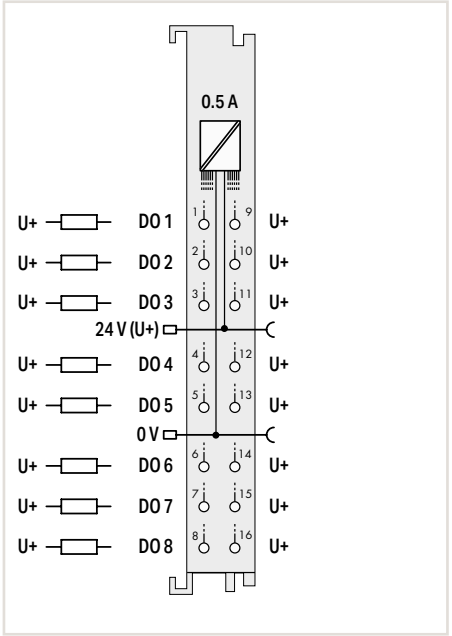
8-Channel Digital Output; 24 VDC; 0.5 A; Low-side switching	
Standard	**Pluggable** (delivery without connector)
750-536	753-536
8DO; 24 VDC; 0.5A; LSS	8DO; 24 VDC; 0.5A; LSS
	•
8	
24 VDC	
Low-side switching	
0.5 A; short-circuit-protected	
Resistive; inductive; lamp load	
1-wire	
2 kHz	
24 VDC (−25 … +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; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx	
wago.com/750-536	wago.com/753-536
	Item No.
	753-110
	753-150

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	
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; KC; Marine; cULus 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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx	CE; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-1515	wago.com/750-1516

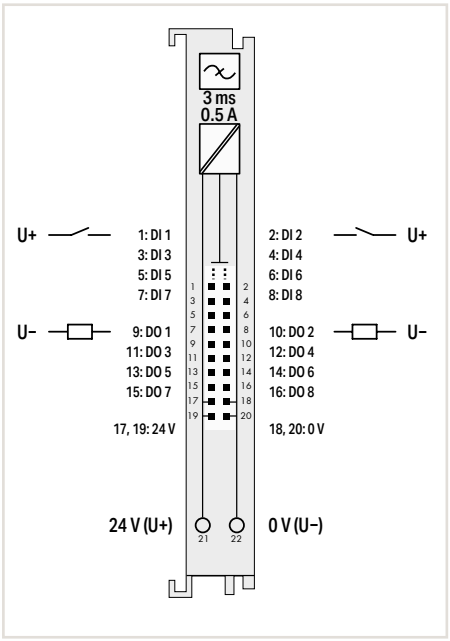
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

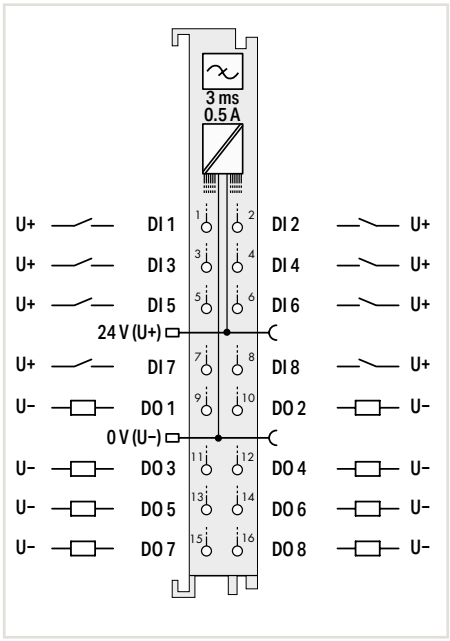
„ Approvals and corresponding ratings, see page 519 or www.wago.com

Digital Input/Output; 24 VDC

Figure: 750-1502

Figure: 750-1506





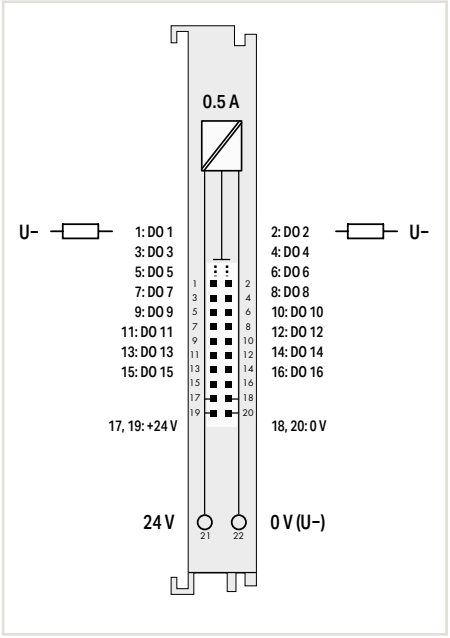
Item Description	8-Channel Digital Input/Output; 24 VDC; 0.5 A; Ribbon cable	8-Channel Digital Input/Output; 24 VDC; 0.5 A
Version	**Standard with ribbon cable connector**	**Standard with 16 connectors**
Item No.	**750-1502**	**750-1506**
Order Text	8DIO; 24 VDC; 0.5A; Ribbon Cable	8DIO; 24 VDC; 0.5A
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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx	CE; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-1502	wago.com/750-1506

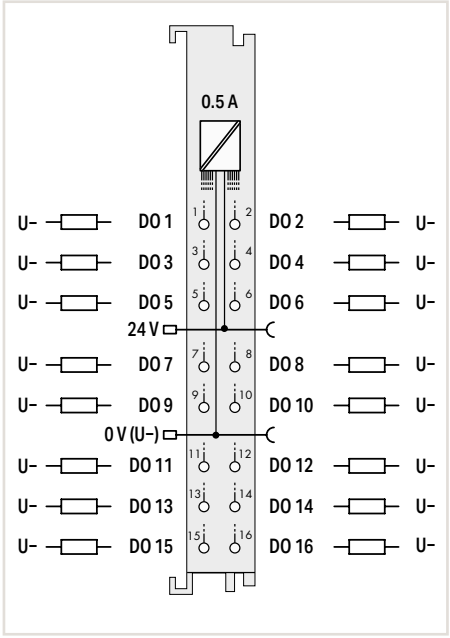
Accessories	Item No.
Interface modules for system wiring and inter-face cable	See Section 10

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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx	CE; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-1500	wago.com/750-1504

Accessories	Item No.
Interface modules for system wiring and interface cable	See Section 10

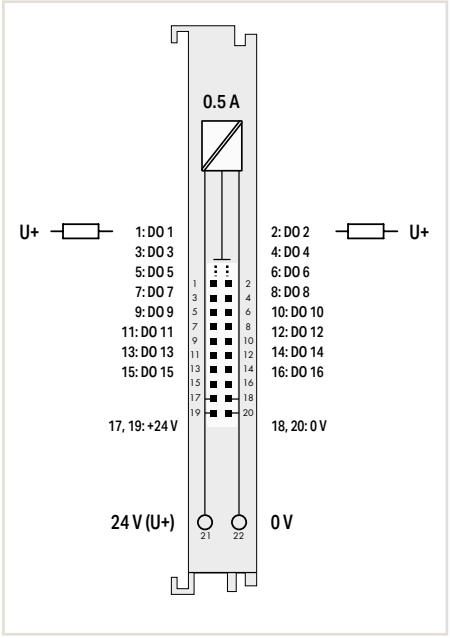
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

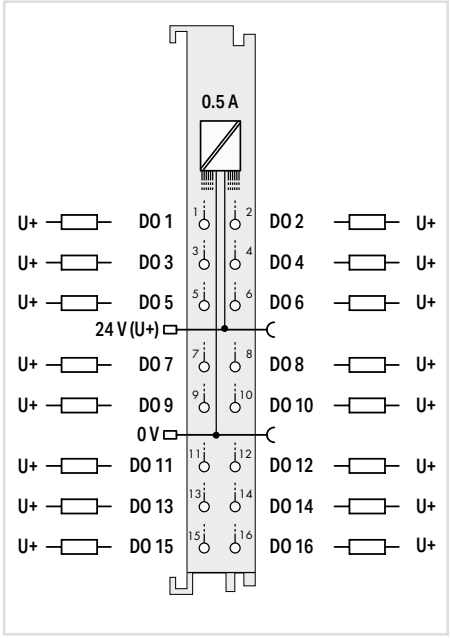
„ Approvals and corresponding ratings, see page 519 or www.wago.com

Digital Output; 24 VDC

Figure: 750-1501

Figure: 750-1505





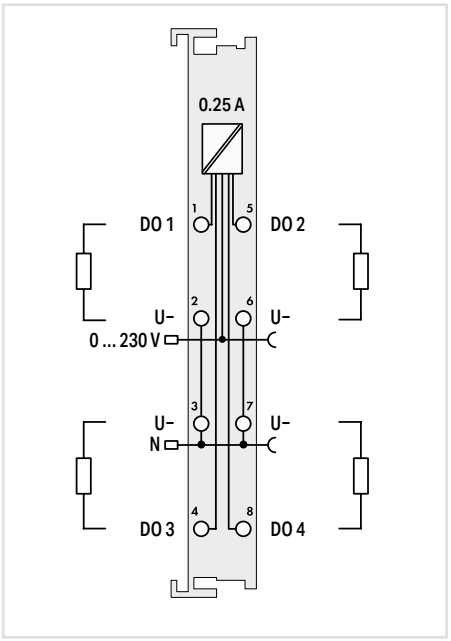
Item Description	16-Channel Digital Output; 24 VDC; 0.5 A; Low-side switching; Ribbon cable	16-Channel Digital Output; 24 VDC; 0.5 A; Low-side switching
Version	**Standard with ribbon cable connector**	**Standard with 16 connectors**
Item No.	**750-1501**	**750-1505**
Order Text	16DO; 24 VDC; 0.5A; LSS; 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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx	CE; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-1501	wago.com/750-1505

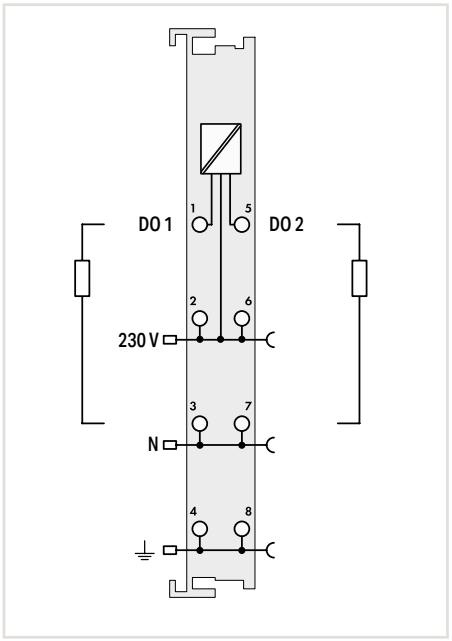
Accessories	Item No.
Interface modules for system wiring and interface cable	See Section 10

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; KC; UL OrdLoc/HazLoc; ATEX/IECEx	CE; KC; Marine; UL 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!

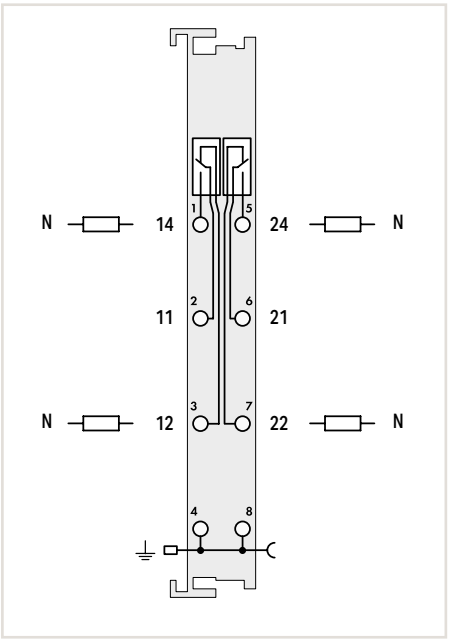
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ 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

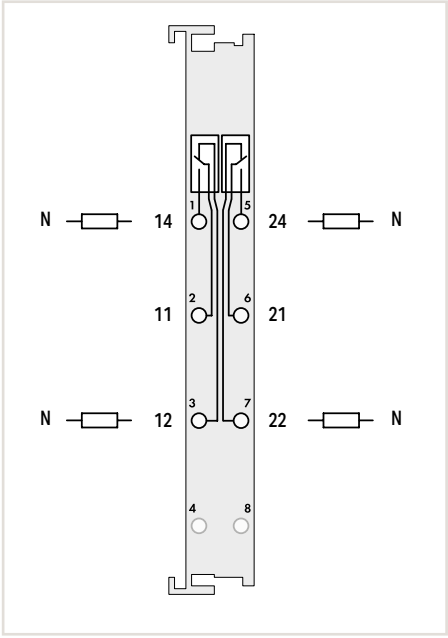
Technical Data		
Pluggable connector		•
Number of digital outputs	2	
Switching voltage (max.)	125 VAC; 30 VDC	
Output circuit design	Relay with 2 changeover contacts	
Output characteristic	Potential-free	
Switching current (max.)	0.5 A for AC; 1 A for DC	
Switching current (min.)	0.01 mA / 10 mV (DC)	
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; KC; Marine; cULus OrdLoc	
Data sheet and further information, see:	wago.com/750-514	wago.com/753-514

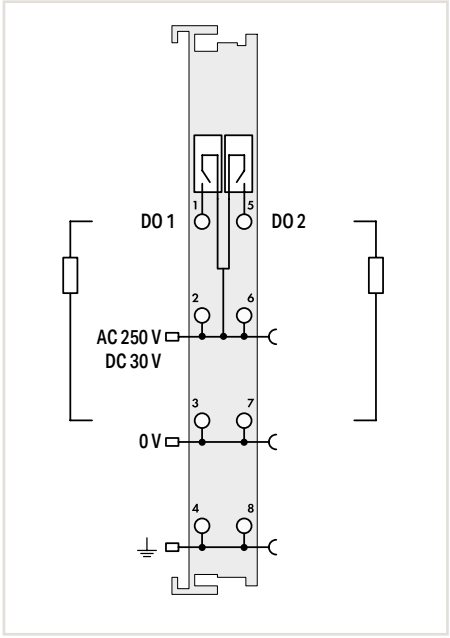
Accessories		Item No.
Pluggable connector		**753-110**
Coding keys		**753-150**

Relay Output; 250 VAC

Figure: 750-517

Figure: 750-512





Item Description	2-Channel Relay Output; 250 VAC; 1 A; Potential-free; Relay with 2 changeover contacts		2-Channel Relay Output; 250 VAC; 2 A; Relay with 2 make contacts	
Version	**Standard**	**Pluggable** (delivery without connector)	**Standard**	**Pluggable** (delivery without connector)
Item No.	**750-517**	**753-517**	**750-512**	**753-512**
Order Text	2RO; 250 VAC; 1A; Pot-free; Relay2CO	2RO; 250 VAC; 1A; Pot-free; Relay2CO	2RO; 250 VAC; 2A; Relay2NO	2RO; 250 VAC; 2A; Relay2NO
Technical Data				
Pluggable connector		•		•
Number of digital outputs	2		2	
Switching voltage (max.)	250 VAC; 300 VDC		250 VAC; 30 VDC	
Output circuit design	Relay with 2 changeover contacts		Relay with 2 make contacts	
Output characteristic	Potential-free		Non-floating	
Switching current (max.)	1 A at 250 VAC / 40 VDC; 0.15 A at 300 VDC		2 A	
Switching current (min.)	100 mA (12 VDC)		10 mA / 5 VDC	
Actuator connection	1-wire		2-wire; 3-wire	
Switching frequency (max.)	0.1 Hz		0.5 Hz	
Mechanical switching operations (min.)	5 x 10^6		20 x 10^6	
Electrical switching operations (min.)	10 x 10^5		3 x 10^5	
Supply voltage (field)			250 VAC; via power jumper contacts (power supply via blade contact; transmission via spring contact)	
Current consumption – system supply (5 V)	90 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; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx		CE; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx	
Data sheet and further information, see:	wago.com/750-517	wago.com/753-517	wago.com/750-512	wago.com/753-512

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/0–30 VDC supply!

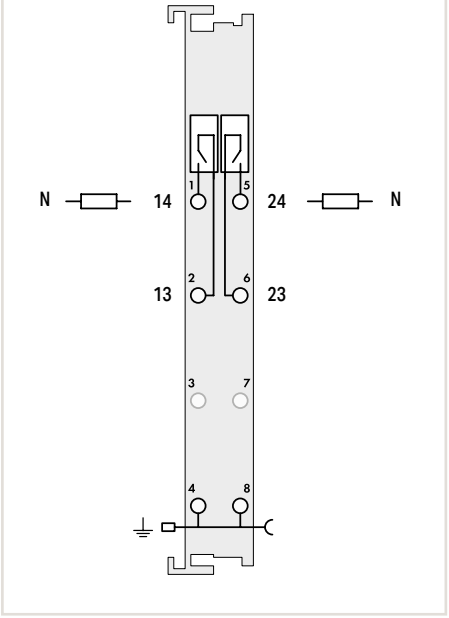
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

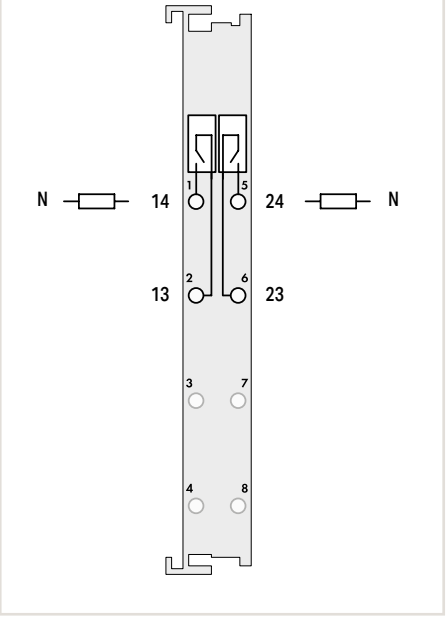
„ Approvals and corresponding ratings, see page 519 or www.wago.com

Relay Output; 250 VAC

Figure: 750-513

Figure: 750-513/000-001

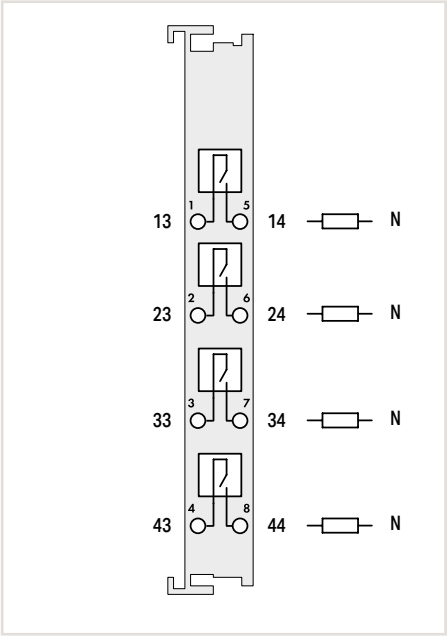




Item Description	2-Channel Relay Output; 250 VAC; 2 A; Potential-free; Relay with 2 make contacts		2-Channel Relay Output; 250 VAC; 2 A; Potential-free; Relay with 2 make contacts	
Version	**Standard**	**Pluggable** (delivery without connector)	**Without power jumper contacts**	**Without power jumper 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; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx		CE; KC; Marine; cULus 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



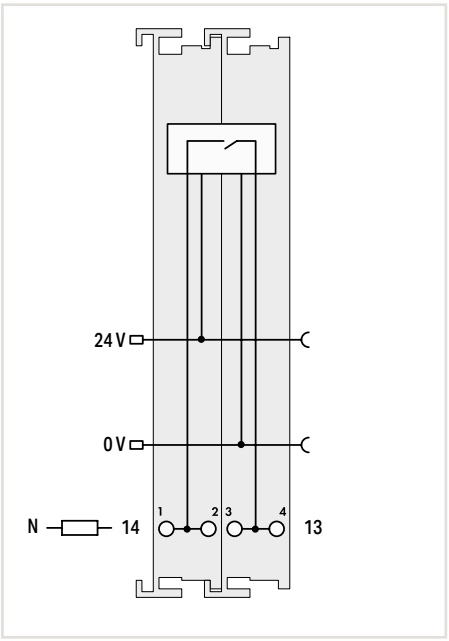
Item Description	**4-Channel Relay Output; 250 VAC; 2 A; Potential-free; Relay with 4 make contacts**
Version	**Standard**
Item No.	**750-515**
Order Text	4RO; 250 VAC; 2A; Pot-free; Relay4NO

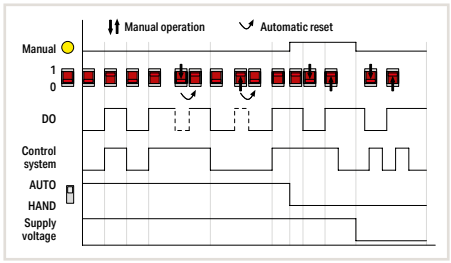
Technical Data	
Number of digital outputs	4
Switching voltage (max.)	250 VAC; 30 VDC; 110 VDC at 0.4 A
Output circuit design	Relay with 4 make contacts
Output characteristic	Potential-free
Switching current (max.)	2 A (5 A for single-channel use)
Switching current (min.)	1 mA / 5 VDC
Actuator connection	1-wire
Switching frequency (max.)	0.33 Hz; 0.1 Hz at 5 A
Mechanical switching operations (min.)	20×10^6
Electrical switching operations (min.)	1×10^5
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

„ 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





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; KC; Marine; OrdLoc
Data sheet and further information, see:	wago.com/750-523

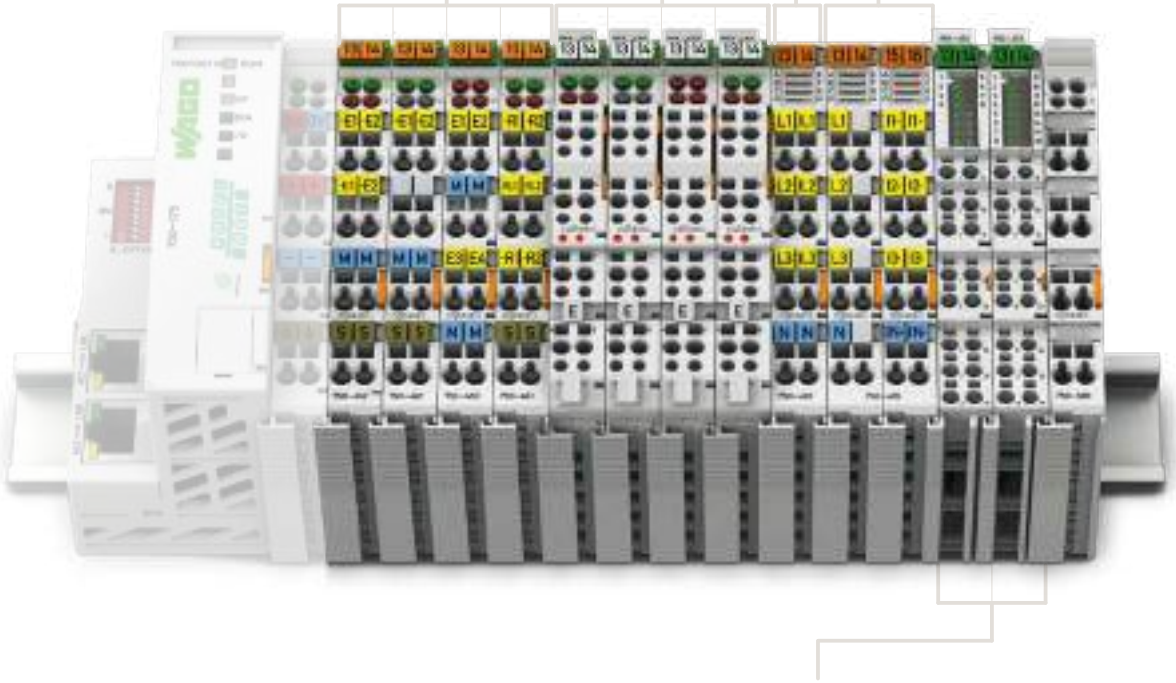
This relay output module switches a connected actuator or load.
The 24 VDC supply is derived from the power jumper contacts to trigger the relays.
The switched status of the relay is shown by the manual switch (1/0). The operating mode can be set using a manual/automatic selector switch.
The mode status 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

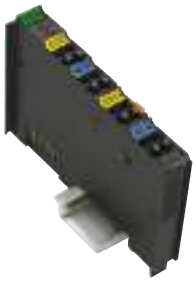
Housing design (750 Series)	
Dimensions W x H x D	Housing with 4 LEDs: 12 x 69.8 x 100 mm Housing with 8 LEDs: 12 x 67.8 x 100 mm
Height from upper-edge of DIN-rail	Housing with 4 LEDs: 62.6 mm Housing with 8 LEDs: 60.6 mm
Connection technology	CAGE CLAMP®
Conductor range	0.08 … 2.5 mm² / 28 … 14 AWG
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

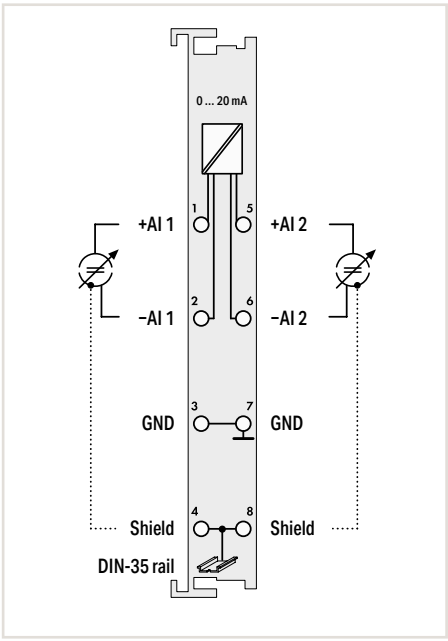
I/O-System – 750 and 753 Series; Analog Input Modules
Contents

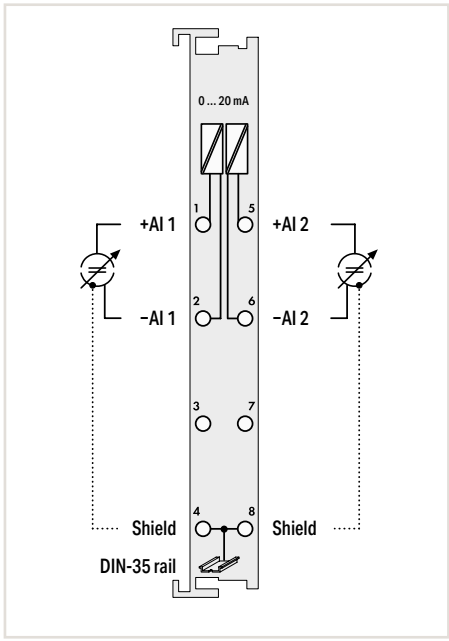
Function	1-Channel AI	2-Channel AI	4-Channel AI	8-Channel AI	Description	Item Number				Page
						Standard	/S5 or /S7 Customized Data Format	Extended Temperature	Pluggable	
0 … 20 mA		■			2-Channel Analog Input; 0 … 20 mA; Differential Input	750-452	750-452/000-200		753-452	214
		■			2-Channel Analog Input; 0 … 20 mA; Differential Input	750-480			753-480	214
		■			2-Channel Analog Input; 0 … 20 mA; Single-ended	750-465		750-465/025-000	753-465	215
		■			2-Channel Analog Input; 0 … 20 mA; Single-ended 2-Channel Analog Input; 0 … 20 mA; Single-ended; 60 Hz	750-470 750-470/005-000				215
		■			2-Channel Analog Input; 0 … 20 mA; Single-ended; 16 bits 2-Channel Analog Input; 0 … 20 mA; Single-ended; 16 bits; 60 Hz	750-472 750-472/005-000			753-472	216
			■		4-Channel Analog Input; 0 … 20 mA; Single-ended	750-453*			753-453	216
4 … 20 mA		■			2-Channel Analog Input; 4 … 20 mA; Differential input 2-Channel Analog Input; 4 … 20 mA; Differential input; Extended measurement range	750-454 750-454/000-003	750-454/000-200	750-454/025-000 750-454/025-003	753-454	217
		■			2-Channel Analog Input; 4 … 20 mA; Differential input	750-492*			753-492	218
		■			2-Channel Analog Input; 4 … 20 mA; Single-ended	750-466	750-466/000-200	750-466/025-000	753-466	219
		■			2-Channel Analog Input; 4 … 20 mA; Single-ended 2-Channel Analog Input; 4 … 20 mA; Single-ended; 60 Hz	750-473 750-473/005-000				220
		■			2-Channel Analog Input; 4 … 20 mA; Single-ended; 16 bits 2-Channel Analog Input; 4 … 20 mA; Single-ended; 16 bits; 60 Hz	750-474 750-474/005-000	750-474/000-200		753-474	221
		■			2-Channel Analog Input; 4 … 20 mA HART	750-482 750-482/000-001	750-482/000-300	750-482/025-000	753-482	222
			■		4-Channel Analog Input; 4 … 20 mA; Single-ended	750-455*		750-455/025-000	753-455	223
			■		4-Channel Analog Input; 4 … 20 mA; Single-ended; 4 x 24 V	750-455/020-000				223
0/4 … 20 mA				■	8-Channel Analog Input; 0/4 … 20 mA; Single-ended	750-496				224
0 … 1 A		■			2-Channel Analog Input; 0 … 1 VAC/DC; Differential input	750-475			753-475	225
0 … 5 A		■			2-Channel Analog Input; 0 … 5 VAC/DC; Differential input	750-475/020-000				225
±10 V		■			2-Channel Analog Input; ±10 VDC; Differential input	750-456	750-456/000-200		753-456	226
		■			2-Channel Analog Input; ±10 VDC; Differential input 2-Channel Analog Input; ±10 VDC; Differential input; Synchronous	750-479 750-479/000-001			753-479	226
		■			2-Channel Analog Input; ±10 VDC; Single-ended; 16 bits	750-476	750-476/000-200		753-476	227
			■		4-Channel Analog Input; ±10 VDC; Single-ended	750-457*		750-457/025-000	753-457	227
0 … 10 V		■			2-Channel Analog Input; 0 … 10 VDC; Single-ended	750-467			753-467	228
		■			2-Channel Analog Input; 0 … 10 VDC; Single-ended; 16 bits 2-Channel Analog Input; 0 … 10 VDC; Single-ended; 16 bits; 60 Hz	750-478 750-478/005-000			753-478	228
			■		4-Channel Analog Input; 0 … 10 VDC; Single-ended	750-468*		750-468/025-000		229
			■		4-Channel Analog Input; 0 … 10 VDC; Single-ended	750-459			753-459	229
0 … 10 V/±10 V				■	8-Channel Analog Input; 0 … 10 VDC/±10 V; Single-ended	750-497				230
0 … 10 VAC/DC		■			2-Channel Analog Input; 0 … 10 VAC/DC; Differential input	750-477			753-477	231
0 … 30 V		■			2-Channel Analog Input; 0 … 30 VDC; Differential input	750-483*			753-483	231
Voltage/Current			■		4-Channel Analog Input; for voltage/current	750-471				232
Resistance Sensors		■			2-Channel Analog Input; for Pt100/RTD resistance sensors	750-461	750-461/000-200	750-461/025-000	753-461	234
		■			2-Channel Analog Input; for Pt100/RTD resistance sensors; Adjustable	750-461/003-000			753-461/003-000	234
		■			2-Channel Analog Input; for NTC 20k resistance sensors	750-461/020-000				235
		■	■		2/4-Channel Analog Input; Resistance measurement; Adjustable	750-464*				236
			■		4-Channel Analog Input; for NTC resistance sensors; Adjustable	750-464/020-000				236
			■		4-Channel Analog Input; Resistance measurement; Measurement range: -30 °C … +150 °C	750-463				237
			■		4-Channel Analog Input; Resistance measurement; Adjustable	750-450				237
				■	8-Channel Analog Input; Resistance measurement; Adjustable	750-451		750-451/025-000		237
Thermocouples		■			2-Channel Analog Input; Thermocouple K; Diagnostics	750-469	750-469/000-200		753-469	238
		■			2-Channel Analog Input; Thermocouple K; Diagnostics; Adjustable	750-469/003-000*			753-469/003-000	238
		■			2-Channel Analog Input; Thermocouple J; Diagnostics	750-469/000-006				239
				■	8-Channel Analog Input; Thermocouple; Adjustable	750-458				239
Analog Specialty Functions	■				1-Channel Analog Input; Resistor bridges (strain gauge) 1-Channel Analog Input; Resistor bridges (strain gauge); 125 ms conversion time	750-491 750-491/000-001				240
		■			3-Phase Power Measurement; 480 VAC 1 A 3-Phase Power Measurement; 480 VAC 5 A	750-493 750-493/000-001		750-493/025-000		241
		■			3-Phase Power Measurement; 480 VAC 1 A 3-Phase Power Measurement; 480 VAC 5 A	750-494 750-494/000-001		750-494/025-000 750-494/025-001		242
		■			Power Measurement; 277 VAC/DC; External shunts	750-494/000-005				243
		■			3-Phase Power Measurement; 690 VAC 1 A 3-Phase Power Measurement; 690 VAC 5 A 3-Phase Power Measurement; 690 VAC Rogowski coils	750-495* 750-495/000-001* 750-495/000-002*				244
Ex i										See Section 5.9
*This module is also available as a 750 XTR Series variant.										See Section 6

Analog Input; 0 … 20 mA; Differential Input

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; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx			CE; KC; cULus 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.

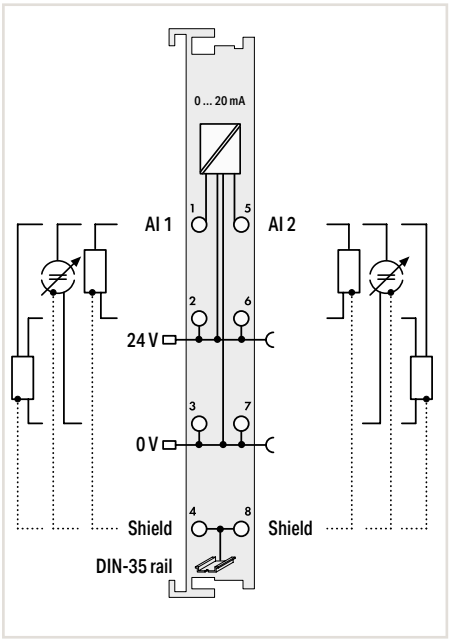
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

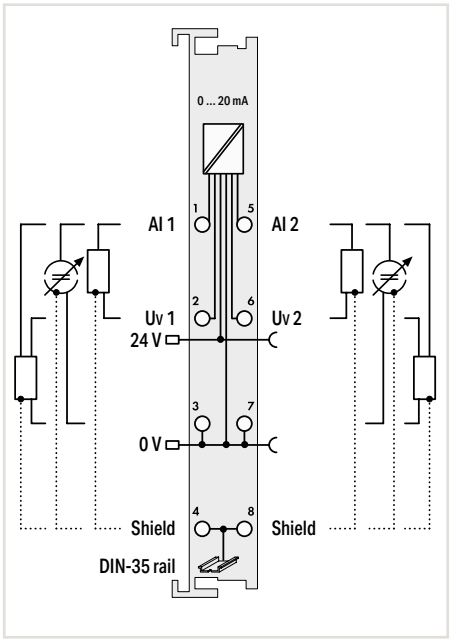
„ Approvals and corresponding ratings, see page 520 or www.wago.com

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; KC; OrdLoc/HazLoc; ATEX/IECEx			CE; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx	
Data sheet and further information, see:	wago.com/750-465		wago.com/753-465	wago.com/750-470	

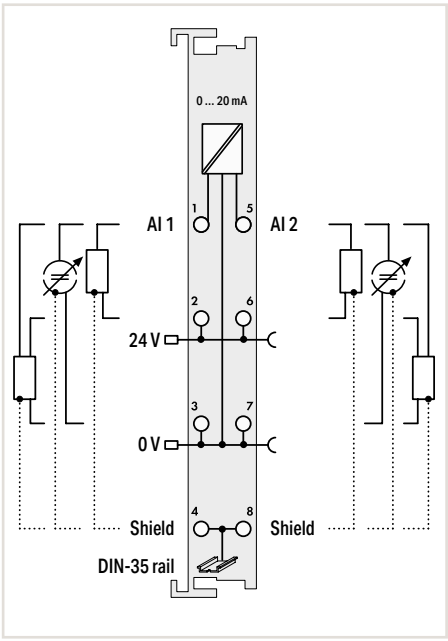
Accessories	Item No.
Pluggable connector	753-110
Coding keys	753-150

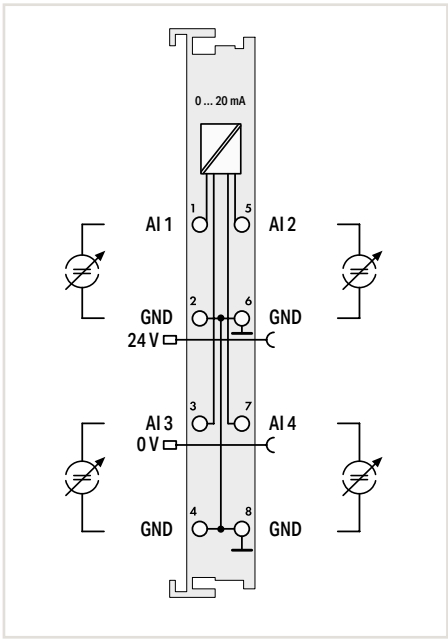
Analog Input; 0 … 20 mA; Single-Ended

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; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx			CE; KC; Marine; cULus 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		Item No.		Item No.
Pluggable connector		**753-110**		**753-110**
Coding keys		**753-150**		**753-150**

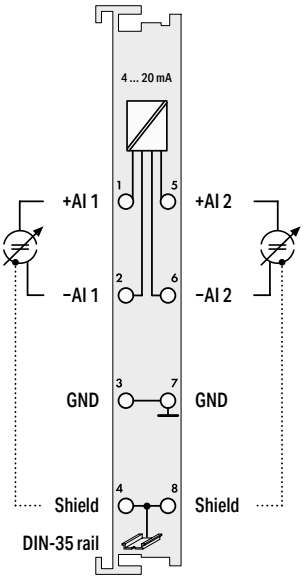
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ Approvals and corresponding ratings, see page 520 or www.wago.com

Analog Input; 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 without 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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx					
Data sheet and further information, see:	wago.com/750-454		wago.com/753-454	wago.com/750-454		

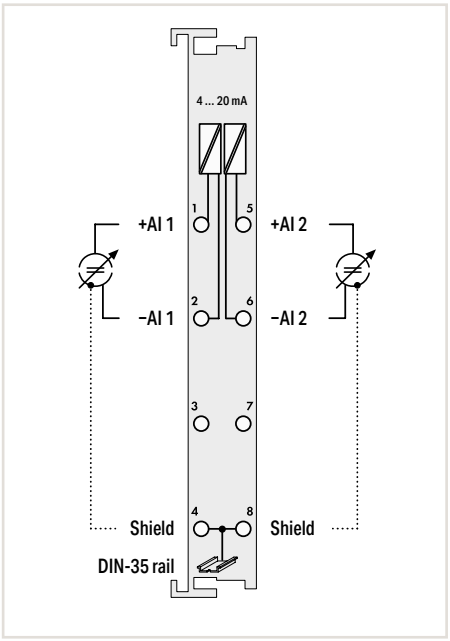
Accessories	Item No.
Pluggable connector	753-110
Coding keys	753-150

*The S5 format allows you to import data with the standard S5 FB 250 function block.

Analog Input; 4 … 20 mA; Differential Input

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; KC; cULus OrdLoc/HazLoc; Ex 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**

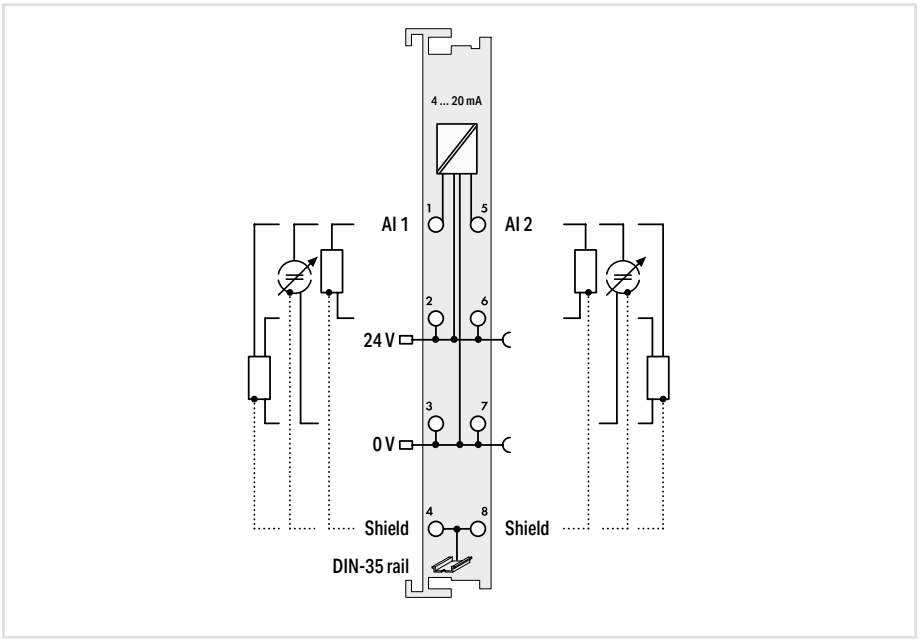
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ Approvals and corresponding ratings, see page 520 or www.wago.com

Analog Input; 4 … 20 mA; Single-Ended

Figure: 750-466

Figure: 753-466



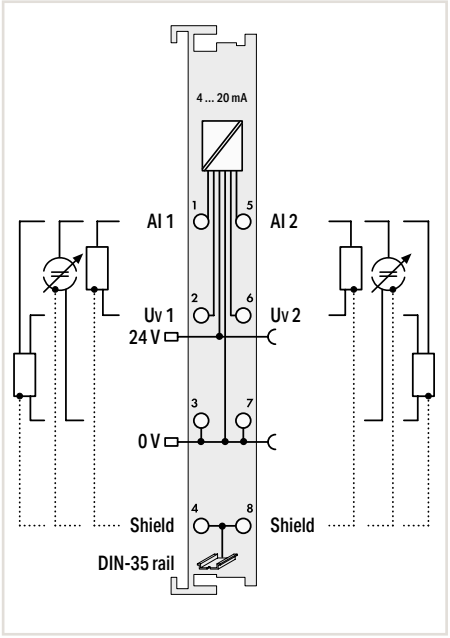
Item Description	2-Channel Analog Input; 4 … 20 mA; Single-ended				
Version	**Standard**	**Extended temperature**	**Pluggable** (delivery without connector)	**Data format (S5 control)**	**Extended measurement range**
Item No.	**750-466**	**750-466/025-000**	**753-466**	**750-466/000-200**	**750-466/000-003**
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; KC; cULus 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	2-Channel Analog Input; 4 … 20 mA; Single-ended	
Version	**Standard**	**60 Hz**
Item No.	**750-473**	**750-473/005-000**
Order Text	2AI; 4-20mA; SE	2AI; 4-20mA; SE: 60Hz
Technical Data		
Extended functionality	Short-circuit-protected sensor supply	
Number of analog inputs	2	
Signal type	4 … 20 mA	
Signal characteristic	Single-ended	
Resolution	12 bits	
Conversion time	80 ms	
Input resistance	< 160 Ω / 20 mA	
Input filter (analog)	50 Hz	60 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)	100 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; KC; Marine; cULus OrdLoc/HazLoc; Ex ATEX/IECEx	
Data sheet and further information, see:	wago.com/750-473	

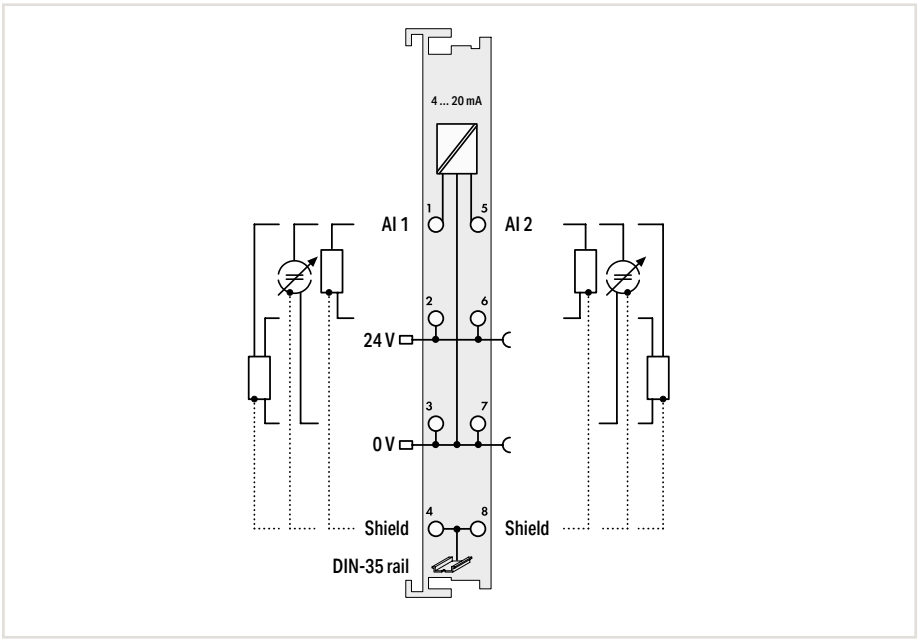
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ Approvals and corresponding ratings, see page 520 or www.wago.com

Analog Input; 4 … 20 mA; Single-Ended

Figure: 750-474

Figure: 753-474



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	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; KC; 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

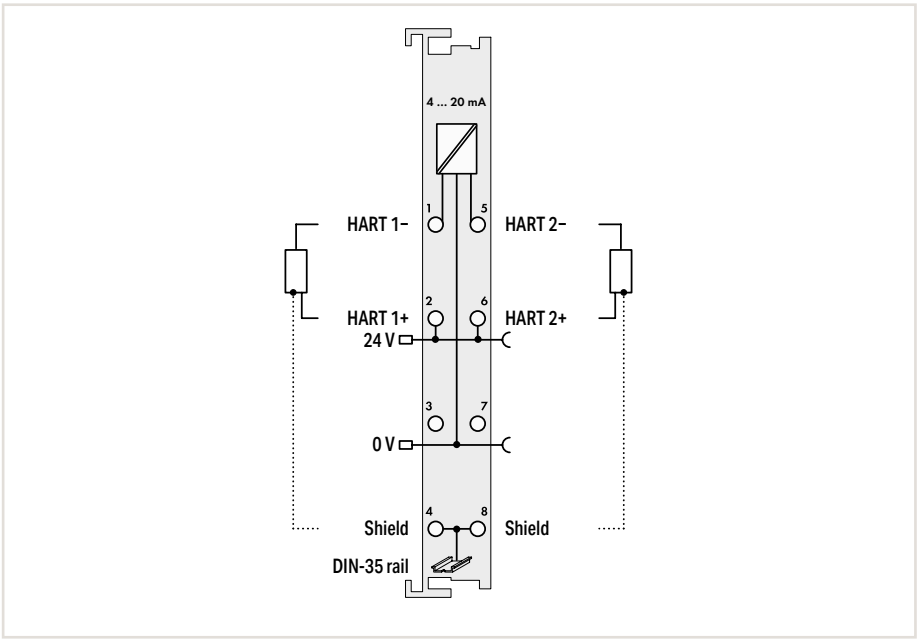
Accessories	Item No.
Pluggable connector	**753-110**
Coding keys	**753-150**

*The S5 format allows you to import data with the standard S5 FB 250 function block.

Analog Input; 4 … 20 mA HART

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; cULus 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

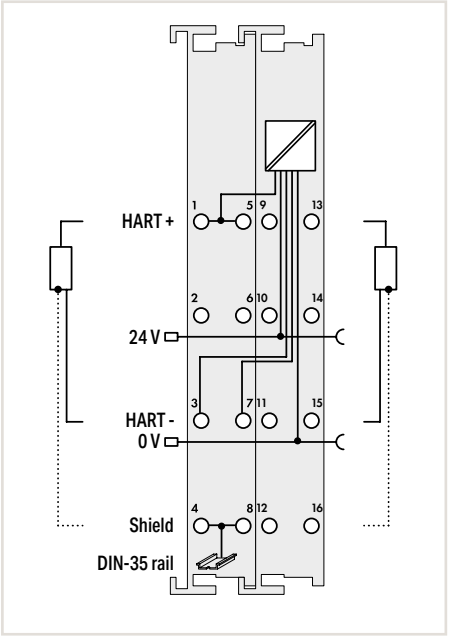
HART devices per channel:
1 device (SingleDrop, no MultiDrop)

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; cULus 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)

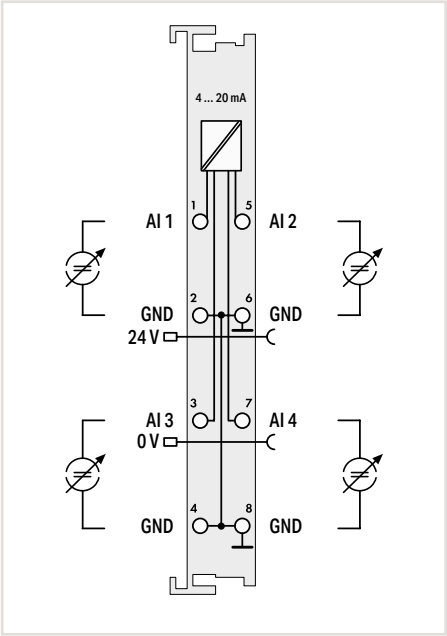
For select fieldbus couplers, FDT/DTM device drivers are available that can be used to integrate the I/O module into a higher-level control system.

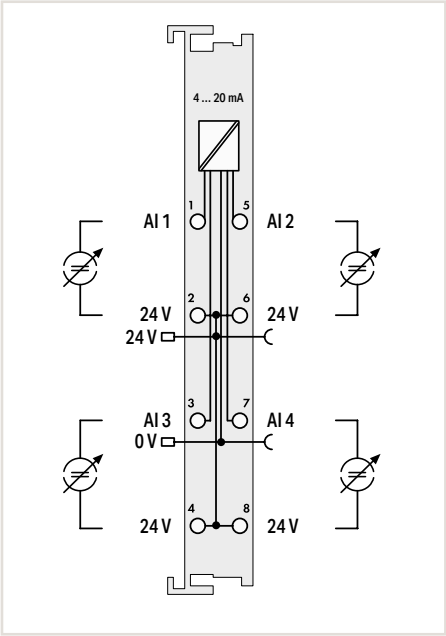
Analog Input; 4 … 20 mA; Single-Ended

5.4

Figure: 750-455

Figure: 753-455





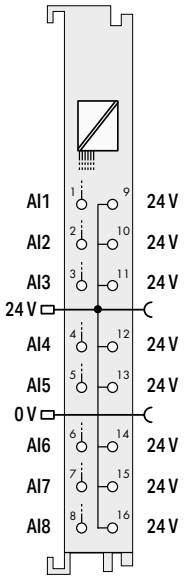
Item Description	4-Channel Analog Input; 4 … 20 mA; Single-ended; 4 x GND			4-Channel Analog Input; 4 … 20 mA; Single-ended; 4 x 24 V
Version	**Standard**	**Extended temperature**	**Pluggable** (delivery without connector)	**4 x 24 V**
Item No.	**750-455**	**750-455/025-000**	**753-455**	**750-455/020-000**
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; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx			CE; KC; Marine; cULus 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

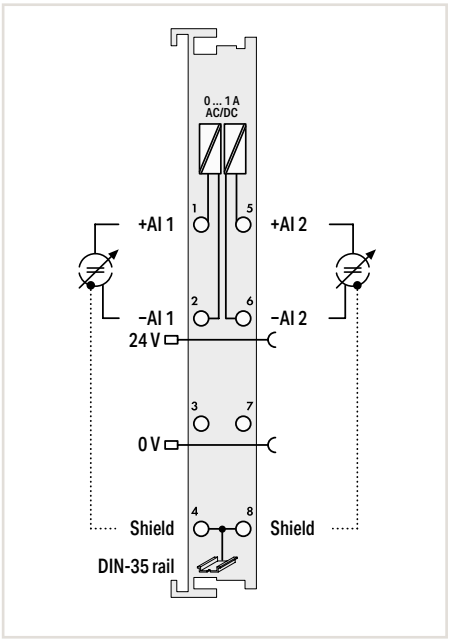


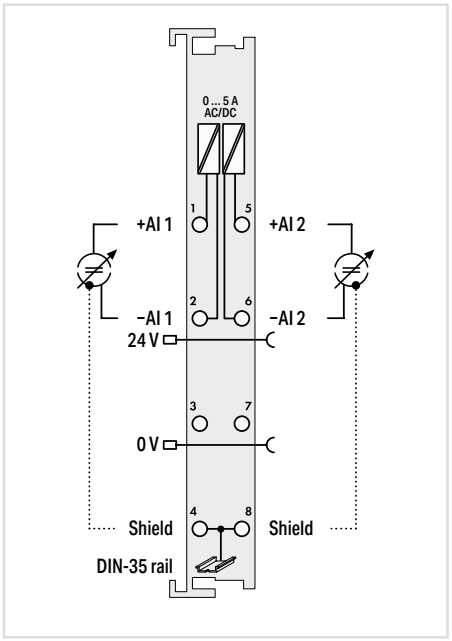
Item Description	**8-Channel Analog Input; 0/4 … 20 mA; Single-ended**
Version	**Standard**
Item No.	**750-496**
Order Text	8AI; 0/4-20mA; SE
Technical Data	
Number of analog inputs	8
Signal type	Configurable: 0 … 20 mA; 4 … 20 mA; 3.6 … 21 mA
Resolution	12 bits
Conversion time	10 ms
Input resistance	< 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

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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx		CE; KC; 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**	

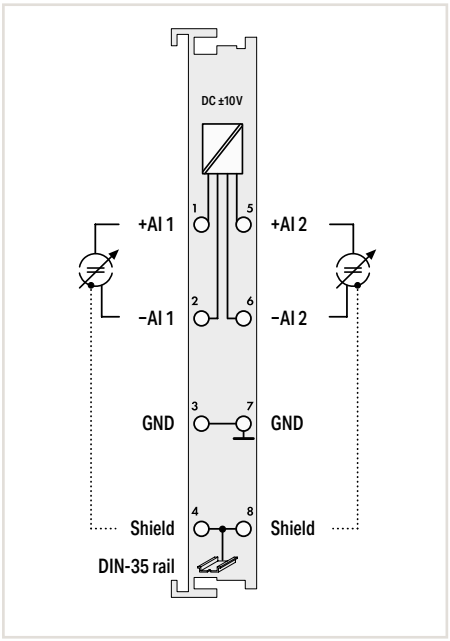
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

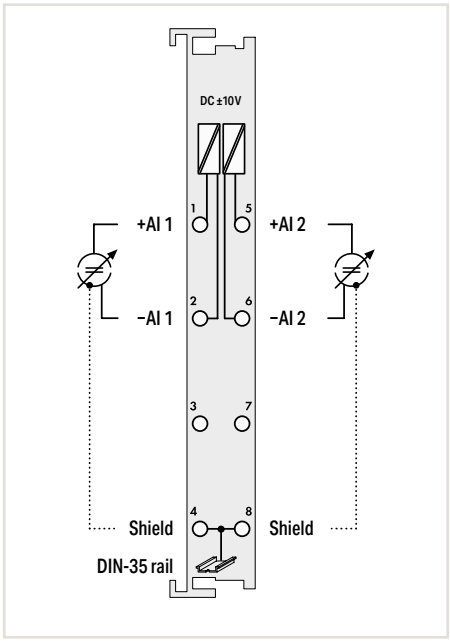
„ Approvals and corresponding ratings, see page 520 or www.wago.com

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	Time-synchronized measured value acquisition within the module	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 kΩ			1 MΩ		
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; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx			CE; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx		
Data sheet and further information, see:	wago.com/750-456		wago.com/753-456	wago.com/750-479		wago.com/753-479

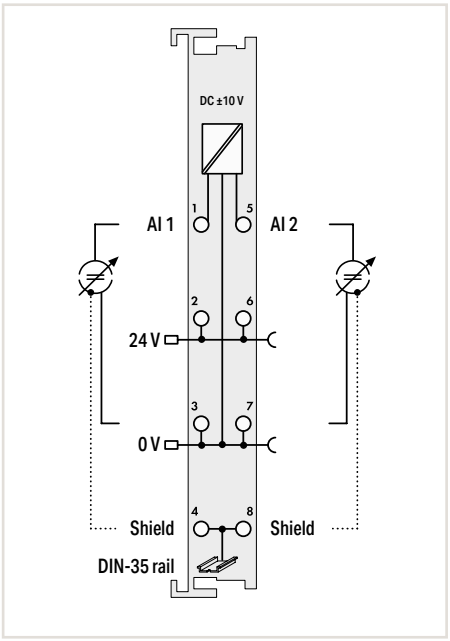
Accessories		Item No.		Item No.
Pluggable connector		753-110		753-110
Coding keys		753-150		753-150

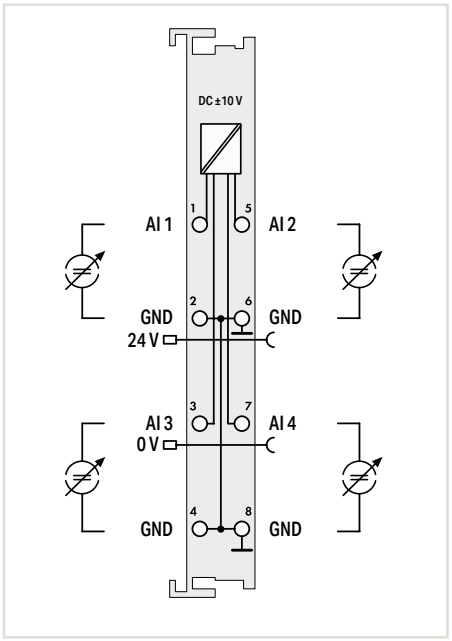
*The S5 format allows you to import data with the standard S5 FB 250 function block.

Analog Input; ±10 VDC; Single-Ended

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 without connector)	**Standard**	**Extended temperature**	**Pluggable** (delivery without 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; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx			CE; KC; Marine; cULus 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.

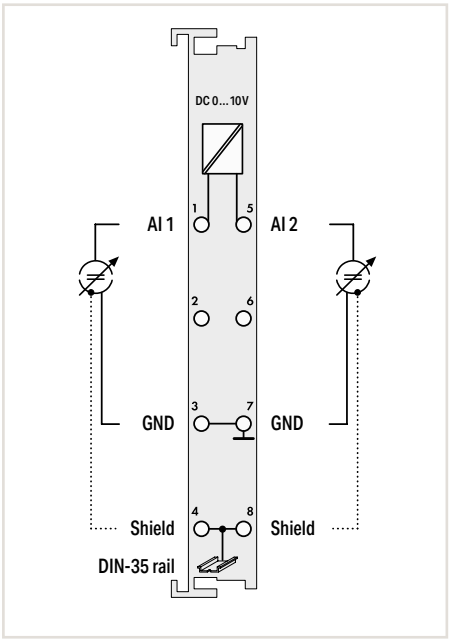
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

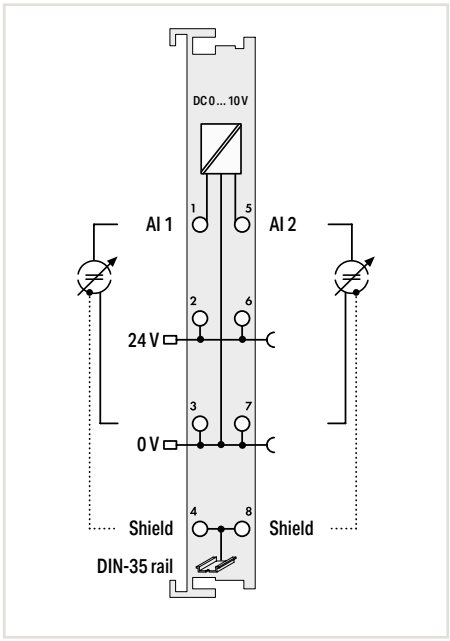
„ Approvals and corresponding ratings, see page 520 or www.wago.com

Analog Input; 0 … 10 VDC; Single-Ended

Figure: 750-467

Figure: 750-478





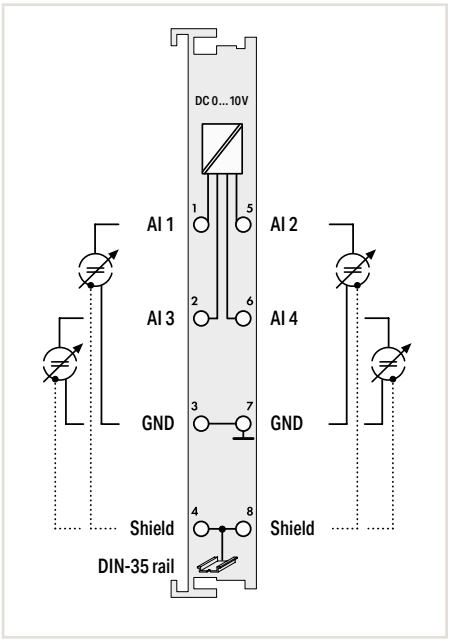
Item Description	2-Channel Analog Input; 0 … 10 VDC; Single-ended		2-Channel Analog Input; 0 … 10 VDC; Single-ended; 16 bits		
Version	**Standard**	**Pluggable** (delivery without connector)	**Standard**	**60 Hz**	**Pluggable** (delivery without connector)
Item No.	**750-467**	**753-467**	**750-478**	**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; KC; cULus OrdLoc/HazLoc; ATEX/IECEx		CE; KC; Marine; cULus 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

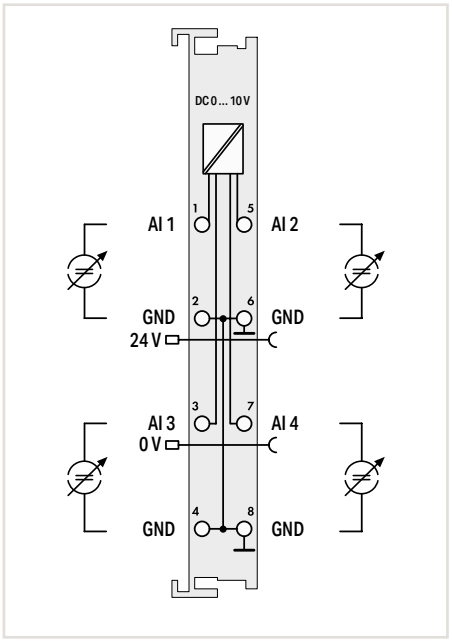
Accessories	Item No.
Pluggable connector	753-110
Coding keys	753-150

Analog Input; 0 … 10 VDC; Single-Ended

Figure: 750-468

Figure: 750-459





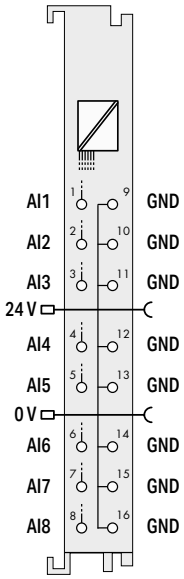
Item Description	4-Channel Analog Input; 0 … 10 VDC; Single-ended		4-Channel Analog Input; 0 … 10 VDC; Single-ended	
Version	**Standard**	**Extended temperature**	**Standard**	**Pluggable** (delivery without connector)
Item No.	**750-468**	**750-468/025-000**	**750-459**	**753-459**
Order Text	4AI; 0-10 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	−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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx		CE; KC; 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

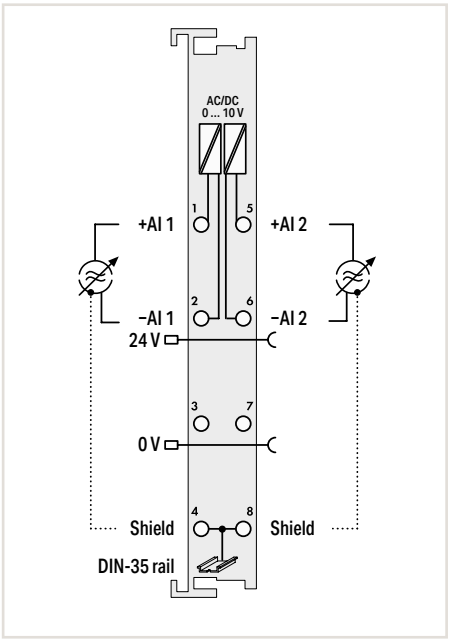


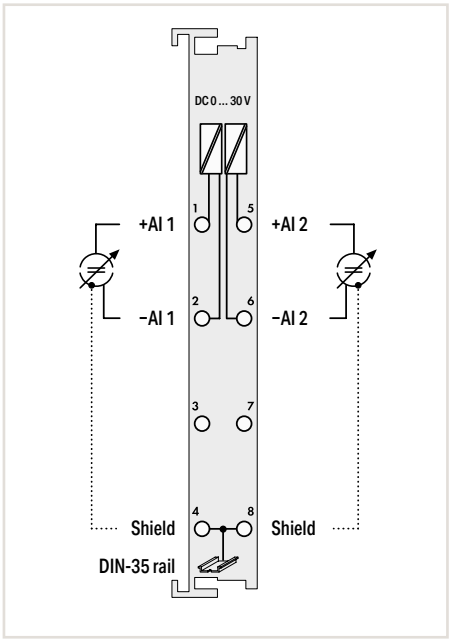
Item Description	**8-Channel Analog Input; 0 … 10 VDC/±10 V; Single-ended**
Version	**Standard**
Item No.	**750-497**
Order Text	8AI; 0-10 V/±10 VDC; SE
Technical Data	
Number of analog inputs	8
Signal type	Configurable: 0 … 10 V / ±10 V
Resolution	12 bits
Internal resistance	> 100 kΩ
Measuring error (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

Figure: 750-477

Figure: 750-483





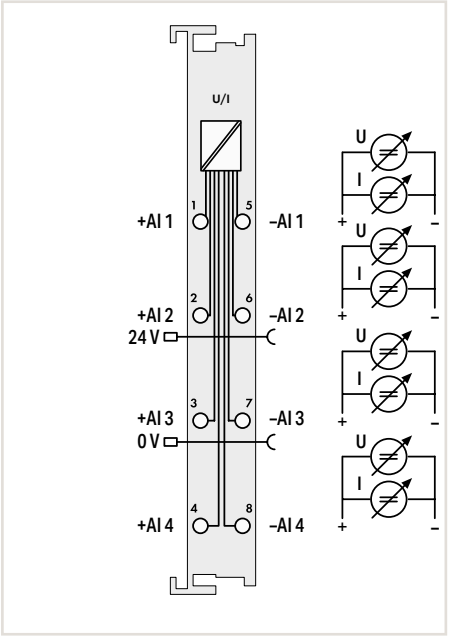
Item Description	2-Channel Analog Input; 0 … 10 VAC/DC; Differential input		2-Channel Analog Input; 0 … 30 VDC; Differential input	
Version	**Standard**	**Pluggable** (delivery without connector)	**Standard**	**Pluggable** (delivery without connector)
Item No.	**750-477**	**753-477**	**750-483**	**753-483**
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; KC; cULus OrdLoc/HazLoc; ATEX/IECEx		CE; KC; Marine; cULus 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

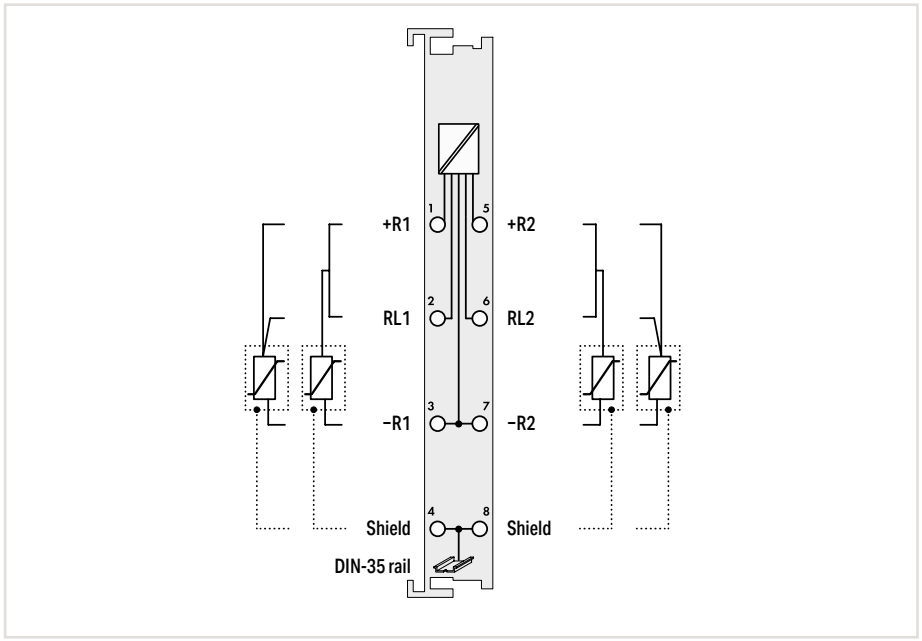


Item Description	4-Channel Analog Input; Voltage/current; Differential input; 16 bits; Diagnostics
Item No.	**750-471**
Order Text	4AI; U/I; Diff; Galv
Technical Data	
Number of analog inputs	4 (electrically isolated)
Signal type	Voltages and currents (Configurable channel for channel)
Signal characteristic	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

Figure: 750-461

Figure: 753-461

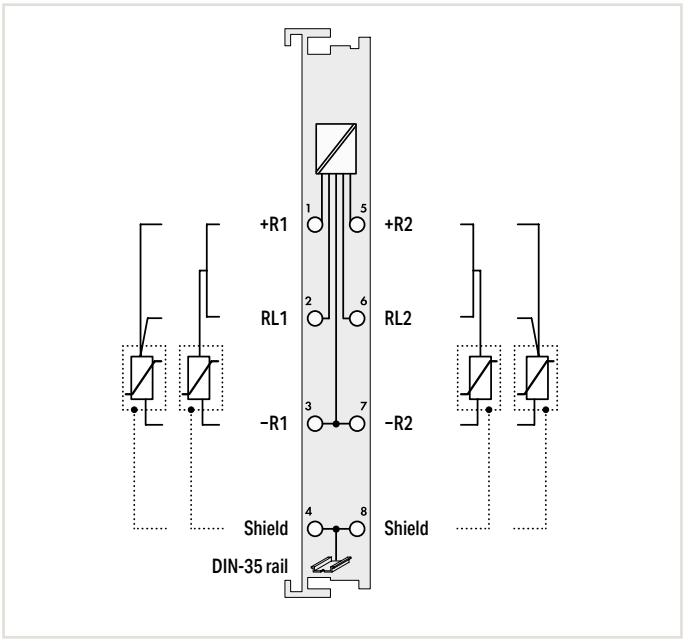


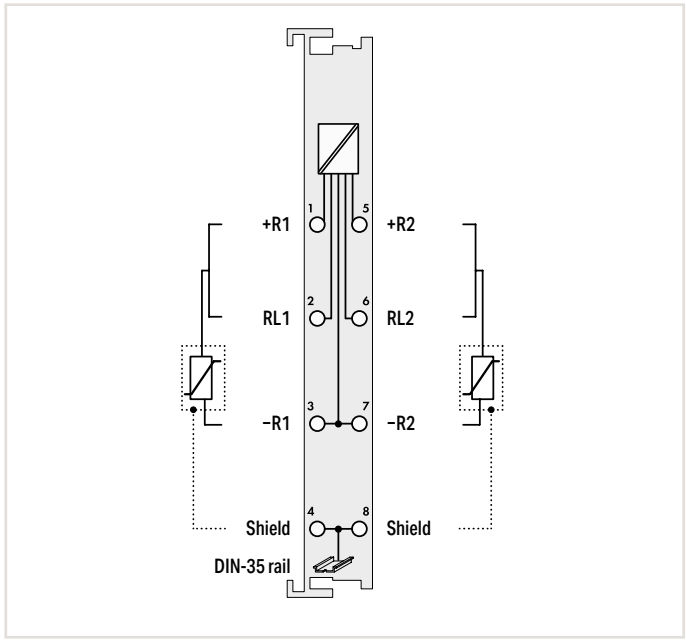
Item Description	2-Channel Analog Input; for Pt100/RTD resistance sensors					
Version	**Standard**	**Pluggable** (delivery without connector)	**Adjustable**	**Pluggable** (delivery without connector); **Adjustable**	**Extended temperature**	**Data format (S5 control)**
Item No.	**750-461**	**753-461**	**750-461/003-000**	**753-461/003-000**	**750-461/025-000**	**750-461/000-200**
Order Text	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; KC; Marine; cULus OrdLoc/HazLoc; Ex 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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx		
wago.com/750-461		

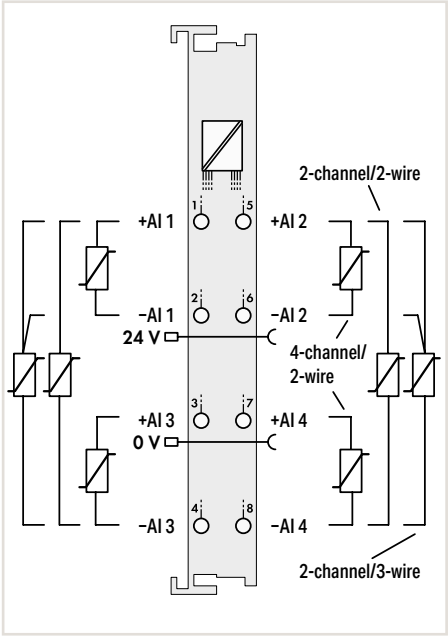
2-Channel Analog Input; for resistance sensors	2-Channel Analog Input; Resistance measurement	
NTC 20k	**10 … 1200 Ohm**	**10 … 5000 Ohm**
750-461/020-000	**750-461/000-002**	**750-461/000-007**
2AI; NTC 20k	2AI; 10R-1k2	2AI; 10R-5k0
2		
NTC 20k	10R … 1k2	10R … 5k0
2-wire		
–30 … +130 °C		
0.1 °C	0.1 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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx		
wago.com/750-461		

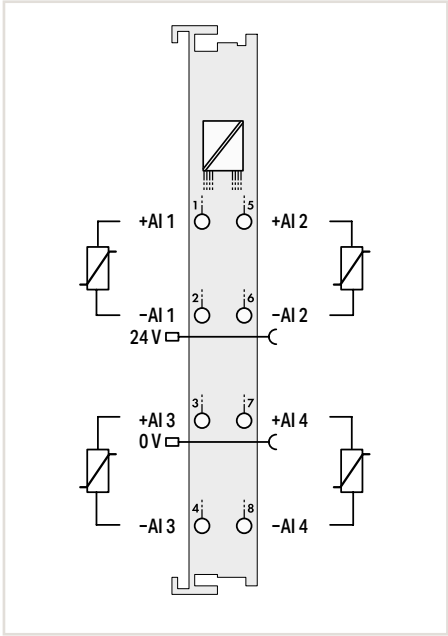
Analog Input; for Resistance Sensors

5.4

Figure: 750-464

Figure: 750-450

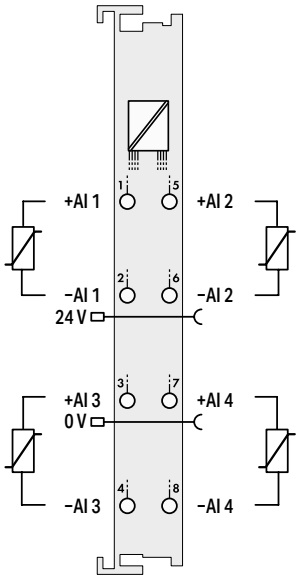


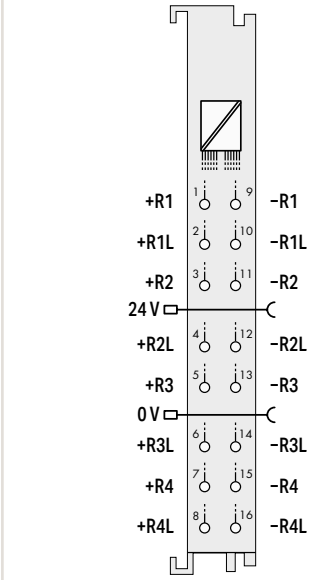


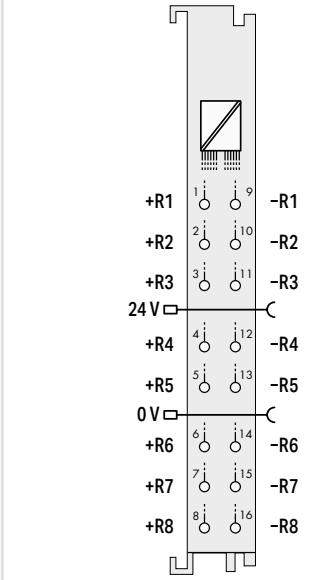
Item Description	2/4-Channel Analog Input; Resistance measurement; Adjustable	4-Channel Analog Input; for resistance sensors; Adjustable
Version	**Standard**	**NTC**
Item No.	**750-464**	**750-464/020-000**
Order Text	2/4AI; RTD; Adjust	4AI; NTC; Adjust
Technical Data		
Number of analog inputs	2/4	4
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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx	CE; KC; 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





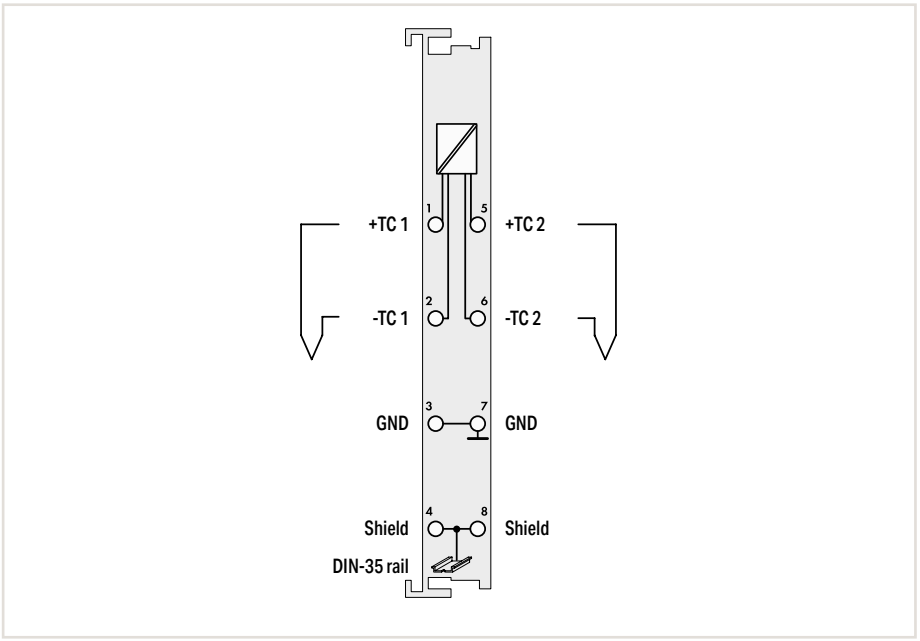


4-Channel Analog Input; Resistance measurement	4-Channel Analog Input; Resistance measurement; Adjustable	8-Channel Analog Input; Resistance measurement; Adjustable	
Measurement range: –30 °C … +150 °C	Standard	Standard	Extended temperature
750-463	750-450	750-451	750-451/025-000
4AI; RTD;-30°C…+150°C	4AI; RTD; Adjust	8AI; RTD; Adjust	8AI; RTD; Adjust; T
4	4	8	
Pt1000; Configurable: Ni1000; KTY 81	Pt100; Configurable: Pt200; Pt500; Pt1000; Ni100; Ni120; Ni1000 (TK6180 + TK5000); Potentiometer 0 Ohm … 1.2 kOhm; 0 Ohm … 5 kOhm	Pt100; Configurable: Pt200; Pt500; Pt1000; Ni100; Ni120; Ni1000 (TK6180 + TK5000); Potentiometer 0 Ohm … 1.2 kOhm; 0 Ohm … 5 kOhm	
2-wire	2-wire; 3-wire; 4-wire	2-wire	
–30 … +150 °C	–200 … +850 °C (Pt100, Pt200, Pt500, Pt1000); –60 … +250 °C (Ni100, Ni1000); –80 … +260 °C (Ni120)	–200 … +850 °C (Pt100, Pt200, Pt500, Pt1000); –60 … +250 °C (Ni100, Ni1000); –80 … +260 °C (Ni120)	
0.1 °C	0.1 °C	0.1 °C	
	Per channel: ≤ 100 ms (2-/4-wire connection), ≤ 200 ms (3-wire connection)	Per channel: ≤ 100 ms	
≤ 350 µA	≤ 350 µA	≤ 350 µA	
0.5 K in temperature range: –30 … +150 °C	±0.6 K (Pt100, Pt200, Pt500, Ni100, Ni120); ±0.2 K (Pt1000, Ni1000); ±0.3 … 0.7 Ω at resistance measurement	±0.6 K (Pt100, Pt200, Pt500, Ni100, Ni120); ±0.2 K (Pt1000, Ni1000); ±0.3 Ω at resistance measurement	
20 ppm/K	±5 ppm/K	±5 ppm/K	
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)	
50 mA	85 mA	110 mA	
4 x 16-bit data; 4 x 8-bit control/status (optional)	4 x 16-bit data; 4 x 8-bit control/status (optional)	8 x 16-bit data; 8 x 8-bit control/status (optional)	
500 V (system/field)	500 V (system/field)	500 V (system/field)	
0 … +55 °C	0 … +55 °C	0 … +55 °C	–20 … +60 °C
12 x 69.8 x 100 mm	12 x 69.8 x 100 mm	12 x 69.8 x 100 mm	
CE; KC; cULus OrdLoc/HazLoc; ATEX/IECEx	CE; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx	CE; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx	
wago.com/750-463	wago.com/750-450	wago.com/750-451	

Analog Input; for Thermocouples

Figure: 750-469

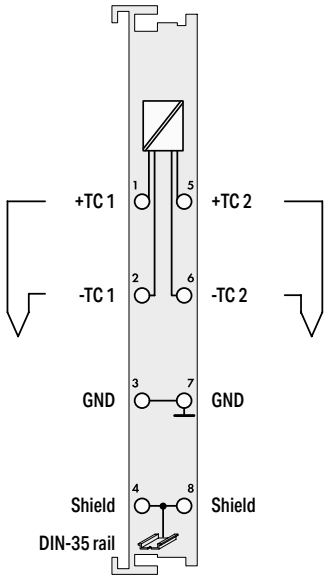
Figure: 750-458

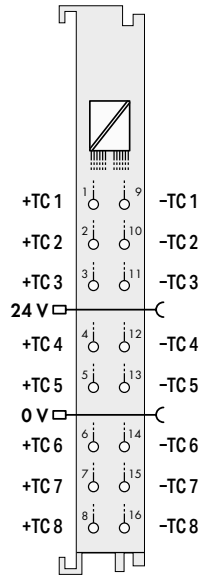


Item Description	2-Channel Analog Input; Thermocouple K; Diagnostics				
Version	**Standard**	**Pluggable** (delivery without connector)	**Adjustable**	**Pluggable** (delivery without connector); **Adjustable**	**Data format (S5 control)**
Item No.	**750-469**	**753-469**	**750-469/003-000**	**753-469/003-000**	**750-469/000-200**
Order Text	2AI; TC K; Diagn	2AI; TC K; Diagn	2AI; TC K; Diagn Adjust	2AI; TC K; Diagn Adjust	2AI; TC K; Diagn; S5
Technical Data					
Pluggable connector		•		•	
Customized data format for S5 control*					•
Number of analog inputs	2				
Signal type	Thermocouple K		Thermocouple K; Configurable: L; J; E; T; N; U; B; R; S; mV		Thermocouple K
Temperature range	–100 … +1370 °C		Sensor-specific		–100 … +1370 °C
Resolution	0.1 °C				
Conversion time	320 ms				
Measuring error (max.) at 25 °C	±6 K (voltage input: ±2 K; cold junction compensation: ±4 K)				
Temperature error (max.)	±0.2 K/K				
Cold junction compensation	Integrated or external				
Supply voltage (field)					
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; KC; Marine; cULus OrdLoc/HazLoc; Ex ATEX/IECEx				
Data sheet and further information, see:	wago.com/750-469	wago.com/753-469	wago.com/750-469	wago.com/753-469	wago.com/750-469

Accessories		Item No.		Item No.	
Pluggable connector		753-110		753-110	
Coding keys		753-150		753-150	

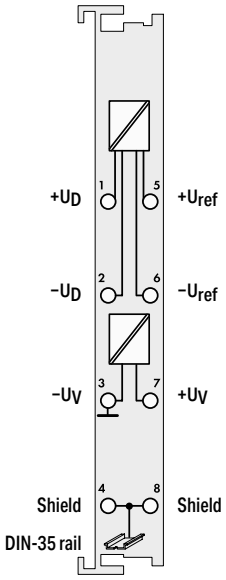
*The S5 format allows you to import data with the standard S5 FB 250 function block.

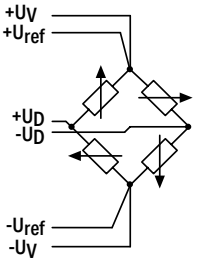




2-Channel Analog Input; Thermocouple; Diagnostics						8-Channel Analog Input; Thermocouple; Adjustable
Thermocouple S	Thermocouple T	Thermocouple J	Thermocouple E	Thermocouple L	Thermocouple ±120 mV;	Standard
750-469/000-001	750-469/000-002	750-469/000-006	750-469/000-008	750-469/000-012	750-469/000-003	750-458
2AI; TC S; Diagn	2AI; TC T; Diagn	2AI; TC J; Diagn	2AI; TC E; Diagn	2AI; TC L; Diagn	2AI; TC ±120mV; Diagn	8AI; TC; Adjust
2						8
Thermocouple S	Thermocouple T	Thermocouple J	Thermocouple E	Thermocouple L	±120 mV	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
−50 … +1700 °C	−100 … +400 °C	−100 … +1200 °C	−100 … +1000 °C	−100 … +900 °C		Sensor-specific
0.1 °C						0.1 °C
320 ms						Per channel: ≤ 100 ms
±6 K (voltage input: ±2 K; cold junction compensation: ±4 K)						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
±0.2 K/K						±0.05 K/K
Integrated or external						Integrated or external
						24 VDC (−25 … +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
65 mA						100 mA
2 x 16-bit data; 2 x 8-bit control/status (optional)						8 x 16-bit data; 8 x 8-bit control/status (optional)
500 V (system/field)						500 V (system/field)
0 … +55 °C						0 … +55 °C
12 x 69.8 x 100 mm						12 x 69.8 x 100 mm
CE; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx						CE; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx
wago.com/750-469						wago.com/750-458

Analog Input; for Resistor Bridges (Strain Gauge)



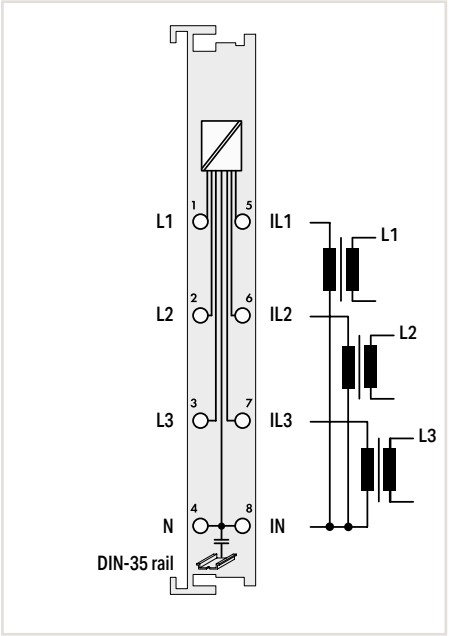


Item Description	1-Channel Analog Input; Resistor bridges (strain gauge)	
Version	**Standard**	**Conversion time: 125 ms**
Item No.	**750-491**	**750-491/000-001**
Order Text	1AI; DMS	1AI; DMS; 125ms
Technical Data		
Number of analog inputs	1	
Signal type	Resistor bridge (strain gauge)	
Signal voltage U_D	−15 … +15 mV	
Signal voltage U_{ref}	+2 … +6 V	
Internal resistance	> 200 kΩ (U_{ref}); > 1 MΩ (U_D)	
Supply voltage U_v	5 VDC; 20 mA	
Resolution	16 bits	
Conversion time	500 ms	125 ms
Measuring error	U_D: ±30 µV; U_{ref}: ±10 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; KC; cULus 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

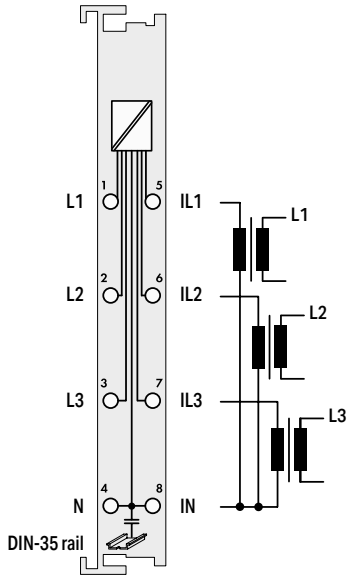


Item Description	3-Phase Power Measurement; 480 VAC 1 A		
Version	Standard	Extended temperature	480 VAC, 5 A
Item No.	750-493	750-493/025-000	750-493/000-001
Order Text	3-PHASE POM; 480VAC 1A	3-PHASE POM; 480VAC 1A; T	3-PHASE POM; 480VAC 5A

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; KC; cULus 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



Item Description	3-Phase Power Measurement; 480 VAC 1 A			
Version	Standard	Extended temperature	480 VAC, 5 A	480 VAC 5 A; Extended temperature
Item No.	750-494	750-494/025-000	750-494/000-001	750-494/025-001
Order Text	3-PHASE POM; 480VAC 1A	3-PHASE POM; 480VAC 1A; T	3-PHASE POM; 480VAC 5A	3-PHASE POM; 480VAC 5A; T

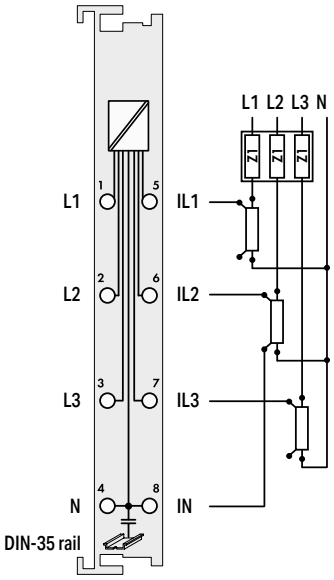
Technical Data				
Signal type	3-phase power measurement			
Measured variables	Voltage; Current; Effective power; Reactive power; Apparent power; Power consumption; Frequency; Cos phi; Harmonics (up to the 41st harmonic); THD and more			
Number of measurement inputs	6 (3 voltage measurement inputs; 3 current measurement inputs)			
Rated voltage	ULN = 277 VAC/VDC; ULL = 480 VAC			
Input resistance (voltage path) typ.	1072 kΩ			
Measuring current (max.)	1 A		5 A	
Input resistance (current path) typ.	22 mΩ		5 mΩ	
Resolution	24 bits			
Measuring error (max.) at 25 °C	AC current/voltage: ±0.5 % 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	−20 … +60 °C	0 … +55 °C	−20 … +60 °C
Dimensions W x H x D	12 x 69.8 x 100 mm			
Approvals	CE; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx			
Data sheet and further information, see:	wago.com/750-494			

Accessories	Item No.
Split-core and plug-in current transformers	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

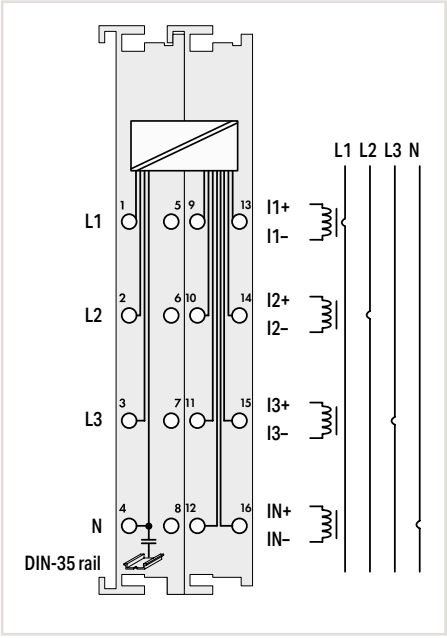


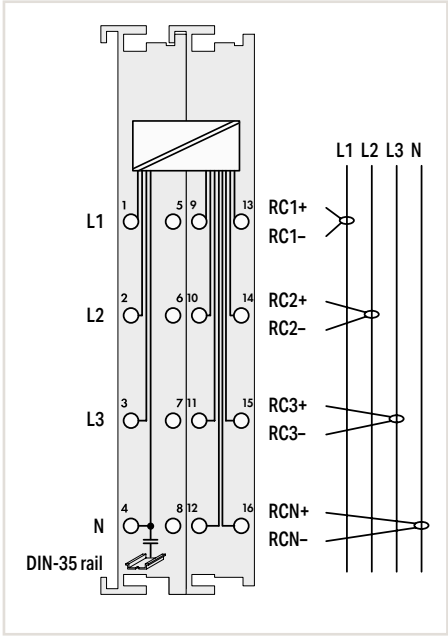
Item Description	Power Measurement
Version	277 VAC/DC; External shunts
Item No.	750-494/000-005
Order Text	Power Measurement; 277 VAC/DC; External shunts

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		3-phase power measurement
Version	Standard	690 VAC 5 A	690 VAC Rogowski coils
Item No.	750-495	750-495/000-001	750-495/000-002
Order Text	3-PHASE POM; 690VAC 1A	3-PHASE POM; 690VAC 5A	3-PHASE POM; 690VAC R.C.

Technical Data			
Signal type	3-phase power measurement		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		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)		7 (3 voltage measurement inputs; 4 differential current measurement inputs)
Rated voltage	U_{LN} = 400 VAC; U_{LL} = 690 VAC		U_{LN} = 277 VAC; U_{LL} = 480 VAC
Input resistance (voltage path) typ.	1429 kΩ		1429 kΩ
Measuring current (max.)	1 A	5 A	Rogowski coils
Input resistance (current path) typ.	22 mΩ	5 mΩ	44 kΩ
Resolution	24 bits		24 bits
Measuring error (max.) at 25 °C	AC current/voltage: ±0.5 % of the upper-range value		AC current/voltage: ±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
Data width	2 x 128-bit data; 2 x 64-bit control/status		2 x 128-bit data; 2 x 64-bit control/status
Isolation	6 kV (system/field)		6 kV (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; KC; Marine		CE; KC; Marine
Data sheet and further information, see:	wago.com/750-495		wago.com/750-495/000-002

Accessories	Item No.	Item No.
Split-core and plug-in current transformers	See Full Line Catalog, Volume 4	
Rogowski coils		See Full Line Catalog, Volume 4

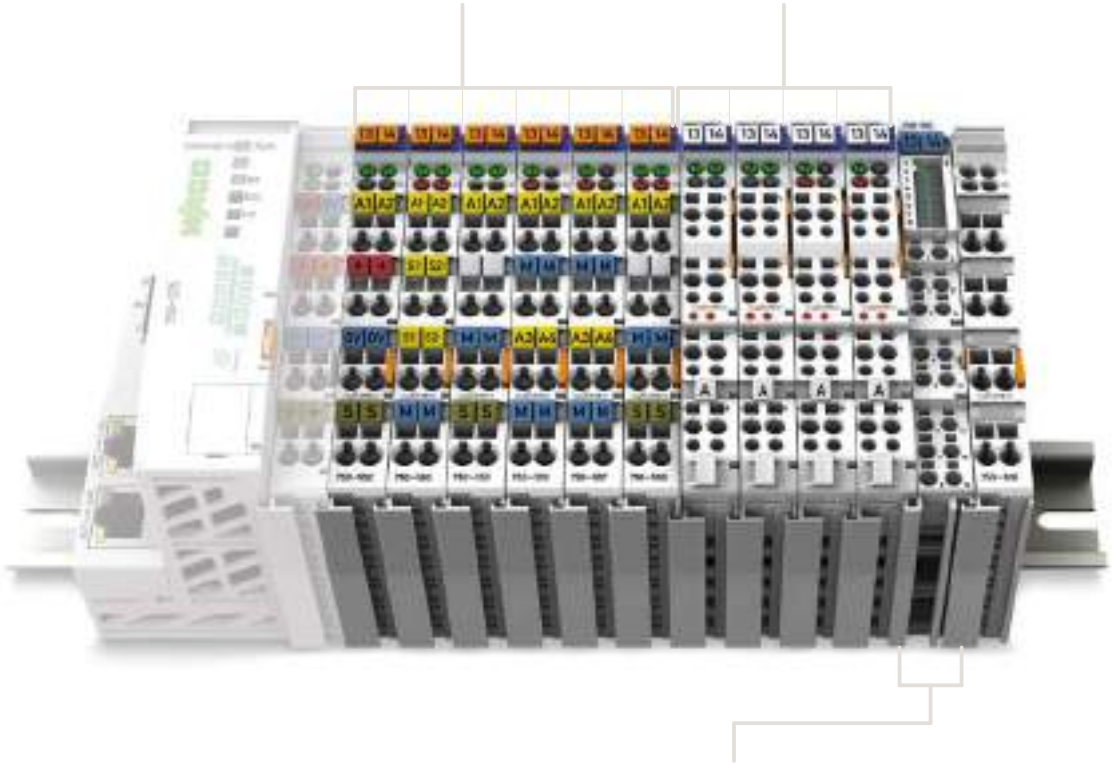
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ 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

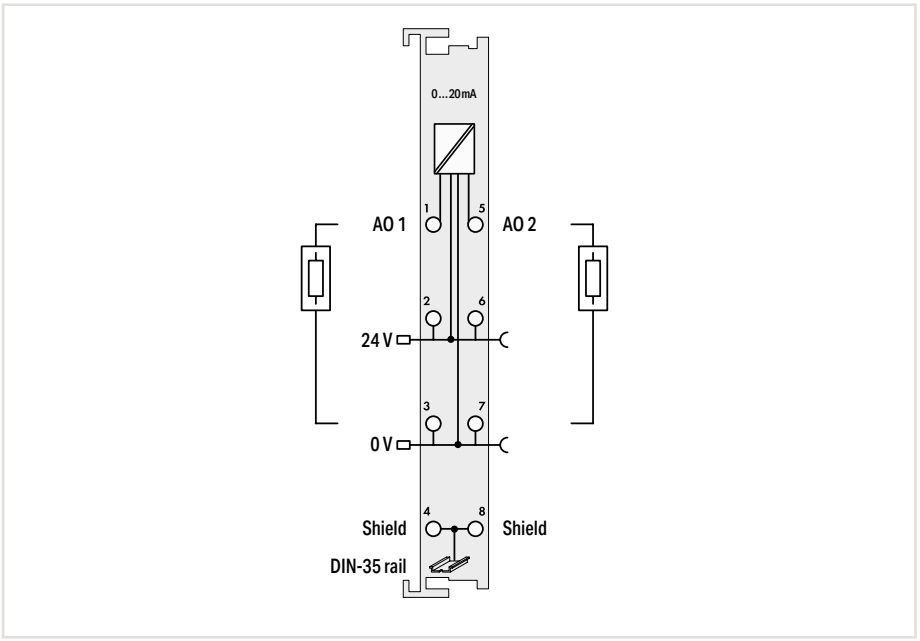
I/O System – 750 and 753 Series; Analog Output Modules
Contents

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; KC; Marine; cULus 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.

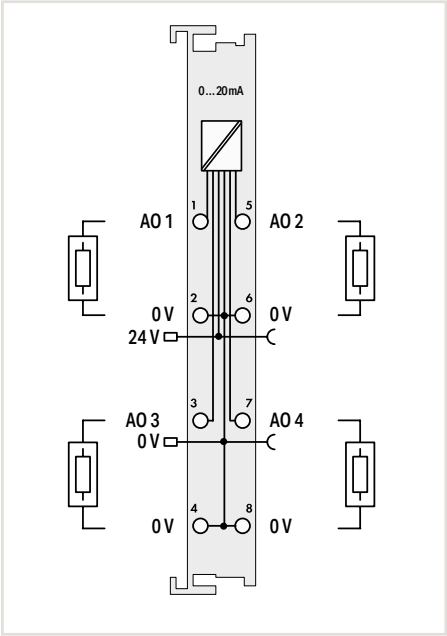
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ Approvals and corresponding ratings, see page 521 or www.wago.com

Analog Output; 0 … 20 mA

Figure: 750-553

Figure: 753-553



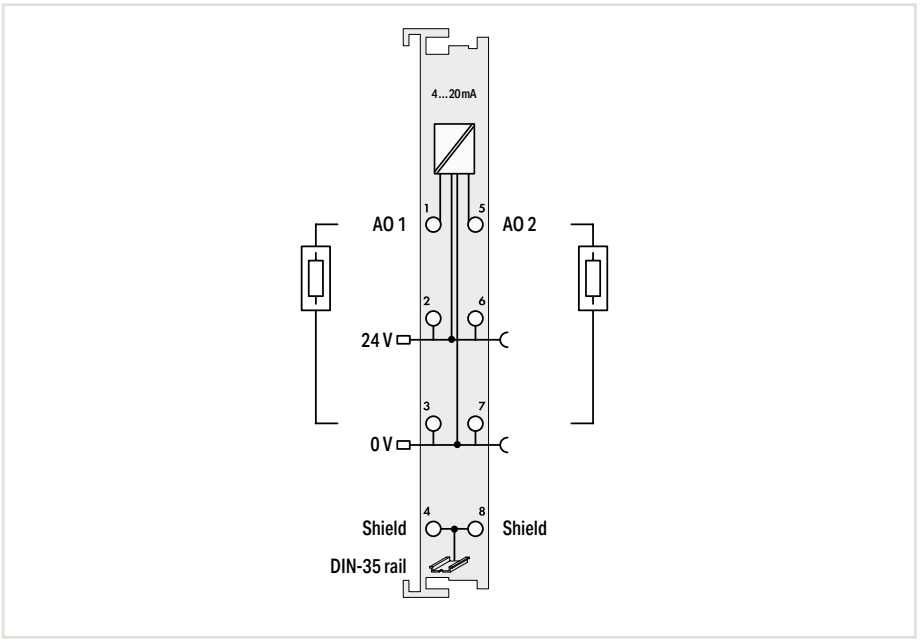
Item Description	4-Channel Analog Output; 0 … 20 mA	
Version	**Standard**	**Pluggable** (delivery without connector)
Item No.	**750-553**	**753-553**
Order Text	4AO; 0-20mA	4AO; 0-20mA
Technical Data		
Pluggable connector		•
Number of analog outputs	4	
Signal type	0 … 20 mA	
Actuator connection	2-wire	
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



Item Description	2-Channel Analog Output; 4 … 20 mA			
Version	**Standard**	**Extended temperature**	**Pluggable** (delivery without connector)	**Data format (S5 control)**
Item No.	**750-554**	**750-554/025-000**	**753-554**	**750-554/000-200**
Order Text	2AO; 4-20mA	2AO; 4-20mA; T	2AO; 4-20mA	2AO; 4-20mA; S5
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; KC; Marine; cULus 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.

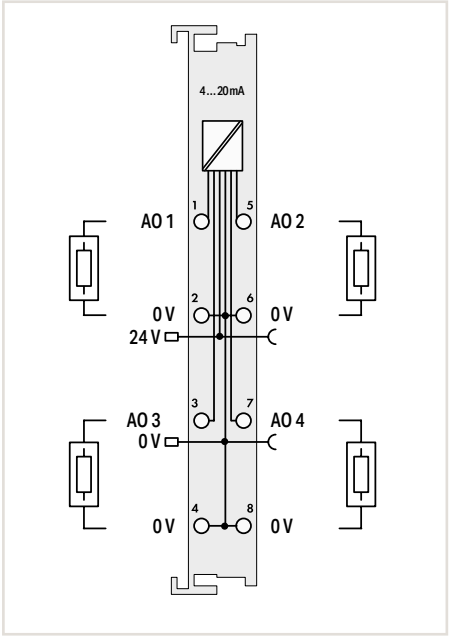
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

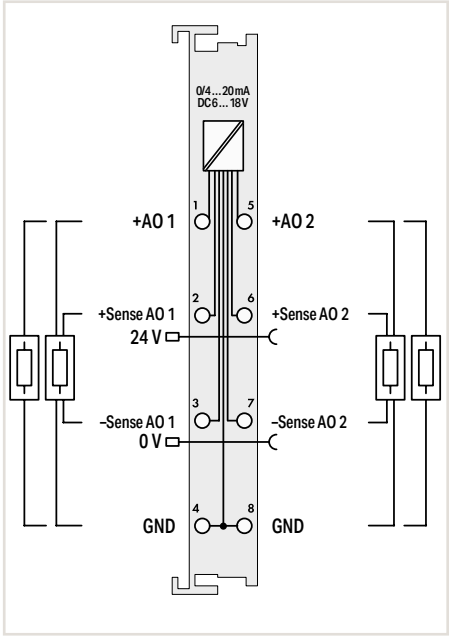
„ Approvals and corresponding ratings, see page 521 or www.wago.com

Analog Output; 4 … 20 mA or Configurable 0/4 … 20 mA; 6 … 18 VDC

Figure: 750-555

Figure: 753-555





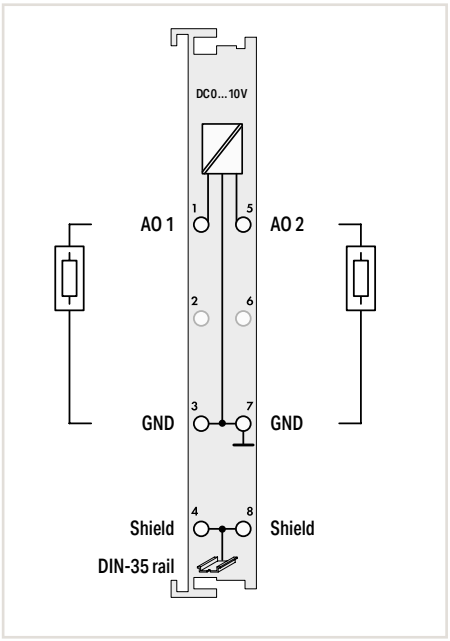
Item Description	4-Channel Analog Output; 4 … 20 mA		2-Channel Analog Output; 0/4 … 20 mA; 16 bits; 6 … 18 VDC
Version	**Standard**	**Pluggable** (delivery without connector)	**Standard**
Item No.	**750-555**	**753-555**	**750-563**
Order Text	4AO; 4-20mA	4AO; 4-20mA	2AO; 0/4-20mA; 16bits; 6-18 VDC
Technical 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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx		CE; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-555	wago.com/753-555	wago.com/750-563

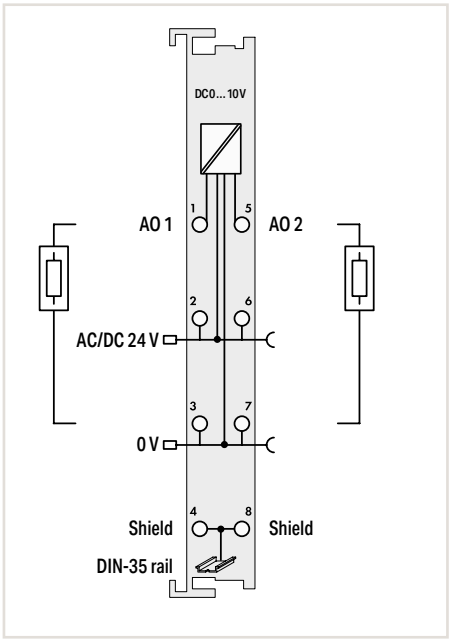
Accessories	Item No.
Pluggable connector	753-110
Coding keys	753-150

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; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx			CE; KC; cULus 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.

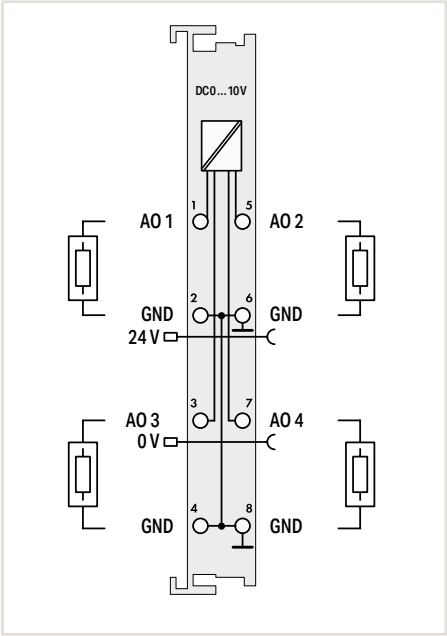
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ Approvals and corresponding ratings, see page 521 or www.wago.com

Analog Output; 0 … 10 VDC

Figure: 750-559

Figure: 753-559



Item Description	4-Channel Analog Output; 0 … 10 VDC		
Version	**Standard**	**Extended temperature**	**Pluggable** (delivery without connector)
Item No.	**750-559**	**750-559/025-000**	**753-559**
Order Text	4AO; 0-10 VDC	4AO; 0-10 VDC; T	4AO; 0-10 VDC

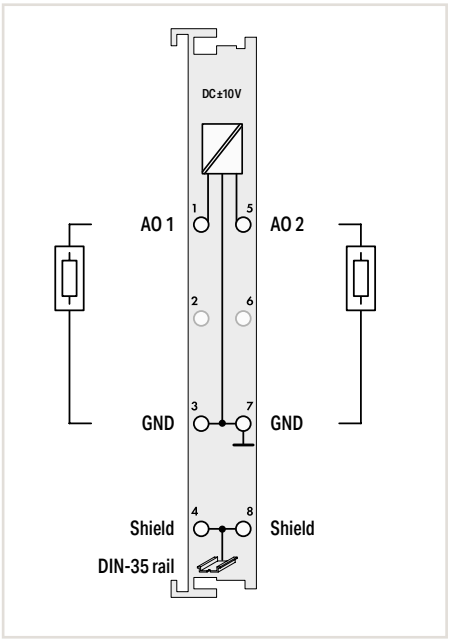
Technical Data			
Pluggable connector			•
Number of analog outputs	4		
Signal type	0 … 10 V		
Actuator connection	2-wire		
Load impedance	> 5 kΩ		
Resolution	12 bits		
Conversion time	10 ms		
Output error (max.) at 25 °C	±0.1 % of the upper-range value		
Temperature error (max.)	±0.01 % of the upper-range 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:	wago.com/750-559		wago.com/753-559

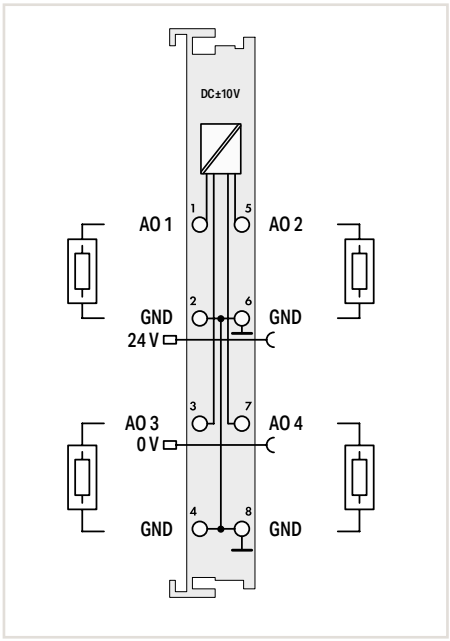
Accessories		Item No.
Pluggable connector		753-110
Coding keys		753-150

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)	**Standard**	**Pluggable** (delivery without connector)
Item No.	**750-556**	**750-556/000-200**	**753-556**	**750-557**	**753-557**
Order Text	2AO; ±10 VDC	2AO; ±10 VDC; S5	2AO; ±10 VDC	4AO; ±10 VDC	4AO; ±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; KC; Marine; cULus OrdLoc/HazLoc; Ex ATEX/IECEx			CE; KC; Marine; cULus OrdLoc/HazLoc; Ex ATEX/IECEx	
Data sheet and further information, see:	wago.com/750-556		wago.com/753-556	wago.com/750-557	wago.com/753-557

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.

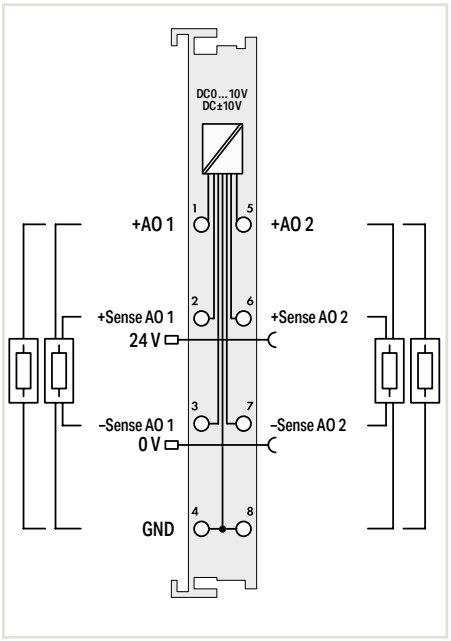
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

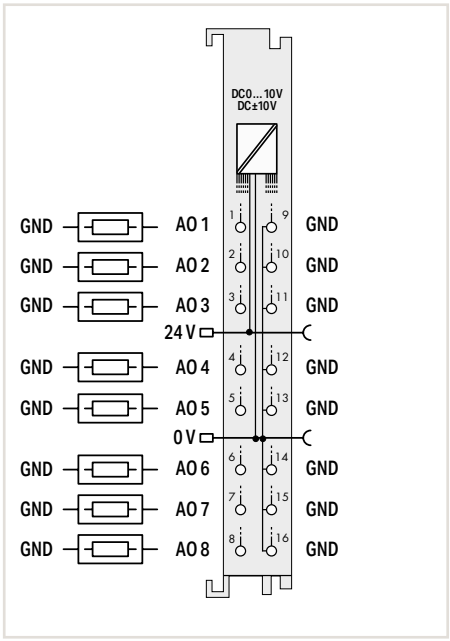
„ Approvals and corresponding ratings, see page 521 or www.wago.com

Analog Output; Configurable 0 … 10 VDC; ±10 V

Figure: 750-562

Figure: 750-597





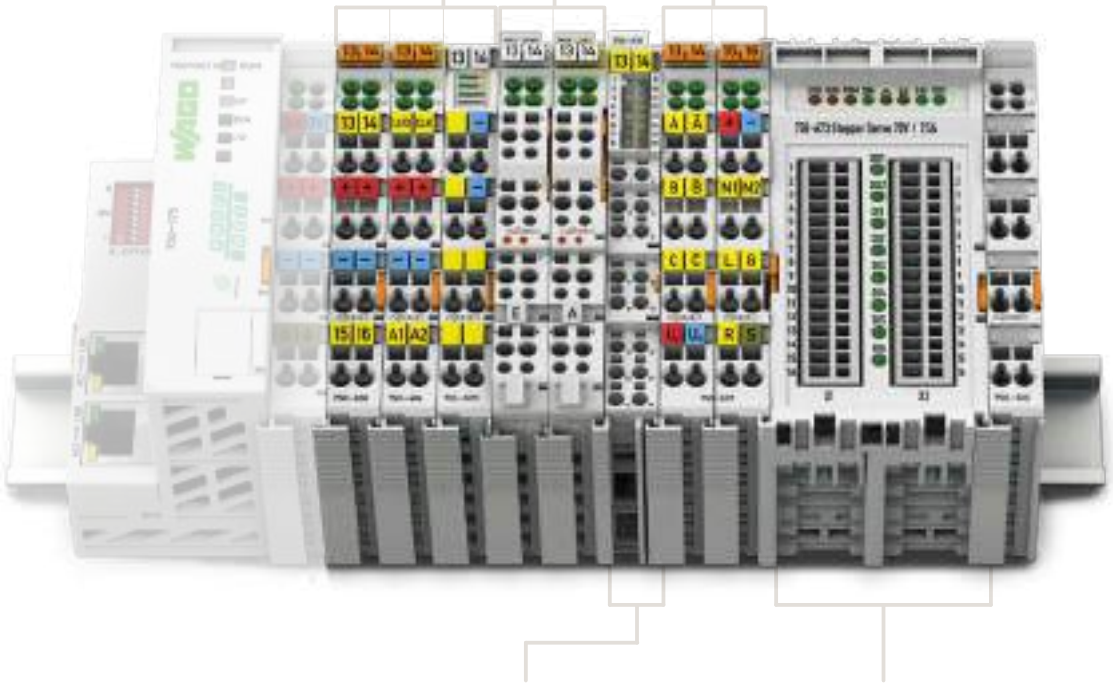
Item Description	2-Channel Analog Output; 0 … 10 VDC/±10 V; 16 bits	8-Channel Analog Output; 0 … 10 VDC/±10 V
Version	**Standard**	**Standard with 16 connectors**
Item No.	**750-562**	**750-597**
Order Text	2AO; 0-10 V/±10 VDC; 16bits	8AO; 0-10 V/±10 VDC
Technical Data		
Number of analog outputs	2	8
Signal type	0 … 10 V; ±10 V	0 … 10 V; ±10 V
Actuator connection	2-wire; 4-wire	2-wire
Load impedance	> 5 kΩ	≥ 2 kΩ
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; KC; cULus OrdLoc/HazLoc; ATEX/IECEx	CE; KC
Data sheet and further information, see:	wago.com/750-562	wago.com/750-597

Function/Technology 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), 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

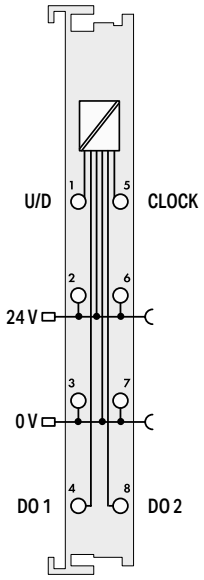
I/O System – 750 and 753 Series; Function/Technology Modules
Contents

Function	Description	Item Number			Page
		Standard	Extended Temperature	Pluggable	
Counter Modules	Up/Down Counter	750-404*		753-404	258
	Up Counter; Release input	750-404/000-001			258
	Peak-Time Counter	750-404/000-002			258
	Frequency Counter	750-404/000-003		753-404/000-003	259
	Up/Down Counter; Switch output	750-404/000-004			258
	2 Up Counters; 16 bits	750-404/000-005		753-404/000-005	259
	2 Up/Down Counters; 16 bits; 500 Hz	750-638	750-638/025-000	753-638	260
Pulse Width Outputs	2 Pulse Width Outputs; 24 VDC; 0.1 A; 250 kHz	750-511		753-511	261
	2 Pulse Width Outputs; 24 VDC; 0.1 A; 2 kHz; Frequency counter	750-511/000-001			261
	2 Pulse Width Outputs; 24 VDC; 0.1 A; 100 Hz	750-511/000-002			261
Distance and Angle Measurement	SSI Transmitter Interface; 24 bits; 125 kHz; Gray code	750-630			262
	SSI Transmitter Interface; 24 bits; 125 kHz; Bin. code	750-630/000-001			263
	SSI Transmitter Interface; 24 bits; 250 kHz; Bin. code	750-630/000-002			263
	SSI Transmitter Interface; 24 bits; 125 kHz; Gray code; Status byte	750-630/000-004			262
	SSI Transmitter Interface; 15 bits; 125 kHz; Gray code; Status byte	750-630/000-005			262
	SSI Transmitter Interface; 24 bits; 250 kHz; Gray code	750-630/000-006			263
	SSI Transmitter Interface; 25 bits; 125 kHz; Gray code	750-630/000-008			263
	SSI Transmitter Interface; 13 bits; 250 kHz; Bin. code	750-630/000-009			263
	SSI Transmitter Interface; 25 bits; 125 kHz; Bin. code	750-630/000-011			263
	SSI Transmitter Interface; 13 bits; 125 kHz; Gray code	750-630/000-012			263
	SSI Transmitter Interface; 29 bits; 125 kHz; Bin. code	750-630/000-013			263
	SSI Transmitter Interface; Adjustable	750-630/003-000*			262
	Incremental Encoder Interface; RS-422; 16 bits	750-631/000-004			264
	Incremental Encoder Interface; RS-422; 32 bits	750-637			264
	Incremental Encoder Interface; 24 VDC; Differential input; 32 bits	750-637/000-001*			265
	Incremental Encoder Interface; 24 VDC; Single-ended; 32 bits	750-637/000-002			265
	Incremental Encoder Interface; 5 VDC; 32 bits; Single evaluation	750-637/000-003			265
	Incremental Encoder Interface; 24 VDC; Single-ended; 32 bits; Cam output	750-637/000-004			265
	Digital Impulse Interface	750-635		753-635	266
RTC Module	Real-Time Clock Module	750-640			267
Vibration Monitoring	2-Channel Vibration Velocity/Bearing Condition Monitoring VIB I/O Module	750-645			268
Stepper Modules	Stepper Controller; RS-422/24 VDC; 20 mA	750-670			269
	Stepper Controller; 24 VDC; 1.5 A	750-671			270
	Stepper Controller; 70 VDC; 7.5 A	750-672			271
	Servo Stepper Controller; 55 VDC; 7.5 A	750-673			272
DC Drive Controllers	DC Drive Controller; 24 VDC; 5 A	750-636	750-636/025-000		273
	DC Drive Controller; 24 VDC; 5 A; External motor voltage	750-636/000-700			273
	DC Drive Controller; 24 VDC; 5 A; Interference-free	750-636/000-800			273
Proportional Valve Module	Proportional Valve Module	750-632			274
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	Up/Down Counter				
Version	**Standard**	**Switch output**	**Pluggable** (delivery without connector)	**Up counter; Release input**	**Peak-time counter**
Item No.	**750-404**	**750-404/000-004**	**753-404**	**750-404/000-001**	**750-404/000-002**
Order Text	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	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				10 kHz
Pulse width (min.)					
Input current (typ.)	6 mA				
Counter depth	32 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)	32-bit data; 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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx				
Data sheet and further information, see:	wago.com/750-404		wago.com/753-404		wago.com/750-404

Accessories	Item No.
Pluggable connector	753-110
Coding keys	753-150

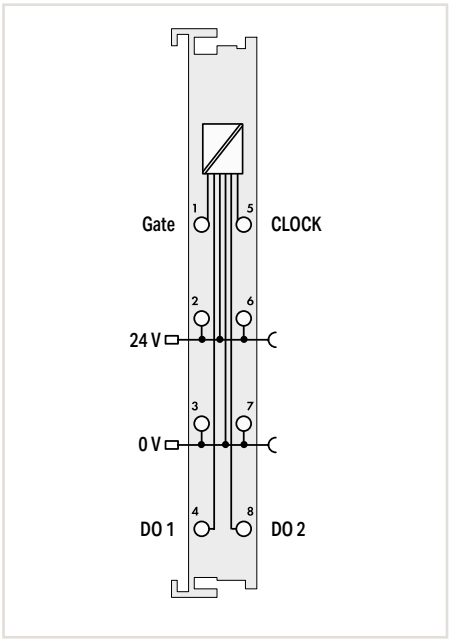
Up/down counter: When the U/D input is switched with +24 V, the counting direction is upward. When an input is not switched or is 0 V, the counting direction is downward.

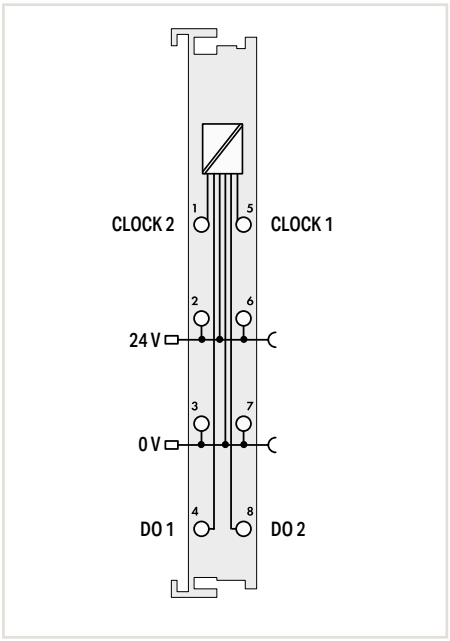
Up counter: The counting is locked when the GATE input is open or 0 V is present. Counting is enabled with +24 V at the GATE input.

Peak-time counter: The count pulses at the CLOCK input are recorded over a pre-set period of 10 seconds.

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

„ Approvals and corresponding ratings, see page 522 or www.wago.com





Frequency Counter	
Standard	**Pluggable** (delivery without connector)
750-404/000-003	**753-404/000-003**
Frequency Counter; 100kHz	Frequency Counter; 100kHz

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
1	2
−3 … +5 VDC	−3 … +5 VDC
15 … 30 VDC	15 … 30 VDC
0.5 A; short-circuit-protected	0.5 A; short-circuit-protected
100 kHz	5 kHz (pulse width > 100 µs)
10 µs	
5 mA	5 mA
32 bits	2 x 16-bit data
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)
70 mA	70 mA
32-bit data; 8-bit control/status	32-bit data; 8-bit control/status
500 V (system/field)	500 V (system/field)
0 … +55 °C	0 … +55 °C
12 x 69.8 x 100 mm	12 x 69.8 x 100 mm
CE; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx	CE; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx
wago.com/750-404/000-003	wago.com/753-404/000-003
wago.com/750-404/000-005	wago.com/753-404/000-005

	Item No.
	753-110
	753-150

	Item No.
	753-110
	753-150

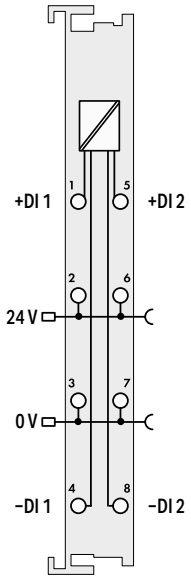
The frequency counter measures the 24 V signal pulse period at the CLOCK input and converts it to a frequency value. The measurement is enabled when the GATE input is open or 0 V is present. Measurement is disabled when 24 V are present at the GATE input.

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; KC; cULus 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**

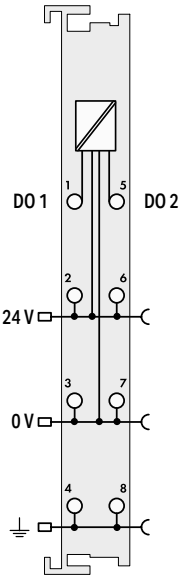
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ Approvals and corresponding ratings, see page 522 or www.wago.com

Pulse Width Output

Figure: 750-511

Figure: 753-511

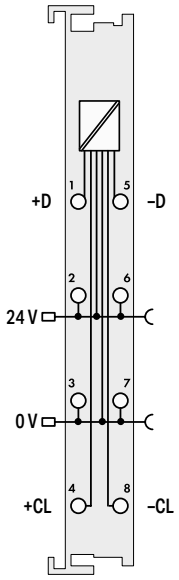


Item Description	2 Pulse Width Outputs; 24 VDC; 0.1 A; 250 Hz			
Version	**Standard**	**Pluggable** (delivery without connector)	**2 kHz; Frequency counter**	**100 Hz**
Item No.	**750-511**	**753-511**	**750-511/000-001**	**750-511/000-002**
Order Text	2PWM; 24 VDC; 0.1A; 250Hz	2PWM; 24 VDC; 0.1A; 250Hz	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; KC; cULus OrdLoc/HazLoc; Ex 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

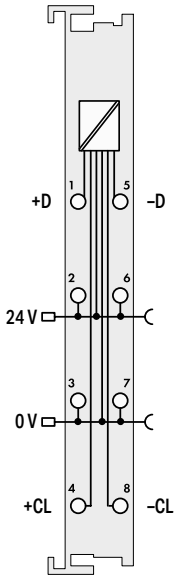


Item Description	SSI Transmitter Interface			
Version	Adjustable	24 Bits; 125 kHz; Gray Code	24 Bits; 125 kHz; Gray Code; Status Byte	15 Bits; 125 kHz; Gray Code; Status Byte
Item No.	750-630/003-000	750-630	750-630/000-004	750-630/000-005
Order Text	SSI Interface; adjust	SSI Interface; 24bits; 125kHz; 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; KC; 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



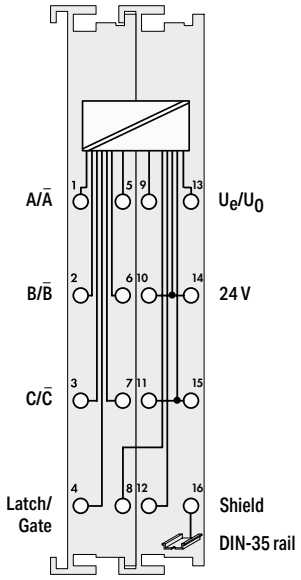
SSI Transmitter Interface							
24 Bits; 250 kHz; Gray Code	25 Bits; 125 kHz; Gray Code	13 Bits; 125 kHz; Gray Code	24 Bits; 125 kHz; Bin. Code	25 Bits; 125 kHz; Bin. Code	29 Bits; 125 kHz; Bin. Code	24 Bits; 250 kHz; Bin. Code	13 Bits; 250 kHz; Bin. Code
750-630/000-006	750-630/000-008	750-630/000-012	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

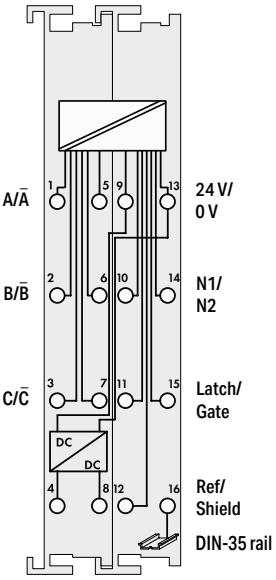
On + D; - D; Off + Cl; - Cl							
24 VDC; via power jumper contacts							
250 kHz	125 kHz					250 kHz	
Data width: 24 bits	Data width: 25 bits	Data width: 13 bits	Data width: 24 bits	Data width: 25 bits	Data width: 29 bits	Data width: 24 bits	Data width: 13 bits
Differential signal (RS-422)							
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; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx
wago.com/750-630

Incremental Encoder Interface

Figure: 750-631/000-004

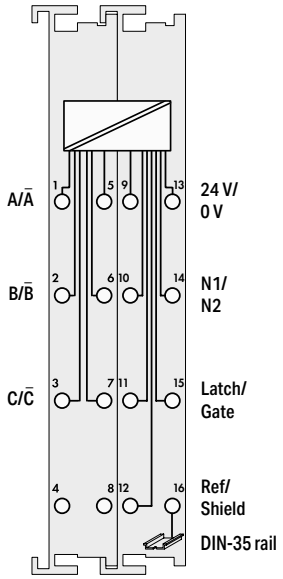


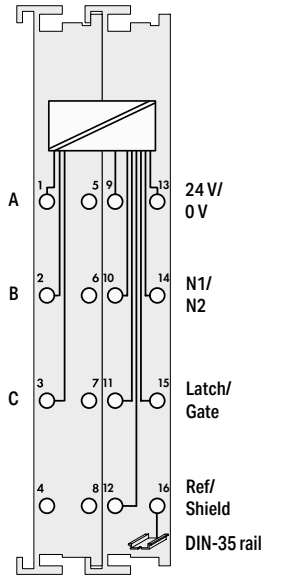


Item Description	Incremental Encoder Interface; RS-422; 16 bits	Incremental Encoder Interface; RS-422; 32 bits	
Version	**Standard**	**Standard**	**Single evaluation**
Item No.	**750-631/000-004**	**750-637**	**750-637/000-003**
Order Text	Inc. Encoder; RS422; 16bits	Inc. Encoder; RS422; 32bits	Inc. 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; KC; cULus OrdLoc/HazLoc	CE; KC; Marine; cULus 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



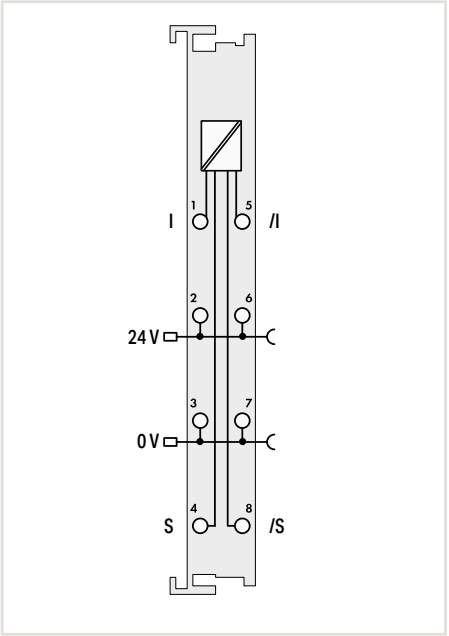


Incremental Encoder Interface; 24 VDC; Differential input; 32 bits	Incremental Encoder Interface; 24 VDC; Single-ended; 32 bits	
Standard	Standard	Cam output
750-637/000-001	750-637/000-002	750-637/000-004
Inc. Encoder; 24 VDC; Diff; 32bits	Inc. Encoder; 24 VDC; SE; 32bits	Inc. Encoder; 24 VDC; SE; 32bits; Cam
A; /A; B; /B; C; /C (differential inputs)	A; B; C (single-ended inputs)	
32 bits (binary)	32 bits (binary)	
250 kHz	250 kHz	
4x evaluation	4x evaluation	
32 bits	32 bits	
Reading; setting; activating	Reading; setting; activating	
35 mA; without encoder	35 mA; without encoder	
24 VDC	24 VDC	
300 mA	300 mA	
24 VDC	24 VDC	
0.5 A; short-circuit-protected	0.5 A; short-circuit-protected	
(U_{ABC} - $U_{ABC/}$): -30 … +15 VDC; Latch, Gate, Ref.: -3 … +5 VDC	−3 … +5 VDC	
(U_{ABC} - $U_{ABC/}$): 15 … 30 VDC; Latch, Gate, Ref.: 15 … 30 VDC	15 … 30 VDC	
Latch 5 mA; Gate 7 mA; Ref. 7 mA	Latch 5 mA; Gate 7 mA; Ref. 7 mA	
110 mA	110 mA	
1 x 32-bit data; 2 x 8-bit control/status	1 x 32-bit data; 2 x 8-bit control/status	
500 V (system/field)	500 V (system/field)	
0 … +55 °C	0 … +55 °C	
24 x 69.8 x 100 mm	24 x 69.8 x 100 mm	
CE; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx	CE; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx	
wago.com/750-637	wago.com/750-637	

Digital Impulse Interface

Figure: 750-635

Figure: 753-635



Item Description	Digital Impulse Interface	
Version	**Standard**	**Pluggable** (delivery without connector)
Item No.	**750-635**	**753-635**
Order Text	Digital impulse interface	Digital impulse interface
Technical Data		
Pluggable connector		•
Encoder connection	Start/stop; Initialization; U_v; Ground; Shield connection via encoder housing	
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; KC; cULus OrdLoc/HazLoc; Ex ATEX/IECEx	
Data sheet and further information, see:	wago.com/750-635	wago.com/753-635

Accessories	Item No.
Pluggable connector	**753-110**
Coding keys	**753-150**

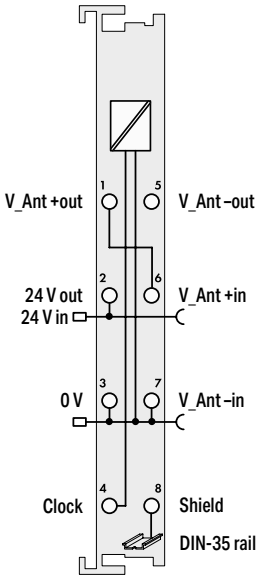
This digital impulse interface connects position sensors equipped with a start/stop interface. After receiving a read pulse, these sensors deliver a time-delayed reply impulse. The time delay is proportional to the sensor distance.
Each sensor may have up to four position transmitters (permanent magnets). 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

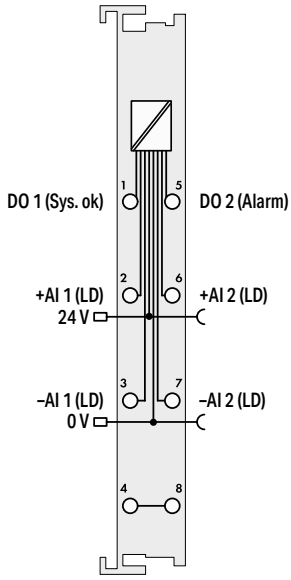
Real-Time Clock Module

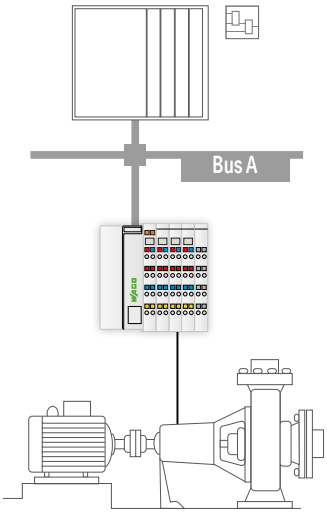


Item Description	Real-Time Clock Module
Version	Standard
Item No.	750-640
Order Text	RTC Module
Technical Data	
Drift (clock)	< 2 min./year
Buffer length	> 6 days
Timer	32 channels and switch points (32 x on/off)
Voltage range for signal (0)	–24 … +1 V
Voltage range for signal (1)	3 … 24 V
Input filter	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; KC; cULus 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; KC; cULus OrdLoc/HazLoc; Ex ATEX/IECEx
Data sheet and further information, see:	wago.com/750-645

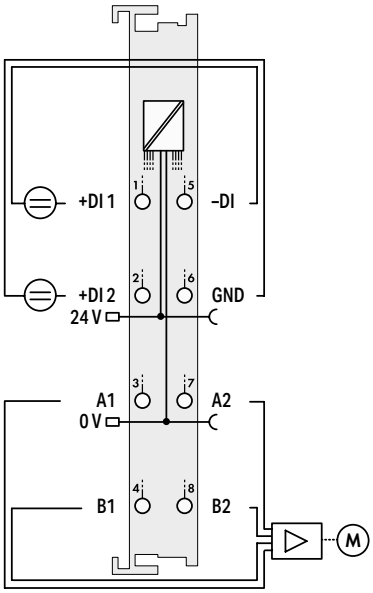
Accessories	Item No.
Tandem-piezo acceleration sensor	**750-925**

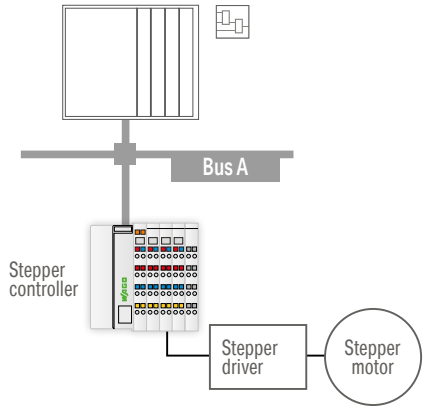
This module is used for online monitoring of machine vibration levels. It records the two key parameters required for condition monitoring: vibration velocity and bearing condition.
Vibration velocity is a measurement for machines' energy and therefore, a suitable indicator for the vibration forces acting 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





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; KC; cULus 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.

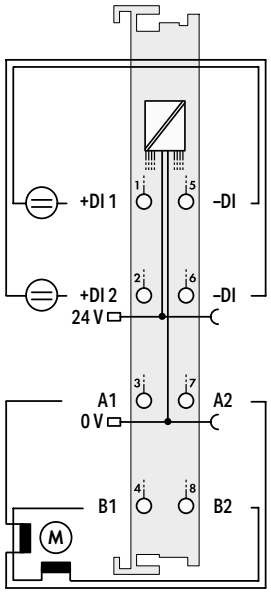
Versatile functions, such as positioning with different acceleration slopes, command tables, camshaft controller, auto referencing and other event-dependent properties provide this controller with a wide spectrum of possible uses.

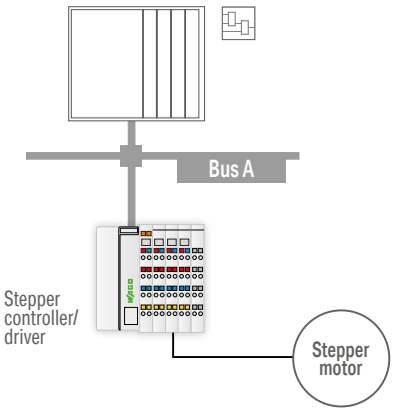
Operating modes:
- Step positioning
- Reference motion
- Jog
- Tip
- Command table
- Cam switch

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; KC; 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.

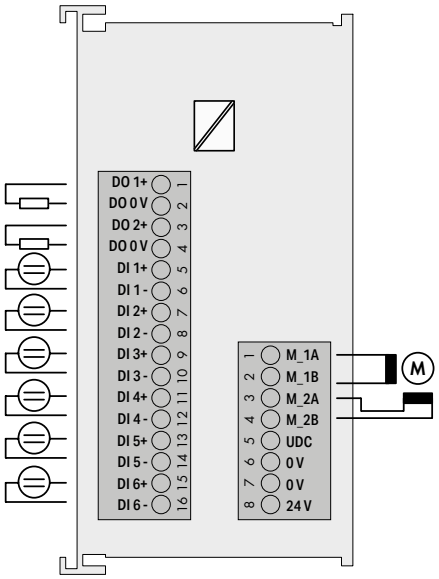
Operating modes:
- Step positioning
- Reference motion
- Jog
- Tip
- Command table
- Cam switch

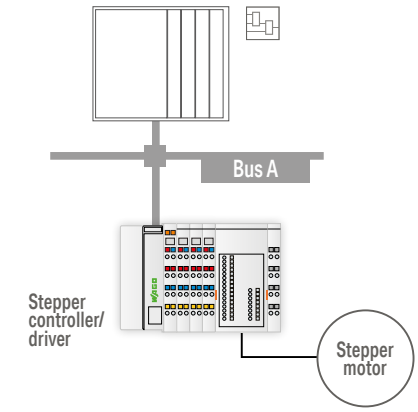
Functions include:
- Absolute/relative positioning
- Setpoint change on the fly
- Rotary axis

„ 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; 7.5A
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
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;
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)

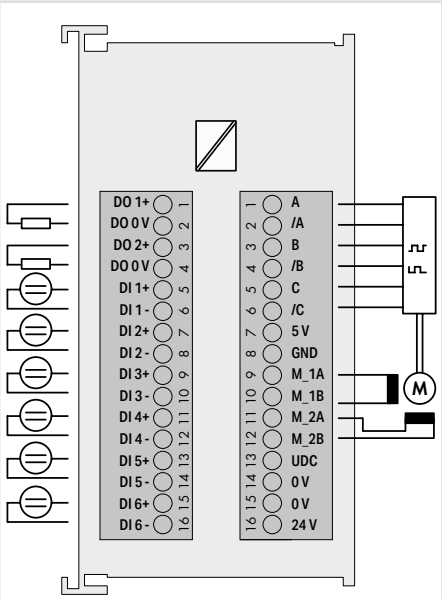
Outputs (default setting):
- Target reached
- Error

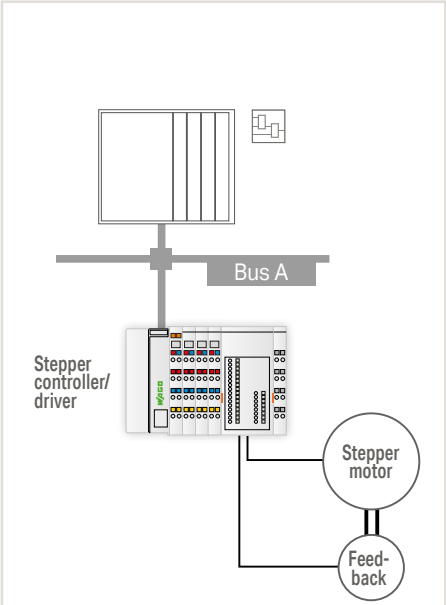
Operating modes:
- Single positioning with different acceleration ramps
- Reference motion
- Jog
- Tip
- Command table
- Cam switch

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





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; K
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

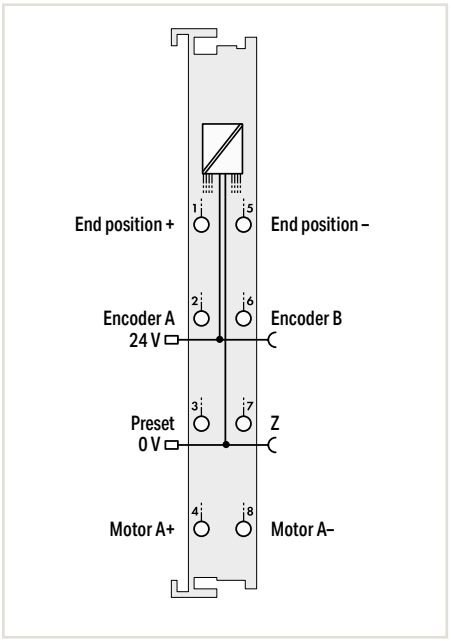
Protection:
- Short circuit monitoring of motor connections: Winding short circuit and short circuit to 0 V and 24 V
- 24 V supply: Reverse voltage protection
- Motor supply: Reverse voltage protection via external fuse

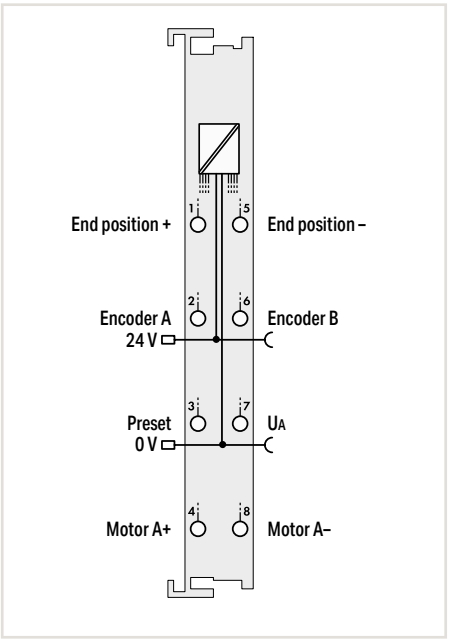
„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 522 or www.wago.com

DC Drive Controller

Figure: 750-636



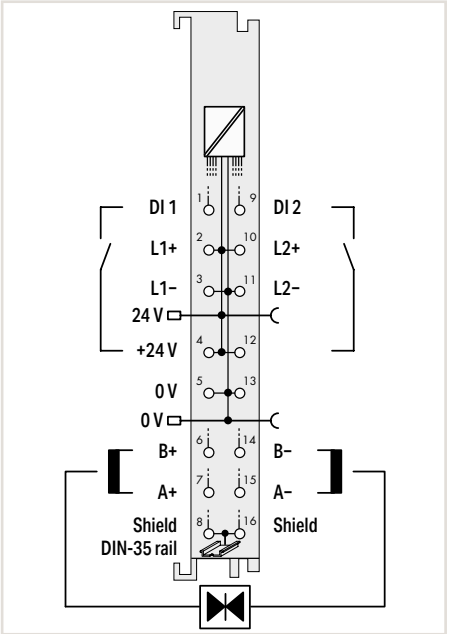


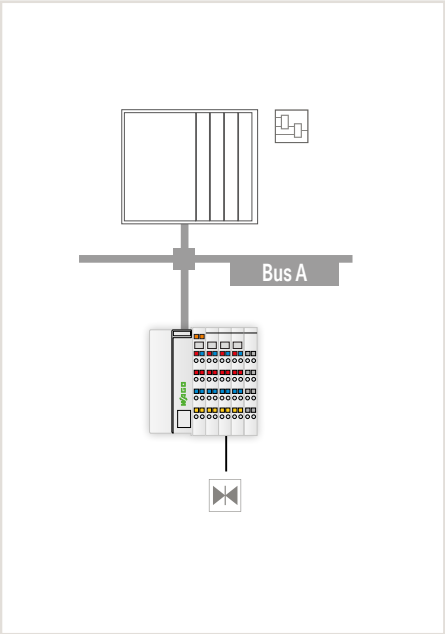
Item Description	DC Drive Controller; 24 VDC; 5 A		DC Drive Controller; 24 VDC; 5 A	
Version	**Standard**	**Extended temperature**	**Separate motor power supply**	**Interference-free**
Item No.	**750-636**	**750-636/025-000**	**750-636/000-700**	**750-636/000-800**
Order Text	DC-Drive Controller; 24 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; KC		CE; KC	
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 overload-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.

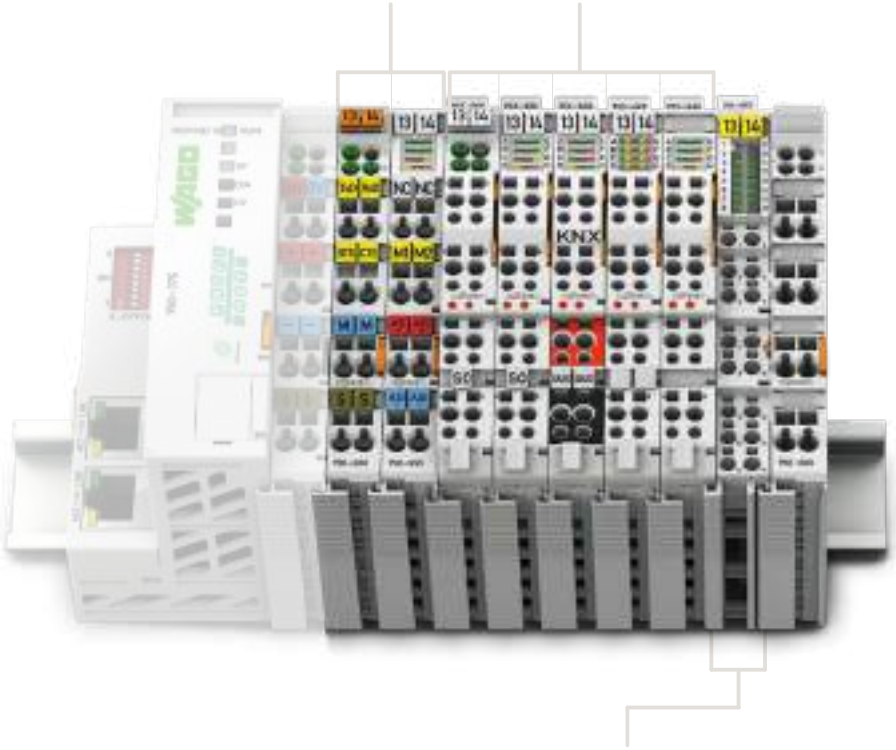
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ 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 and 753 Series, Communication Modules
Contents

Function	Description	Item Number			Page
		Standard	Extended Temperature	Pluggable	
Serial Interfaces	Serial Interface RS-232 C; 9600 baud	750-650		753-650	278
	Serial Interface RS-232 C; 9600 baud; 5 bytes	750-650/000-001			278
	Serial Interface RS-232 C; 9600 baud; Even; 7/2 bits	750-650/000-002			278
	Serial Interface RS-232 C; 9600 baud; Even; 8/1 bits	750-650/000-006			278
	Serial Interface RS-232 C; 19200 baud; None; 8/1 bits	750-650/000-010			279
	Serial Interface RS-232 C; 19200 baud; Even; 8/1 bits	750-650/000-011			279
	Serial Interface RS-232 C; 2400 baud; None; 8/1 bits	750-650/000-012			279
	Serial Interface RS-232 C; 4800 baud; Even; 8/1 bits; 5 bytes	750-650/000-015			279
	Serial Interface RS-232 C; Adjustable	750-650/003-000		753-650/003-000	279
	Serial Interface RS-485	750-653	750-653/025-018	753-653	280
	Serial Interface RS-485; 9600 baud; Even; 7/2 bits	750-653/000-001			280
	Serial Interface RS-485; 9600 baud; Even; 8/1 bits	750-653/000-002			280
	Serial Interface RS-485; 19200 baud; None; 8/1 bits; 5 bytes	750-653/000-006			281
	Serial Interface RS-485; 2400 baud; None; 8/1 bits	750-653/000-007			281
	Serial Interface RS-485; Adjustable	750-653/003-000	750-653/025-000	753-653/003-000	281
	Serial Interface RS-232/485	750-652*	750-652/025-000	753-652	282
	Serial TTY Interface; 9600 baud; None; 8/1 bits	750-651			283
	Serial TTY Interface; 9600 baud; Even; 8/1 bits	750-651/000-002			283
EnOcean	Radio Receiver EnOcean	750-642			284
KNX	KNX/EIB/TP1 Interface			753-646	285
DALI	DALI Multi-Master			753-647	286
LON®	LON® FTT Interface			753-648	287
MP-Bus	MP-Bus Master	750-643			288
M-Bus	M-Bus Master			753-649	289
SMI	SMI Master Module; for drives with 230 VAC			753-1630	290
	SMI Master Module; Low voltage			753-1631	290
AS-Interface Master	AS-Interface Master	750-655		753-655	291
IO-Link Master	IO-Link Master	750-657			292
CAN Gateway	CAN Gateway	750-658*			293
Data Exchange	Serial Data Exchange Interface	750-654			294

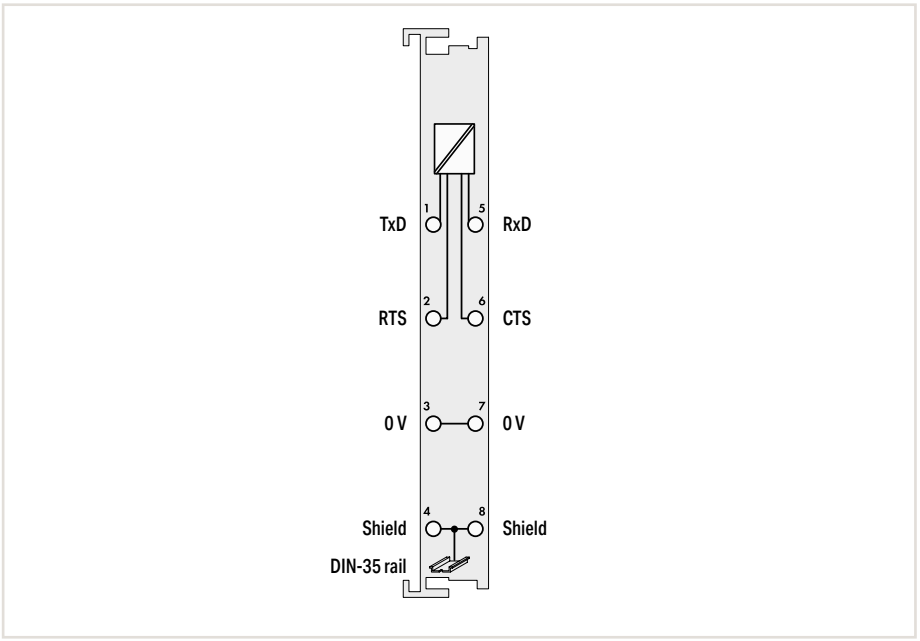
*This module is also available as a 750 XTR Series variant.

See Section 6

Serial Interface RS-232 C

Figure: 750-650

Figure: 753-650



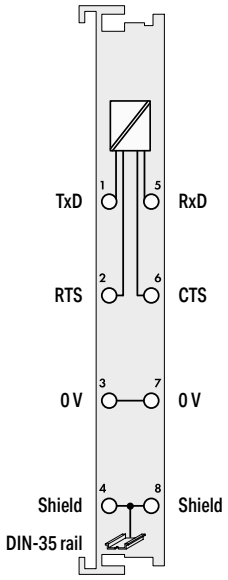
5.7

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 TxD / 1 RxD; 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

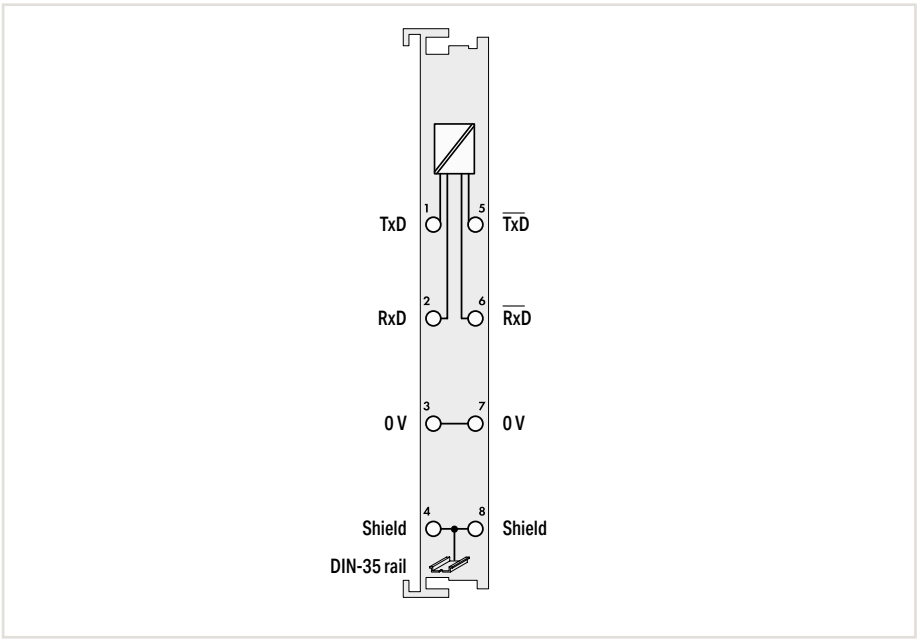
					•
RS-232					
1 TxD / 1 RxD; full-duplex					
4800 Bd	2400 Bd	19,200 Bd		1200 … 57,600 Bd	
Even	None		Even	None/even; adjustable	
8				7/8; adjustable	
1				1/2; adjustable	
120-byte input / 16-byte output					
5 VDC; via data contacts					
55 mA					
1 x 24-bit input/output (5-byte user data); 1 x 8-bit 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; KC; 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



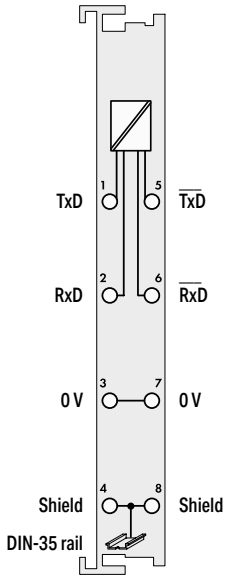
5.7

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; KC; Marine; cULus OrdLoc/HazLoc; Ex 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

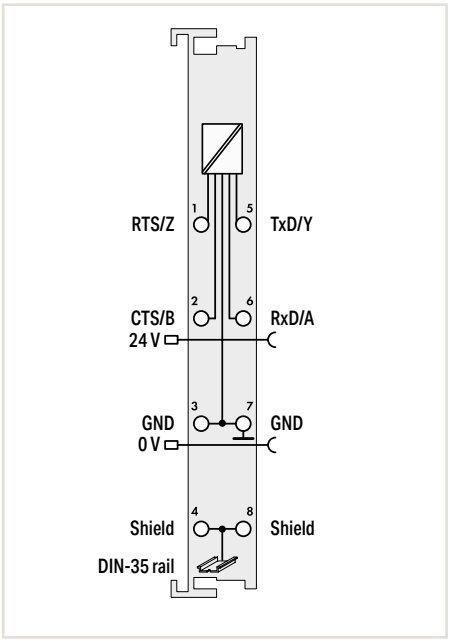
				•
RS-422/-485				
1 TxD / 1 RxD; full-duplex				
19,200 Bd	2400 Bd	1200 … 19,200 Bd		
None		None/even; adjustable		
8		7/8; adjustable		
1		1/2; adjustable		
120-byte input / 16-byte output				
5 VDC; via data contacts				
65 mA				
1 x 40-bit input/ output (5-byte user data); 1 x 8-bit control/ status	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



5.7

Item Description	Serial Interface RS-232/485		
Version	**Standard**	**Extended temperature**	**Pluggable** (delivery without connector)
Item No.	**750-652**	**750-652/025-000**	**753-652**
Order Text	RS232/485 Interface	RS232/485 Interface; T	RS232/485 Interface
Technical Data			
Pluggable connector			•
Signal type	RS-232 / RS-422 / RS-485		
Transmission channels	1 TxD / 1 RxD; full-duplex; half-duplex		
Baud rate	9600 Bd (default setting); 300 … 11,5200 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; 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)	85 mA		
Data width (internal)	8, 24 or 48 bytes (parameterizable)		
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/750-652		wago.com/753-652

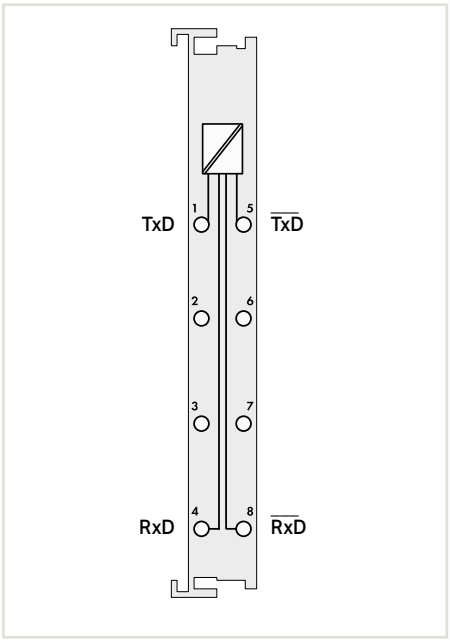
Accessories	Item No.
Pluggable connector	**753-110**
Coding keys	**753-150**

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

„ Approvals and corresponding ratings, see page 522 or www.wago.com

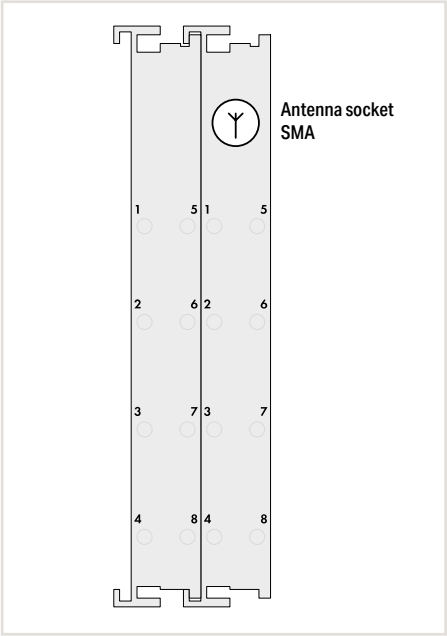
Serial TTY Interface

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		
Signal type	TTY; 20 mA	
Transmission channels	1 TxD / 1 RxD; full-duplex	
Baud rate	9600 Bd	
Load impedance	< 500 Ω	
Parity	None	Even
Number of data bits	8	
Number of stop bits	1	
Buffer	128-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	
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; KC; Marine; cULus OrdLoc/HazLoc	
Data sheet and further information, see:	wago.com/750-651	

Radio Receiver EnOcean



5.7

Item Description	Radio Receiver EnOcean
Version	**Standard**
Item No.	**750-642**
Order Text	Radio Receiver EnOcean

Technical Data	
Antenna	External via SMA socket
Frequency band	868.3 MHz
Transmission range	Up to 300 m in open field (30 m typical in buildings, see manual)*
Transmission protocol (radio telegram)	EnOcean
Supply voltage (system)	5 VDC; via data contacts
Current consumption – system supply (5 V)	80 mA
Data width (internal)	1 x 24-bit input/output (3-byte user data); 1 x 8-bit control/status
Surrounding air temperature (operation)	0 … +55 °C
Dimensions W x H x D	24 x 72 x 100 mm
Approvals	CE; KC; cULus OrdLoc/HazLoc; Ex ATEX/IECEx
Data sheet and further information, see:	wago.com/750-642

Accessories	Item No.	Page
External antenna	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.

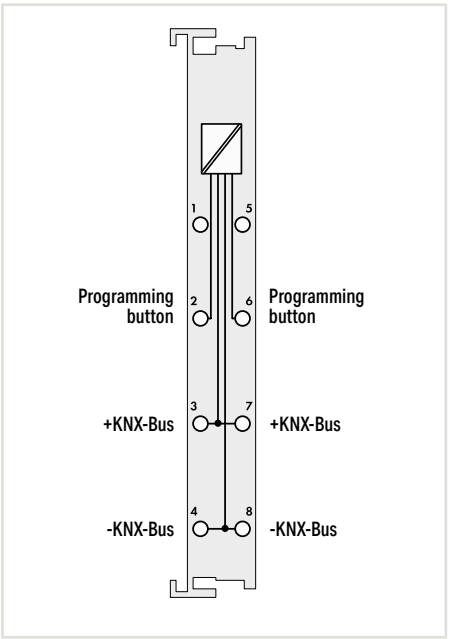
This radio receiver obtains radio telegrams from maintenance-free, self-powered and wireless switches/sensors based on EnOcean radio technology.
The energy required for switch or sensor operation is produced by converting one type of energy (heat, solar or mechanical energy) into usable electrical energy.
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; KC; Marine; cULus 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:

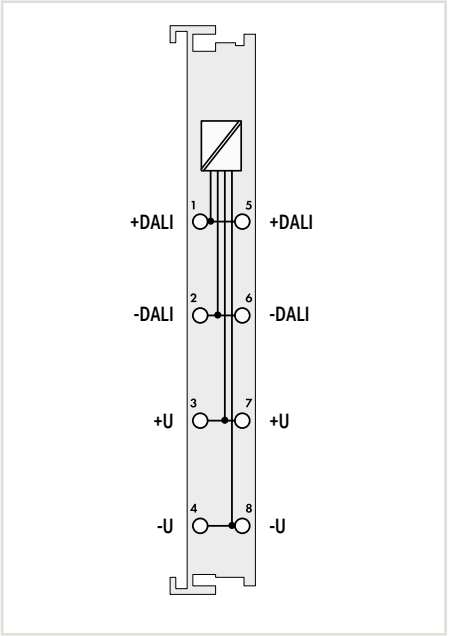
1. Device mode:
With this module, all programmable fieldbus controllers relevant for building automation can be connected to a KNX/TP1 network. The module is a standard KNX device and is linked via ETS3/4 Professional Commissioning Tool.

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



5.7

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; KC; Marine; cULus 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 voltage: 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.

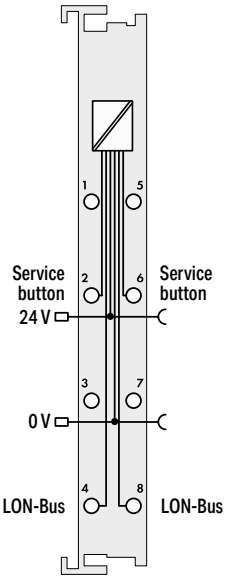
Alternatively, an “EASY Mode” allows lighting functions to be readily controlled without any PLC programming.

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



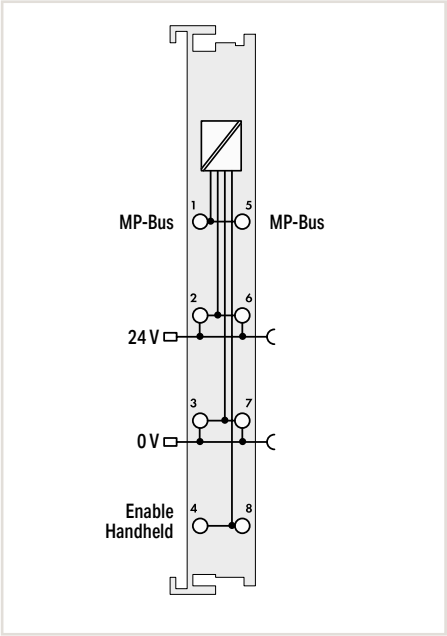
Item Description	LON® FTT Interface
Version	Pluggable
Item No.	753-648
Order Text	LON FTT Interface

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.

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; KC; cULus OrdLoc/HazLoc
Data sheet and further information, see:	wago.com/753-648

Accessories	Item No.
Pluggable connector	Included
Coding keys	Included

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; KC; cULus OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-643

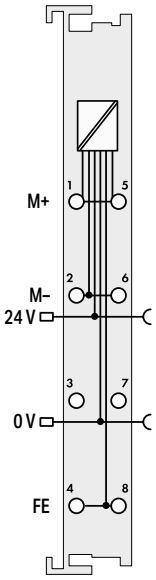
This module acts as a master for the MP bus (Multi-Point bus from Belimo/Switzerland) and allows the bus to be integrated into a higher level bus network. The MP-Bus controls HVAC actuators for dampers, regulator valves or VAV air volume controls.

The actuators have connections for active and passive sensors (temperature, humidity, ON/OF 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



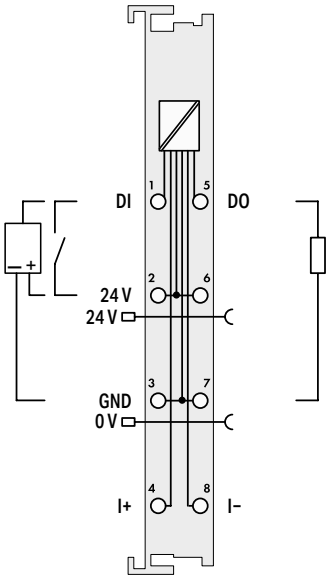
Item Description	M-Bus Master
Version	Pluggable
Item No.	753-649
Order Text	M-Bus Master

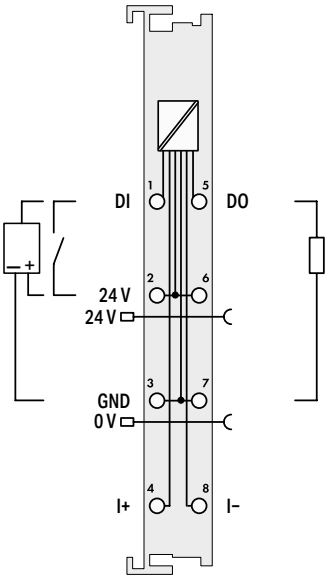
Technical Data	
Pluggable connector	•
Transmission channels	1; bidirectional
Baud rate	up to 1000 m at 9600 baud; up to 2000 m at 2400 baud; up to 6000 m at 300 baud
M-Bus loads (max.)	40 (1.5 mA each)
Topology	Star, tree and line topology
Supply voltage (field)	24 VDC (−2.5 … +5 %); via power jumper 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; KC	CE; KC
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

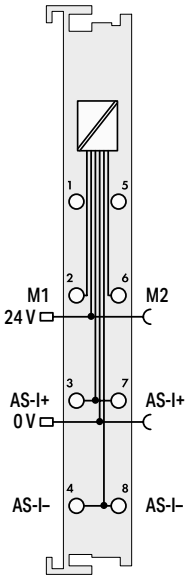
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

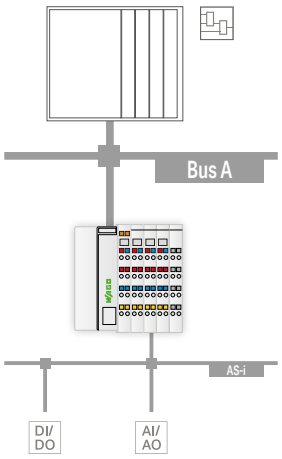
„ Approvals and corresponding ratings, see page 522 or www.wago.com

AS-Interface Master

Figure: 750-655

Figure: 753-655





Item Description	AS-Interface Master	
Version	**Standard**	**Pluggable** (delivery without connector)
Item No.	**750-655**	**753-655**
Order Text	AS-Interface Master	AS-Interface Master
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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx	
Data sheet and further information, see:	wago.com/750-655	wago.com/753-655

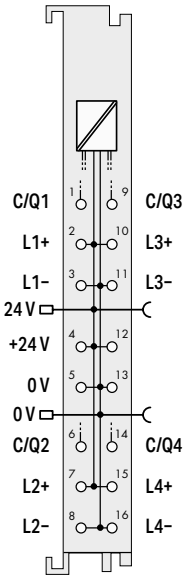
Accessories	Item No.
Pluggable connector	**753-110**
Coding keys	**753-150**

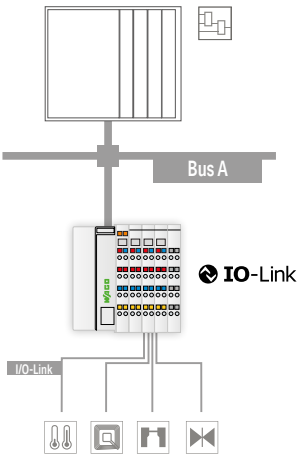
The AS-Interface Master Module connects AS-Interface devices to a higher-level fieldbus. It acts as a master for the AS-Interface and via the fieldbus coupler, as a slave for the fieldbus. The AS-i functions are provided both cyclically and acyclically via the fieldbus.

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

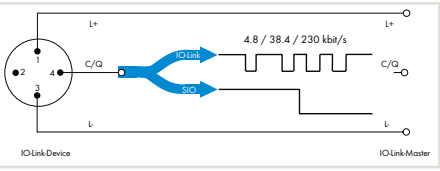




Item Description	IO-Link Master
Version	Standard with 16 connectors
Item No.	750-657
Order Text	IO-Link Master
Technical Data	
Number of I/O-Link ports	4
Baud rate	4.8 Kbit/s; 38.4 Kbit/s; 230.4 Kbit/s
Cable length	20 m
Supply voltage (field)	24 VDC (–15 … +20 %); via power jumper contacts (power supply 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; KC; UL 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.

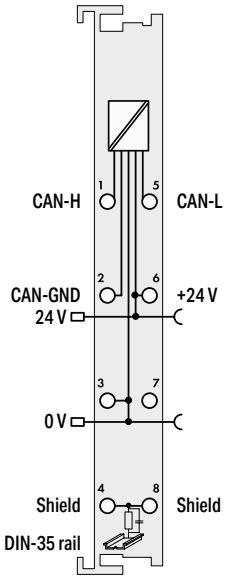
The functions and performance data are defined in device description files for master and devices; these are easy to customize via engineering tool. If a device must be replaced, the IO-Link devices' configuration and parameterization can be automatically restored without maintenance personnel. Project design, installation and operation are simplified!

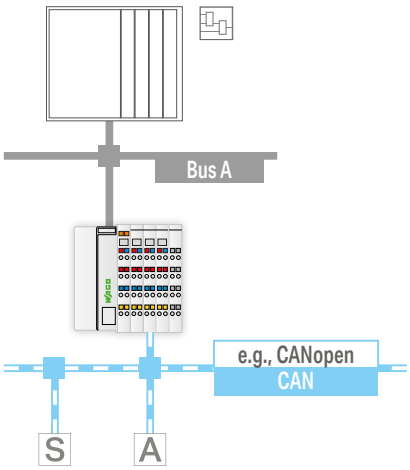


„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ Approvals and corresponding ratings, see page 522 or www.wago.com

CAN Gateway





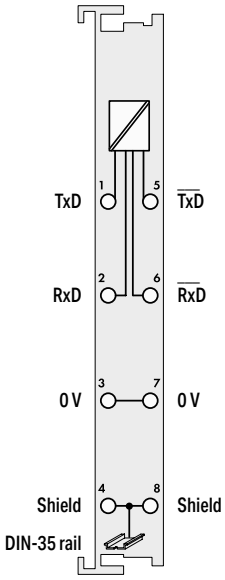
Item Description	CAN Gateway
Version	Standard
Item No.	750-658
Order Text	CAN Gateway
Technical Data	
Number of CAN interfaces	1
Baud rate	10 kbit/s; 20 kbit/s; 50 kbit/s; 125 kbit/s; 250 kbit/s; 500 kbit/s; 800 kbit/s (automatic baud rate)
Data formats	Per 2.0 A standard (11-bit ID); Per 2.0 B extended (29-bit ID)
Supply voltage (field)	24 VDC; via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption – system supply (5 V)	50 mA
Data transfer time	5 ms (at 32-bit I/O)
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 67.8 x 100 mm
Approvals	CE; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-658

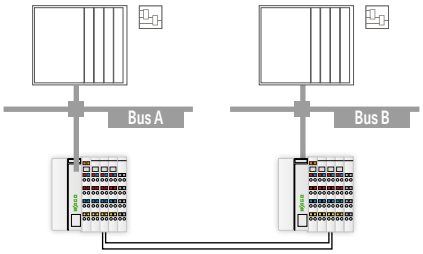
The CAN Gateway allows a CAN bus to be installed as a sub-bus beneath a fieldbus coupler or controller. It enables special sensors/actuators that are only available with the widely used CAN bus to also be integrated under other bus systems. Function blocks allow the gateway to read and write higher-protocol 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





5.7

Item Description	Serial Data Exchange Interface
Version	Standard
Item No.	750-654
Order Text	Data Exchange Interface
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; KC; Marine; cULus OrdLoc
Data sheet and further information, see:	wago.com/750-654

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.

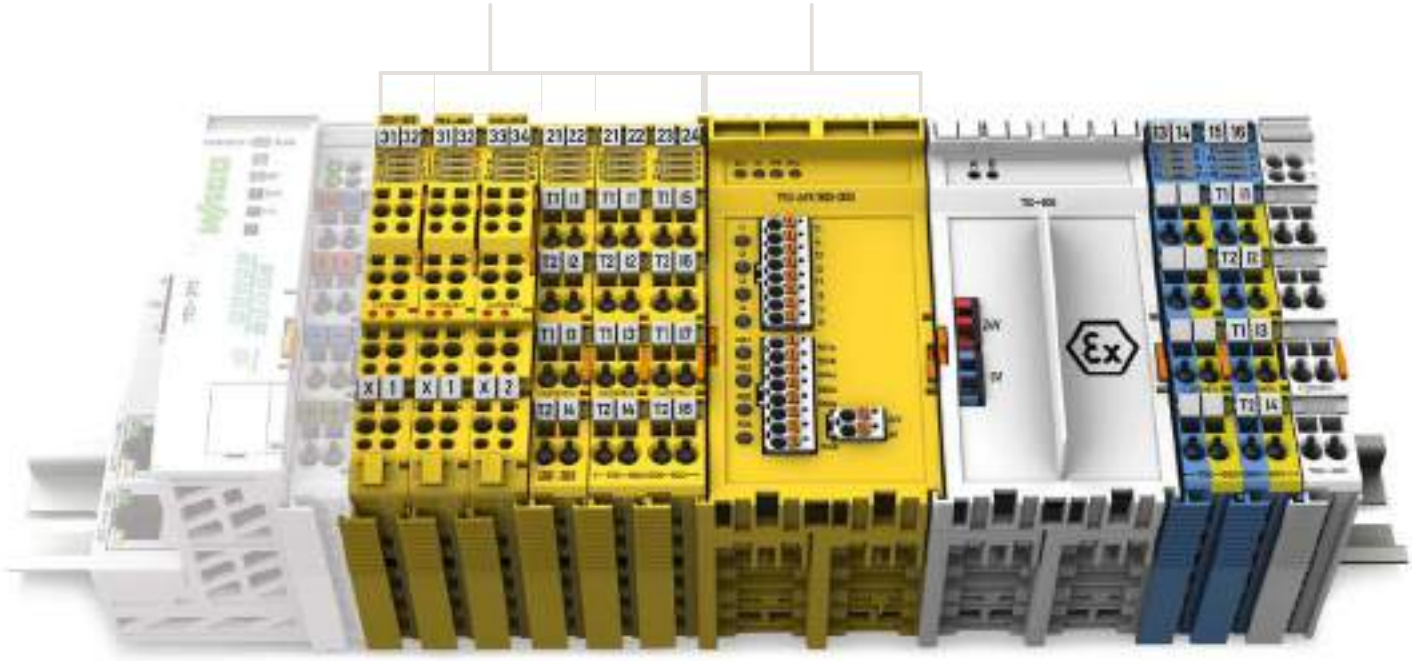
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ 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

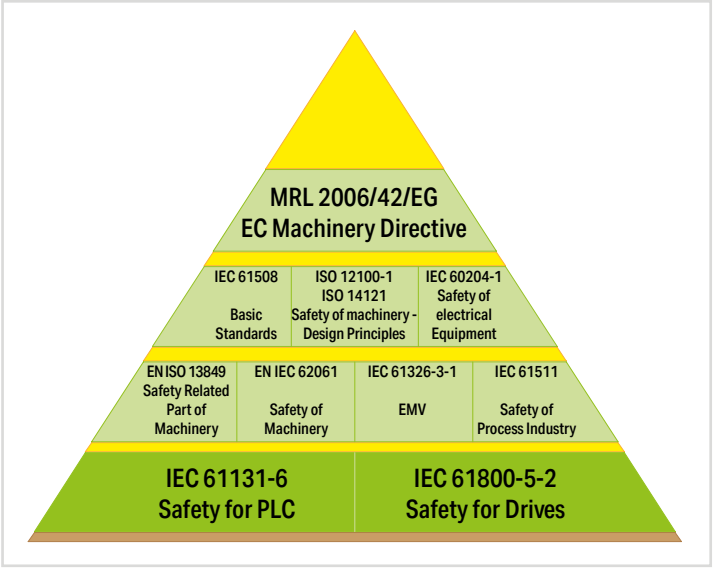


Functional Safety

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)

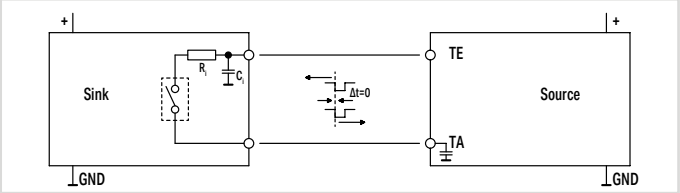
Fail-safe digital interfaces differ from conventional digital interfaces though higher safety testing for both inputs and outputs.
They include dynamic digital interfaces of different characteristics and functions. At first glance, the combination of inputs to outputs results in a variety of possible 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.

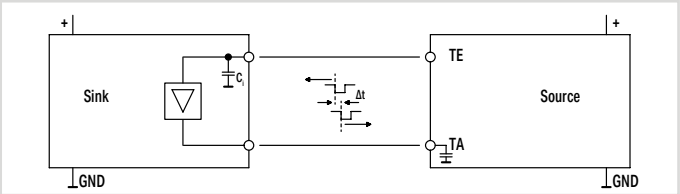
This paper provides a technical description for all interface types. No safety-related assessment is made.

The variety of possible combinations was divided into just four interface types:

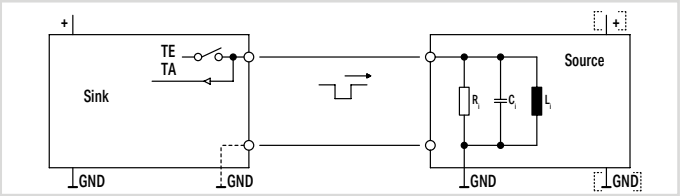
For both interface types C and D, four "performance" classes are also available to match the time requirements of the test pulses.



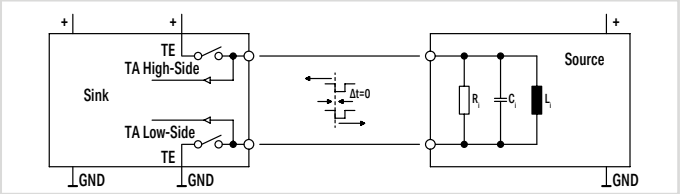
Interface type A



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										
					Measures							
Description	Item No.	Source/Sink	Interface type	Additional measures "M"	Parameterize filter time, short circuit test	Parameterize/switch off test pulse duration	Protected wiring	Sink/Source	Suitable interface type	Suitable interface type	Suitable interface type	Suitable interface type
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 kΩ	8.5 kΩ	-	2.4 kΩ	8.5 kΩ
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 kΩ	8.5 kΩ	-	2.4 kΩ	8.5 kΩ
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 kΩ	8.5 kΩ	-	2.4 kΩ	8.5 kΩ
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 kΩ	8.5 kΩ	-	2.4 kΩ	8.5 kΩ
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 µF	-	-	2.2 µF
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 µF	-	-	2.2 µF
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		

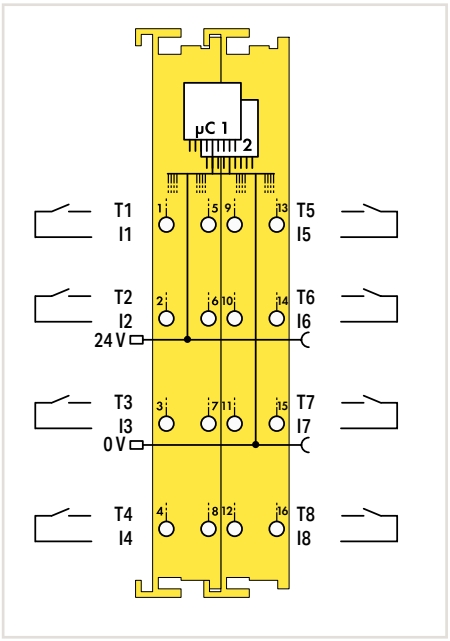
Interface Type D – Source, Class D1	Item: 75x-667/000-003		
Parameter	Min.	Typ.	Max.
Test pulse duration t_i	-	-	1 ms
Leakage current $I_{Leakage}$ of the output in the OFF state	-	-	1.2 mA
Nominal current I_N of the output in the ON state	20 mA	2 A	2.4 A
Capacitive load C_L	-	-	2.2 µF
Inductive load L_L	-	-	1.2 H
Additional measure “M”	• Parameterize test pulse duration to 1 ms		

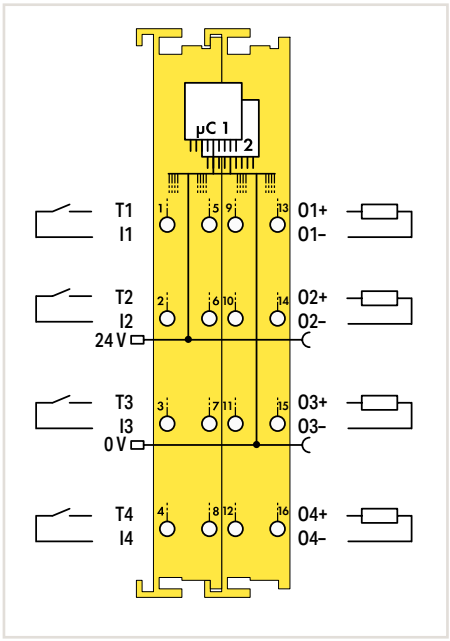
Interface Type D – Source, Class D1, D2, D3	Item: 75x-666/000-003			Item: 75x-667/000-003		
Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.
Test pulse duration t_i	-	-	-	-	-	-
Leakage current $I_{Leakage}$ of the output in the OFF state	-	-	<1 mA	-	-	1.2 mA
Nominal current I_N of the output in the ON state	20 mA	2 A	10 A	20 mA	2 A	2.4 A
Capacitive load C_L	-	-	10,000 µF	-	-	2.2 µF
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





5.8

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; KC; cULus OrdLoc/HazLoc; ATEX/IECEx	CE; KC; cULus OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-660/000-001	wago.com/750-665/000-001

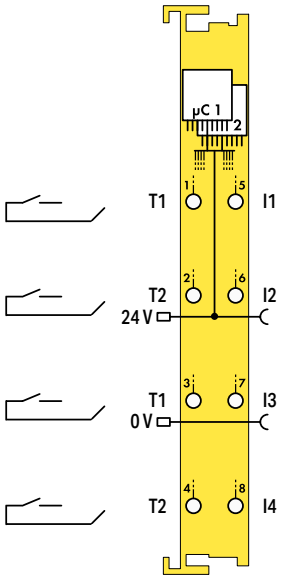
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

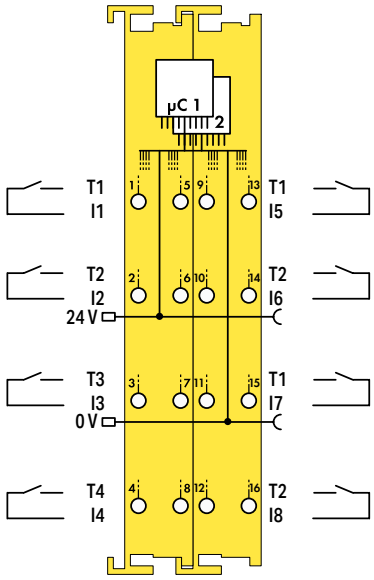
„ Approvals and corresponding ratings, see page 522 or www.wago.com

Fail-Safe Digital Input; 24 VDC; PROFIsafe V 2.0 iPar

Figure: 750-661/000-003

Figure: 750-662/000-003





5.8

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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx		CE; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx	
Data sheet and further information, see:	wago.com/750-661/000-003	wago.com/753-661/000-003	wago.com/750-662/000-003	wago.com/753-662/000-003

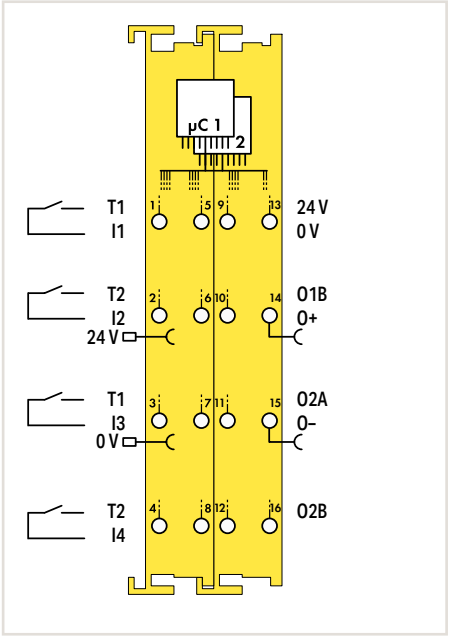
Accessories		Item No.		Item No.
Pluggable connector, safety		753-120		753-120
Coding keys		753-150		753-150

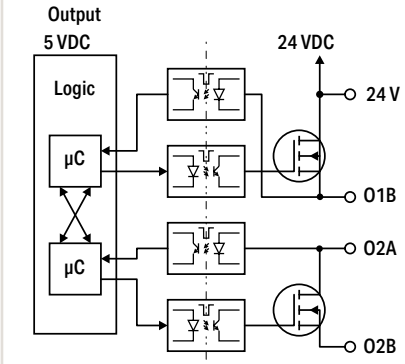
Support for iPar servers allows automatic parameter restoration when replacing an I/O module.

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	Fail-Safe Digital Input/Output, 4/2 Channels; 24 VDC; 10 A; PROFIsafe V 2.0 iPar	
Version	**Standard**	**Pluggable** (delivery without connector)
Item No.	**750-666/000-003**	**753-666/000-003**
Order Text	4FDI/2FDO; 24 VDC; 10A; PROFIsafe V2 iPar	4FDI/2FDO; 24 VDC; 10A; 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	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		Item No.
Pluggable connector, safety		753-120
Coding keys		753-150

„ Approvals and corresponding ratings, see page 522 or www.wago.com

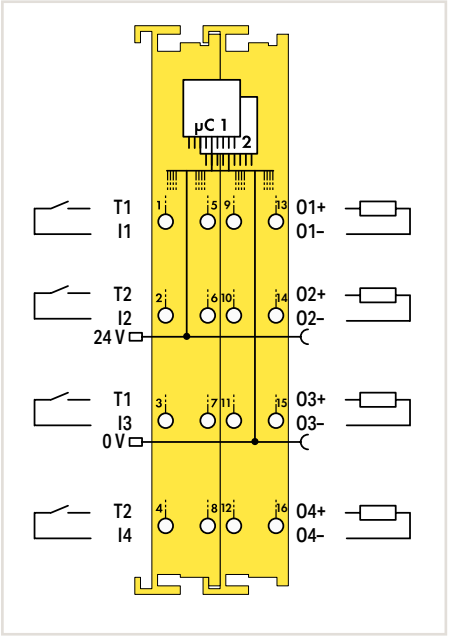
This module enables a fail-safe 2-channel switch-off (single failure protection) when the power outputs are used in a bipolar configuration. If a fail-safe 1-channel switch-off is adequate, two independent switching channels are available.
The module is capable of safely shutting off the supply voltage 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



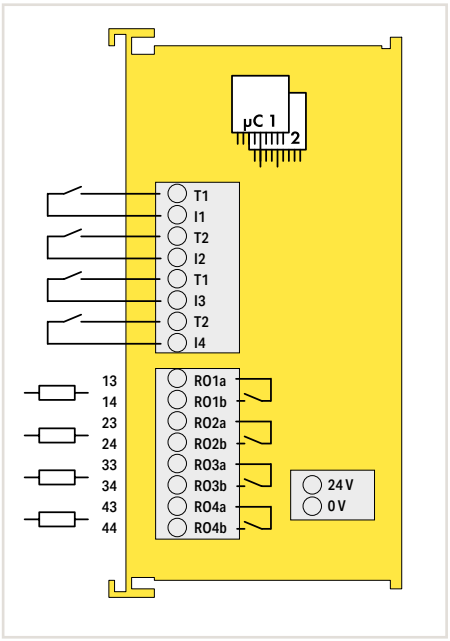
Item Description	Fail-Safe Digital Input/Output, 4/4 Channels; 24 VDC; 2 A; PROFIsafe V 2.0 iPar	
Version	**Standard**	**Pluggable** (delivery without connector)
Item No.	**750-667/000-003**	**753-667/000-003**
Order Text	4FDI/4FDO; 24 VDC; 2A; PROFIsafe V2 iPar	4FDI/4FDO; 24 VDC; 2A; PROFIsafe V2 iPar
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; KC; 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/PLe or SIL3 are possible.

Support for iPar servers allows automatic parameter restoration when replacing an I/O module.

Fail-Safe Digital Input/Relay Output, 4/4 Channels; 48 VAC/60 VDC; 6 A; PROFIsafe V 2.0 iPar



5.8

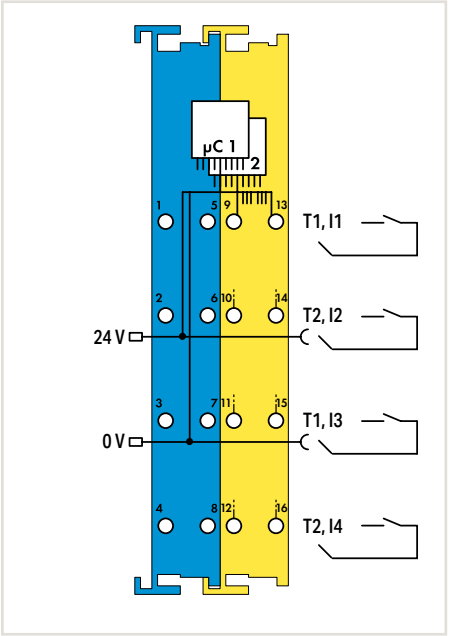
Item Description	Fail-Safe Digital Input/Relay Output, 4/4 Channels; 48 VAC/60 VDC; 6 A; PROFIsafe V 2.0 iPar
Item No.	**750-669/000-003**
Order Text	4FDI/4FRO; 48VAC/ 60VDC; 6A; PROFIsafe V2 iPar
Technical Data	
Number of digital inputs	4
Achievable safety classes	SIL 3; Cat. 4, PL e
Protocol	PROFIsafe 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;
Data sheet and further information, see:	wago.com/750-669/000-003

Support for iPar servers allows automatic parameter restoration when replacing an I/O module.

„ 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	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	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 = 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)	20 mA
Current consumption – system supply (5 V)	145 mA
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
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 V; I_o = 23 mA; P_o = 157 mW; Linear characteristic curve
Reactances Ex ia IIC	L_o = 61 mH; C_o = 64 nF
Reactances Ex ia IIB	L_o = 100 mH; C_o = 552 nF
Reactances Ex ia IIA	L_o = 100 mH; C_o = 2.28 µF
Reactances Ex ia I	L_o = 100 mH; C_o = 2.95 µF
Ex guideline	EN IEC 60079-0, -7, -11
Approvals	CE; KC; 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

5.8

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.

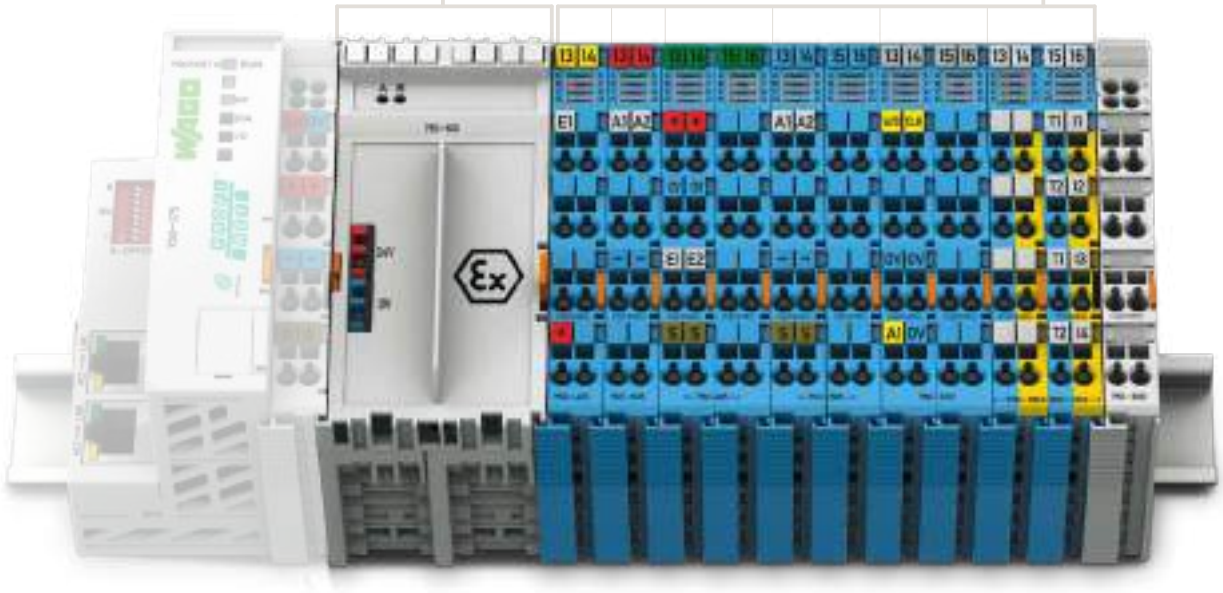
Support for iPar servers allows automatic parameter restoration when replacing an I/O module.

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

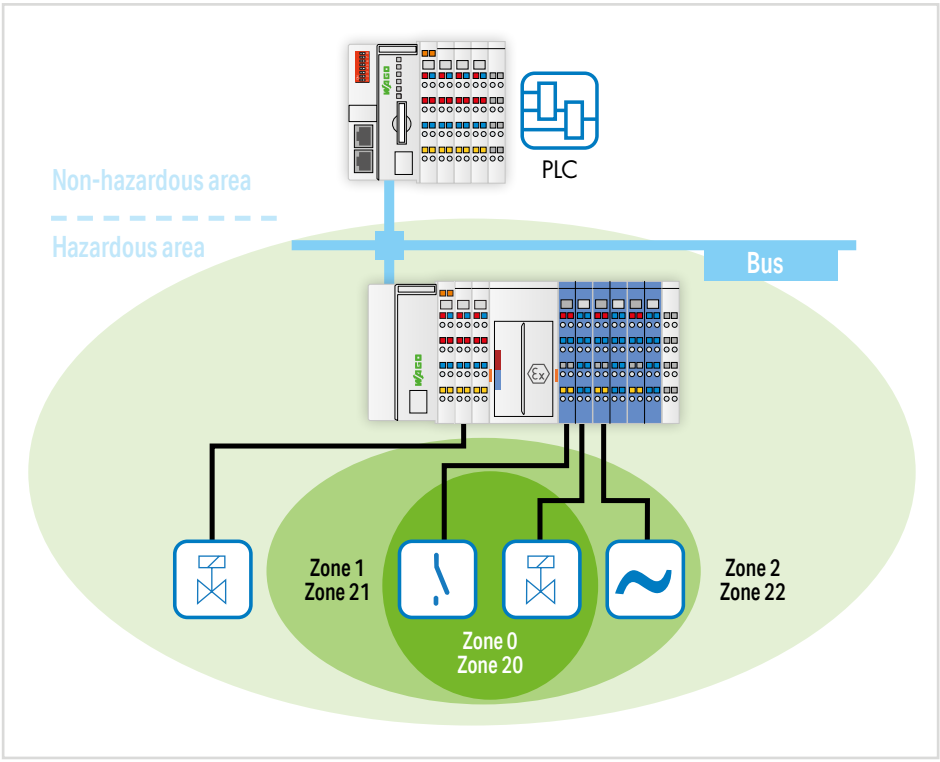
Housing Design (750 Series)	
Dimensions W x H x D	12 or 24 x 67.8 x 100 mm
Height from upper-edge of DIN-rail	60.6 mm
Connection technology	CAGE CLAMP®
Conductor cross section	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.33 inch



Use in Hazardous Areas

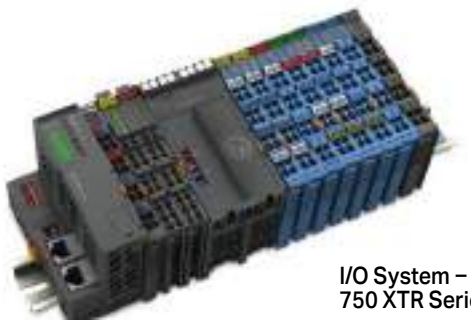
In many plants across the chemical and petrochemical industries, as well as in the production and process automation sectors, installations are operated that process explosive gas- or dust-air mixtures. This is why electrical equipment must be explosion-proof in order to avoid injuries to personnel and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

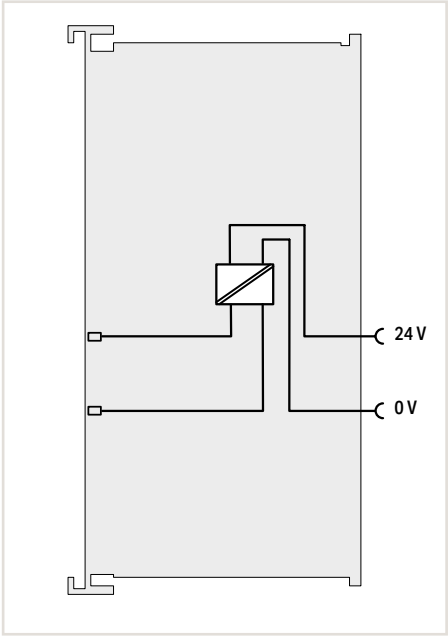
Function	Description	Item Number	Page
Power Supplies Ex i	Power Supply; 24 VDC; Diagnostics; Intrinsically safe	750-606*	310
	Power Supply; 24 VDC; Intrinsically safe	750-625/000-001	310
Digital Inputs Ex i for Proximity Sensors per EN 60947-5-6	1-Channel Digital Input; NAMUR; Intrinsically safe	750-435	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
	8-Channel Digital Input; NAMUR; Intrinsically safe	750-439*	313
Digital Outputs Ex i	2-Channel Digital Output; 24 VDC; Intrinsically safe	750-535*	314
	4-Channel Digital Output; 24 VDC; Valve; Intrinsically safe	750-539	314
	2-Channel Relay Output; Changeover contact; Potential-free; Intrinsically safe	750-538	315
Analog Inputs Ex i	2-Channel Analog Input; 4 … 20 mA; Intrinsically safe	750-485	316
	4-Channel Analog Input; 0/4 … 20 mA; NAMUR NE43; Intrinsically safe	750-486*	316
	2-Channel Analog Input; 4 … 20 mA HART; Intrinsically safe	750-484*	317
	2-Channel Analog Input; 4 … 20 mA HART; NAMUR NE43; Intrinsically safe	750-484/000-001	317
	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	

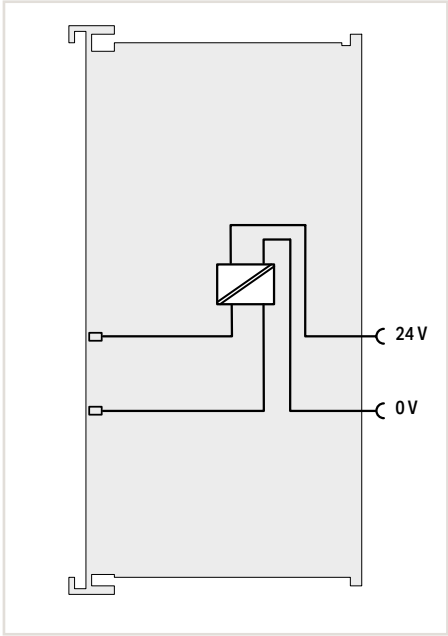


I/O System –
750 XTR Series

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 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 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 VDC; P_{max} = 29 W; U_m = 253 V	U_n = 24 VDC; P_{max} = 29 W; U_m = 253 V
Power supply (output)	U_o = 27.3 V (intrinsically safe output voltage per protection level ia); I_n = 1 A	U_o = 27.3 V (intrinsically safe output voltage per protection level ia); I_n = 1 A
Ex guideline	EN IEC 60079-0, -7, -11	EN IEC 60079-0, -7, -11
Approvals	CE; KC; Marine; cULus OrdLoc/HazLoc/AEx; ATEX/IECEx; INMETRO	CE; KC; Marine; cULus 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

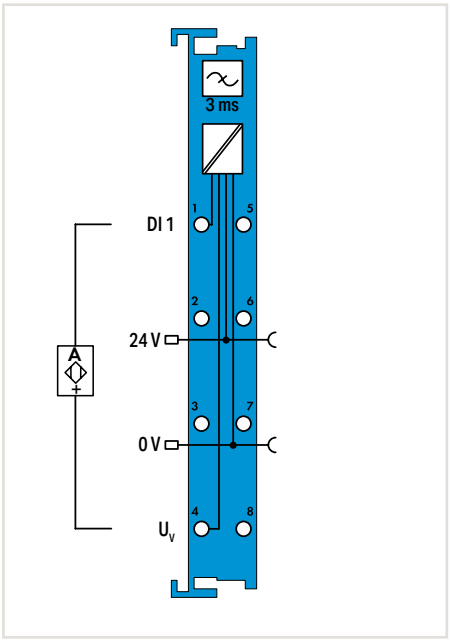
The supply modules monitor the voltage supply of the downstream intrinsically safe segment and separate the intrinsically safe from the non-intrinsically safe section of the I/O system. The input and output sides are electrically isolated from each other.
Note: If, due to load conditions, more than one 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!

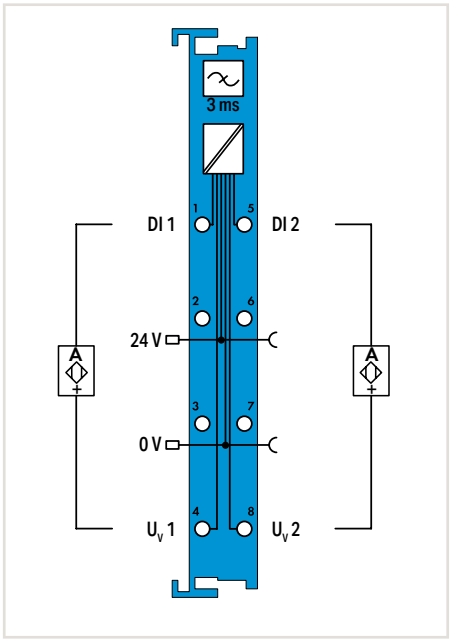
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ Approvals and corresponding ratings, see page 523, 518 or www.wago.com

Digital Input; NAMUR; Ex i

Figure: 750-435

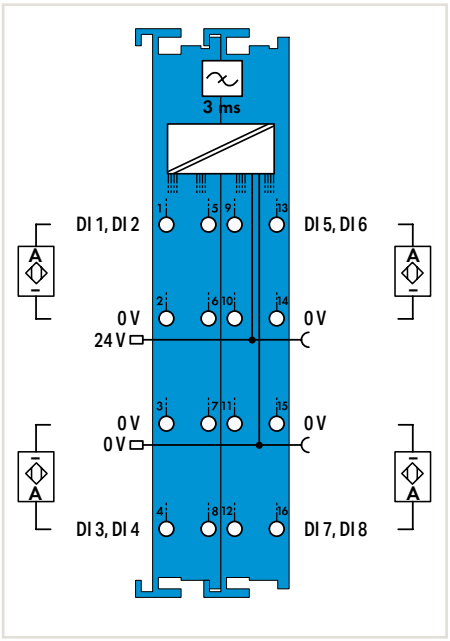




Item Description	1-Channel Digital Input; NAMUR; Intrinsically safe	2-Channel Digital Input; NAMUR; Intrinsically safe
Item No.	**750-435**	**750-438**
Order Text	1DI; NAMUR; Ex i	2DI; NAMUR; Ex i
Technical Data		
Number of digital inputs	1	2
Signal type	NAMUR	NAMUR
Sensor connection	2-wire	2-wire
Input 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_O = max. 27.3 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 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 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	12 x 67.8 x 100 mm	12 x 67.8 x 100 mm
Explosion Protection		
Safety-relevant data (circuit)	U_o = 12 V; I_o = 16 mA; P_o = 48 mW; Linear characteristic curve	U_o = 12 V; I_o = 13.5 mA; P_o = 40.5 mW; Linear characteristic curve
Reactances Ex ia IIC	L_o = 180 mH; C_o = 1.4 µF	L_o = 190 mH; C_o = 1.4 µF
Reactances Ex ia IIB	L_o = 560 mH; C_o = 9 µF	L_o = 600 mH; C_o = 9 µF
Reactances Ex ia IIA	L_o = 900 mH; C_o = 36 µF	L_o = 1 H; C_o = 36 µF
Reactances Ex ia I	L_o = 1 H; C_o = 38 µF	L_o = 1 H; C_o = 38 µF
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; KC; Marine; OrdLoc/HazLoc/AEx; ATEX/IECEx; INMETRO	CE; KC; 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	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/750-435	wago.com/750-438

5.9

Digital Input; NAMUR; Ex i



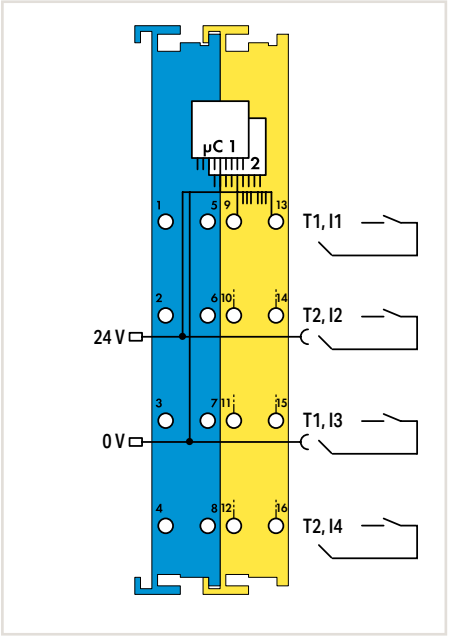
Item Description	8-Channel Digital Input; NAMUR; Intrinsically safe
Item No.	750-439
Order Text	8DI; NAMUR; Ex i
Technical Data	
Number of digital inputs	8
Signal type	NAMUR
Sensor connection	2-wire
Input characteristic	High-side switching
Input filter (digital)	3 ms
Open-circuit voltage	8.2 VDC
Diagnostics	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 = 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)	11 mA
Current consumption – system supply (5 V)	56 mA
Data width (internal)	16 bits
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 = 11.76 V; I_o = 12.4 mA; P_o = 36.67 mW; Linear characteristic curve
Reactances Ex ia IIC	L_o = 100 mH; C_o = 1 µF
Reactances Ex ia IIB	L_o = 100 mH; C_o = 9.9 µF
Reactances Ex ia IIA	L_o = 100 mH; C_o = 39 µF
Reactances Ex ia I	L_o = 100 mH; C_o = 30 µF
Ex guideline	EN IEC 60079-0, -7, -11
Approvals	CE; KC; Marine; cULus 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/750-439

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 = 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)	20 mA
Current consumption – system supply (5 V)	145 mA
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
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 V; I_o = 23 mA; P_o = 157 mW; Linear characteristic curve
Reactances Ex ia IIC	L_o = 61 mH; C_o = 64 nF
Reactances Ex ia IIB	L_o = 100 mH; C_o = 552 nF
Reactances Ex ia IIA	L_o = 100 mH; C_o = 2.28 µF
Reactances Ex ia I	L_o = 100 mH; C_o = 2.95 µF
Ex guideline	EN IEC 60079-0, -7, -11
Approvals	CE; KC; 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.

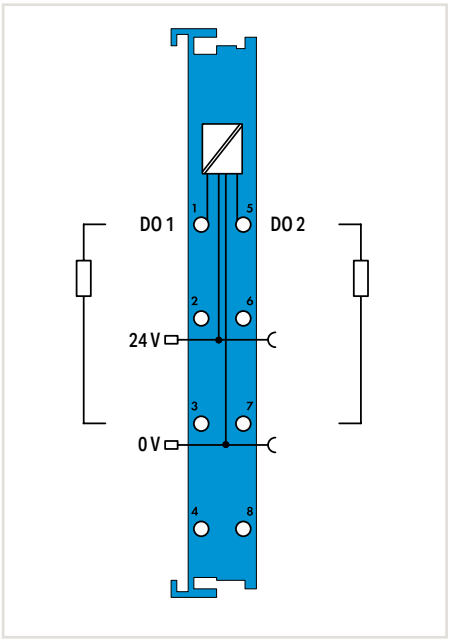
Support for iPar servers allows automatic parameter restoration when replacing an I/O module.

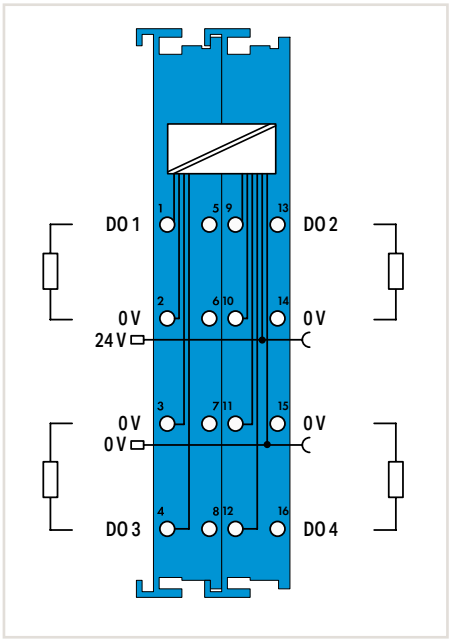
Reactances without accounting for the concurrence of capacitance (C_o) and inductance (L_o)

Digital Output; 24 VDC; Ex i

Figure: 750-535

Figure: 750-539



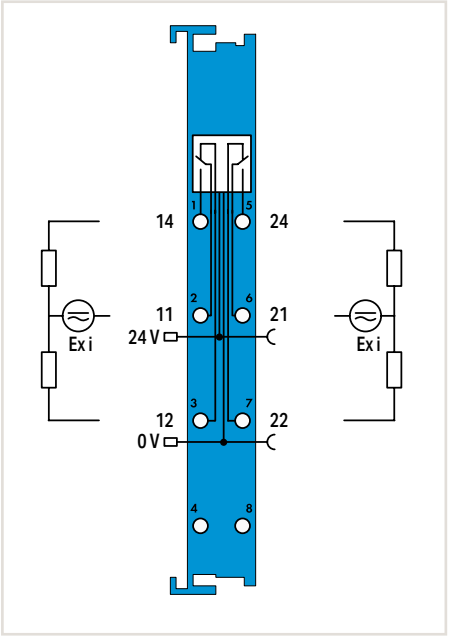


Item Description	2-Channel Digital Output; 24 VDC; Intrinsically safe	4-Channel Digital Output; 24 VDC; Valve; Intrinsically safe
Item No.	**750-535**	**750-539**
Order Text	2DO; 24 VDC; Ex i	4DO; 24 VDC; Valve; Ex i
Technical Data		
Number of digital outputs	2	4
Signal type	24 VDC	24 VDC
Output characteristic	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 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 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 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	12 x 67.8 x 100 mm	24 x 67.8 x 100 mm
Explosion Protection		
Safety-relevant data (circuit)	U_o = 27.3 V; I_o = 106 mA; P_o = 723 mW; Linear characteristic curve	U_o = 27.3 V; I_o = 117.5 mA; P_o = 800.1 mW; Linear characteristic curve
Reactances Ex ia IIC	L_o = 3 mH; C_o = 88 nF	L_o = 13 µH; C_o = 88 nF
Reactances Ex ia IIB	L_o = 12 mH; C_o = 680 nF	L_o = 8.1 mH; C_o = 683 nF
Reactances Ex ia IIA	L_o = 18 mH; C_o = 2.2 µF	L_o = 14 mH; C_o = 2.28 µF
Reactances Ex ia I	L_o = 20 mH; C_o = 3.6 µF	L_o = 21 mH; C_o = 3.6 µF
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; KC; Marine; OrdLoc/HazLoc/AEx; ATEX/IECEx; INMETRO	CE; KC; 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



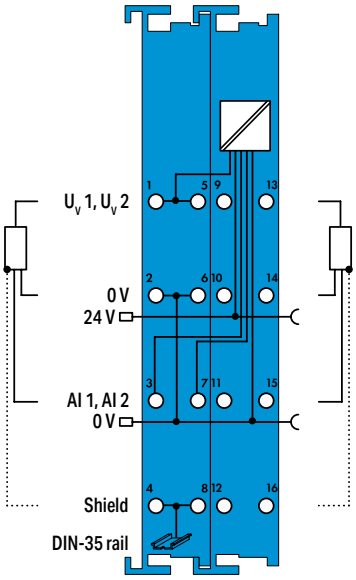
Item Description	2-Channel Relay Output; Changeover contact; Potential-free; Intrinsically safe
Item No.	750-538
Order Text	2RO; Changeover contacts; Pot-free; Ex i
Technical Data	
Number of digital outputs	2
Signal type	100 VAC; 30 VDC*
Output circuit design	Relay with 2 changeover contacts
Output characteristic	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; KC; 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/750-538

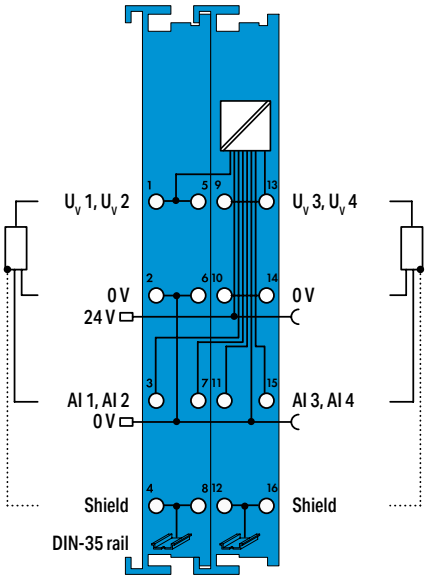
*Details on relay!
Both maximum switching current and voltage must comply with EN 60079-11.

5.9

Analog Input; 4 … 20 mA or 0/4 … 20 mA; Ex i

Figure: 750-486





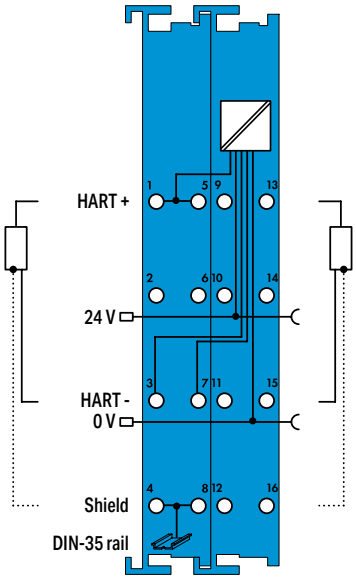
Item Description	2-Channel Analog Input; 4 … 20 mA; Intrinsically safe	4-Channel Analog Input; 0/4 … 20 mA; NAMUR NE43; Intrinsically safe
Item No.	**750-485**	**750-486**
Order Text	4AI; 4–20mA; Ex i	4AI; 0/4–20mA; NE43; Ex i
Technical Data		
Number of analog inputs	2	4
Signal type	4 … 20 mA	0 … 20 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 = max. 27.3 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 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 V at 20 mA	U_V = 15 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 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_o = 27.3 V; I_o = 90 mA; P_o = 0.61 mW; Linear characteristic curve	U_o = 27.3 V; I_o = 98.4 mA; P_o = 0.672 mW; Linear characteristic curve
Reactances Ex ia IIC	L_o = 5 mH; C_o = 88 nF	L_o = 970 µH; C_o = 88 nF
Reactances Ex ia IIB	L_o = 18 mH; C_o = 680 nF	L_o = 13 mH; C_o = 683 nF
Reactances Ex ia IIA	L_o = 40 mH; C_o = 2.2 µF	L_o = 22 mH; C_o = 2.28 µF
Reactances Ex ia I	L_o = 100 mH; C_o = 3.5 µF	L_o = 31 mH; C_o = 3.6 µF
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; KC; Marine; OrdLoc/HazLoc/AEx; ATEX/IECEx; INMETRO	CE; KC; 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

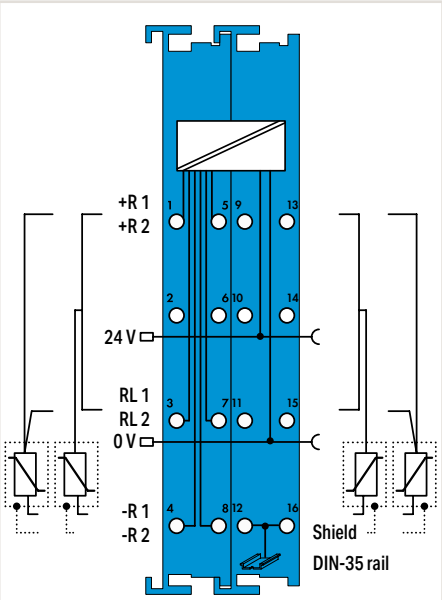


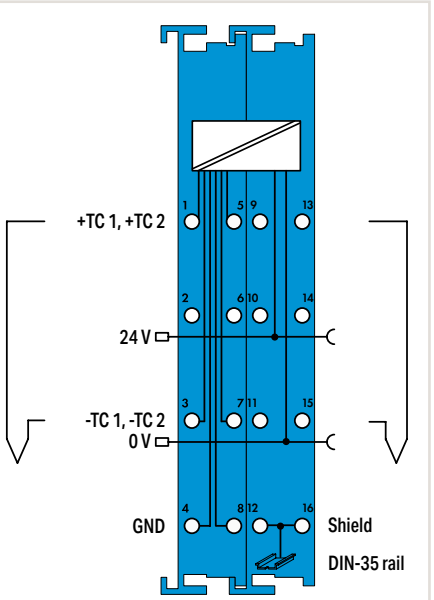
Item Description	2-Channel Analog Input; 4 … 20 mA HART; Intrinsically safe	2-Channel Analog Input; 4 … 20 mA HART; NAMUR NE43; Intrinsically safe
Item No.	**750-484**	**750-484/000-001**
Order Text	2AI; 4–20mA HART; Ex i	2AI 4–20 mA HART NAMUR NE43 Ex i
Technical Data		
Number of analog inputs	2	
Signal 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_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)	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_o = 27.3 V; I_o = 92.7 mA; P_o = 630 mW; Linear characteristic curve	
Reactances Ex ia IIC	L_o = 1.5 mH; C_o = 87 nF	
Reactances Ex ia IIB	L_o = 15 mH; C_o = 670 nF	
Reactances Ex ia IIA	L_o = 38 mH; C_o = 2.2 µF	
Reactances Ex ia I	L_o = 36 mH; C_o = 3.49 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	CE; 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	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

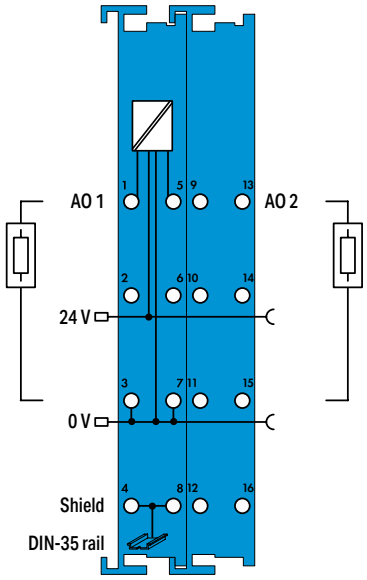




Item Description	2-Channel Analog Input; Resistance measurement; Intrinsically safe	2-Channel Analog Input; Thermocouple; Intrinsically safe
Item No.	750-481/003-000	750-487/003-000
Order Text	2AI; RTD; Ex i	2AI; TC; Ex i
Technical Data		
Number of analog inputs	2	2
Signal type	Resistance thermometers: 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_O = max. 27.3 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 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_o = 7.2 V; I_o = 5.8 mA; P_o = 10.5 mW; Linear characteristic curve	U_o = 14.4 V; I_o = 29.1 mA; P_o = 52.4 mW; Linear characteristic curve
Reactances Ex ia IIC	L_o = 0.9 H; C_o = 13.5 µF	L_o = 52 mH; C_o = 650 nF
Reactances Ex ia IIB	L_o = 1 H; C_o = 240 µF	L_o = 100 mH; C_o = 4.0 µF
Reactances Ex ia IIA	L_o = 1 H; C_o = 1000 µF	L_o = 300 mH; C_o = 15.8 µF
Reactances Ex ia I	L_o = 1 H; C_o = 1000 µF	L_o = 400 mH; C_o = 17.9 µF
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; KC; Marine; OrdLoc/HazLoc/AEx; ATEX/IECEx; INMETRO	CE; KC; 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	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/750-481/003-000	wago.com/750-487/003-000

Analog Output; 0 … 20 mA or 4 … 20 mA; Ex i

Figure: 750-585



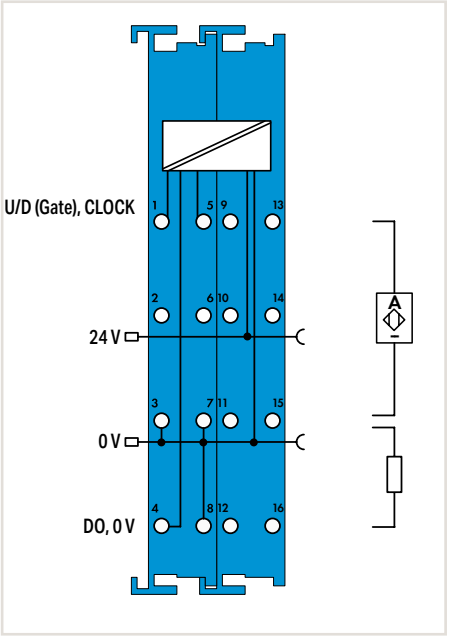
Item Description	2-Channel Analog Output; 0 … 20 mA; Intrinsically safe	2-Channel Analog Output; 4 … 20 mA; Intrinsically safe
Item No.	**750-585**	**750-586**
Order Text	2AO; 0–20mA; Ex i	2AO; 4–20mA; Ex i
Technical Data		
Number of analog outputs	2	
Signal type	0 … 20 mA	4 … 20 mA
Signal characteristic	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; KC; 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 = 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)	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 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 V; I_o = 13.5 mA; P_o = 40.5 mW; Linear characteristic curve
Input reactances Ex ia IIC	L_o = 100 mH; C_o = 1.4 µF
Input reactances Ex ia IIB	L_o = 100 mH; C_o = 9 µF
Input reactances Ex ia IIA	L_o = 100 mH; C_o = 36 µF
Input reactances Ex ia I	L_o = 100 mH; C_o = 38 µF
Safety data – output	U_o = 27.3 V; I_o = 103 mA; P_o = 703 mW; Linear characteristic curve
Output reactances Ex ia IIC	L_o = 0.5 mH; C_o = 88 nF
Output reactances Ex ia IIB	L_o = 10 mH; C_o = 683 nF
Output reactances Ex ia IIA	L_o = 18 mH; C_o = 2.2 µF
Output reactances Ex ia I	L_o = 26 mH; C_o = 3.6 µF
Ex guideline	EN IEC 60079-0, -7, -11
Approvals	CE; KC; 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)

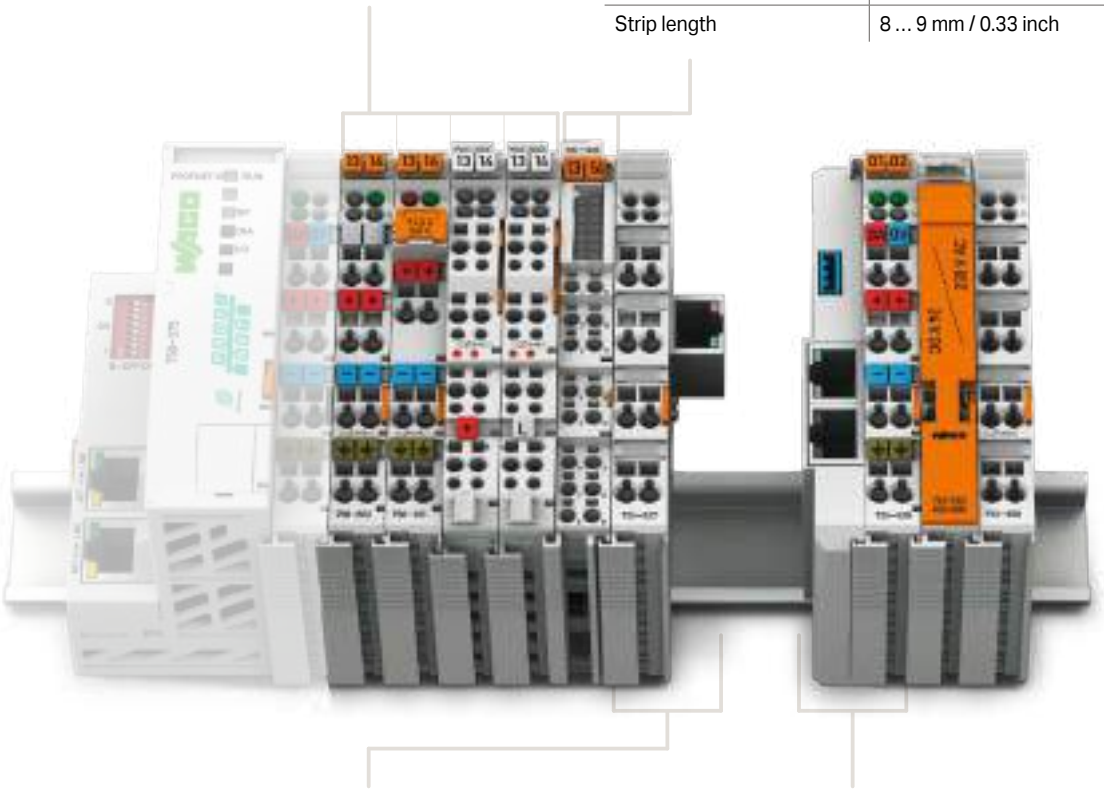
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ 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

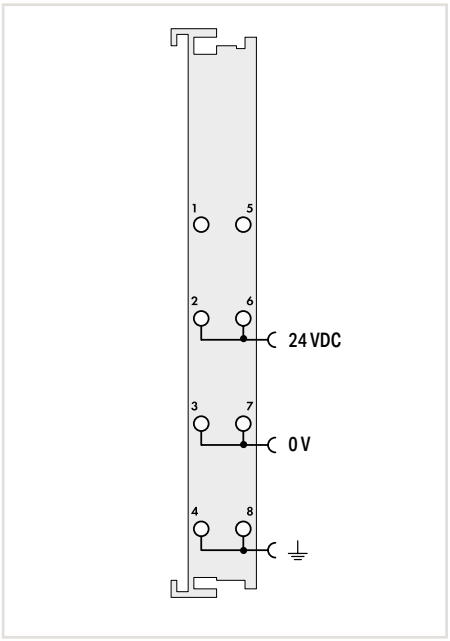
I/O System – 750 and 753 Series, Supply/Segment Modules
Contents

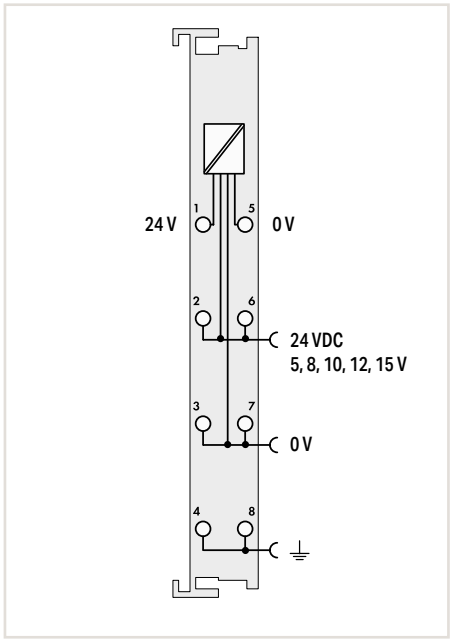
Function	Description	Item Number			Page
		Standard	Extended Temperature	Pluggable	
Power Supply 24 VDC	Power Supply; 24 VDC	750-602*	750-602/025-000	753-602	324
	Power Supply; 24 VDC/5 … 15 VDC	750-623			324
	Power Supply; 24 VDC; Fuse holder	750-601*			325
	Power Supply; 24 VDC; Fuse holder; Diagnostics	750-610*			325
24 VDC with Bus Power Supply	System Power Supply; 24 VDC	750-613*			326
230 VAC/DC	Power Supply; 0 … 230 VAC/DC	750-612*		753-612	327
24 VAC	Power Supply; 24 VAC; Fuse holder	750-617			328
120 VAC	Power Supply; 120 VAC; Fuse holder	750-615			328
230 VAC	Power Supply; 230 VAC; Fuse holder	750-609			329
	Power Supply; 230 VAC; Fuse holder; Diagnostics	750-611			329
DALI Multi-Master DC/DC Converter	DALI Multi-Master DC/DC Converter			753-620	330
Potential Distribution	Potential Distribution	750-614*		753-614	331
	Potential Distribution; 8x 24 V	750-603		753-603	332
	Potential Distribution; 8x 0 V	750-604		753-604	332
	Potential Distribution; 16x 24 V	750-1605*			333
	Potential Distribution; 16x 0 V	750-1606*			333
	Potential Distribution; 8x 24 V/8x 0 V	750-1607			333
Filter Modules	Field Supply Filter (Surge); 24 VDC; Higher isolation	750-624/020-000*			334
	Field Supply Filter (Surge); 24 VDC; Higher isolation; Without power jumper contacts	750-624/020-001*			334
	Field Supply Filter (Surge); 24 VDC; Higher isolation; Ground fault diagnostics	750-624/020-002			334
	Field Supply Filter (Surge); 24 VDC	750-624			335
	Field Supply Filter (Surge); 24 VDC; Without power jumper contacts	750-624/000-001			335
	Supply Filter; 24 VDC; Higher isolation	750-626/020-000*	750-626/025-001		336
	Supply Filter; 24 VDC; Higher isolation; Ground fault diagnostics	750-626/020-002			336
	Supply Filter; 24 VDC	750-626	750-626/025-000		337
Local Bus Extension	Bus Extension End Module	750-627			338
	Bus Extension Coupler Module	750-628			338
Spacer Modules	Binary Spacer Module	750-622			339
	Spacer Module; Active			753-1629	340
	Spacer Module; Active; Without power jumper contacts			753-1629/000-001	340
	Spacer Module; Passive			753-629/020-000	340
Distance Modules	Distance Module	750-616*			341
	Distance Module; 24 VDC/230 VAC	750-616/030-000			341
	Distance Module	750-621			341
End Module	End Module	750-600*	750-600/025-000		342
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; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx			CE; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-602		wago.com/753-602	wago.com/750-623

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.

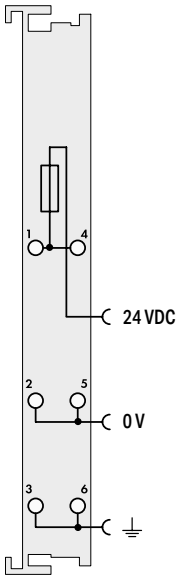
This I/O module converts the applied supply voltage to a value selected via DIP switch and provides it to the field devices connected to the downstream I/O modules.

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

„ Approvals and corresponding ratings, see page 523 or www.wago.com

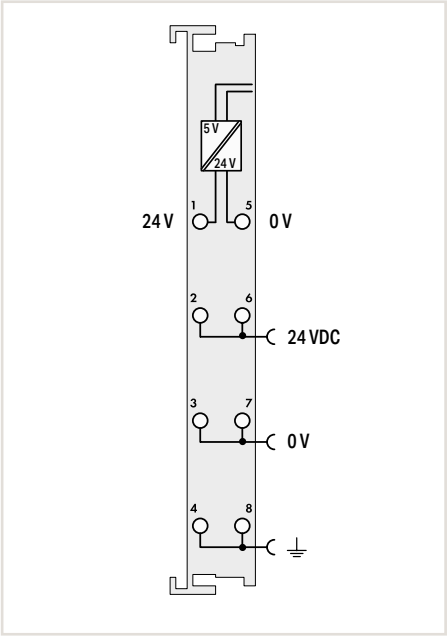
Power Supply; 24 VDC

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; KC; 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; 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.

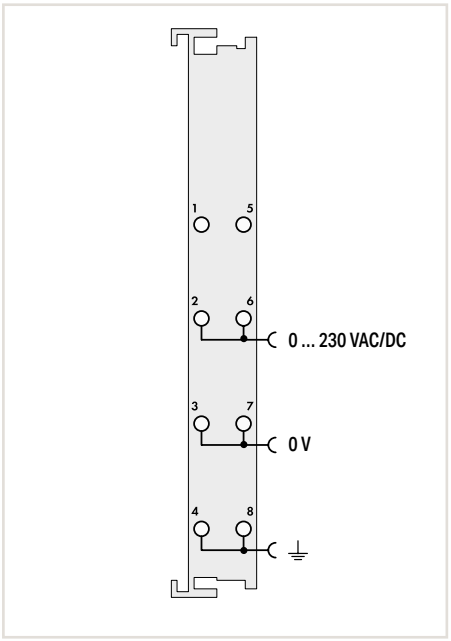
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ Approvals and corresponding ratings, see page 523 or www.wago.com

Power Supply; 0 … 230 VAC/DC

Figure: 750-612

Figure: 753-612



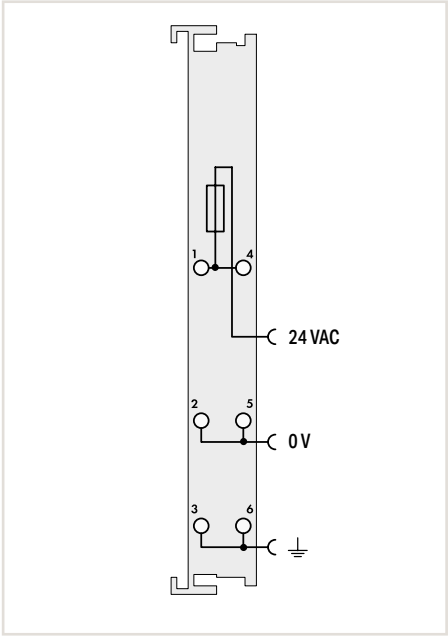
Item Description	Power Supply; 0 … 230 VAC/DC	
Version	Standard	Pluggable (delivery without connector)
Item No.	750-612	753-612
Order Text	Power Supply; 0–230 VAC/DC	Power Supply; 0–230 VAC/DC
Technical Data		
Pluggable connector		•
Supply voltage (field)	0 … 230 VAC/DC (–15 … +10 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact)	
Current carrying capacity (power jumper contacts)	10 A	
Surrounding air temperature (operation)	0 … +55 °C	
Dimensions W x H x D	12 x 69.8 x 100 mm	
Approvals	CE; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx	
Data sheet and further information, see:	wago.com/750-612	wago.com/753-612

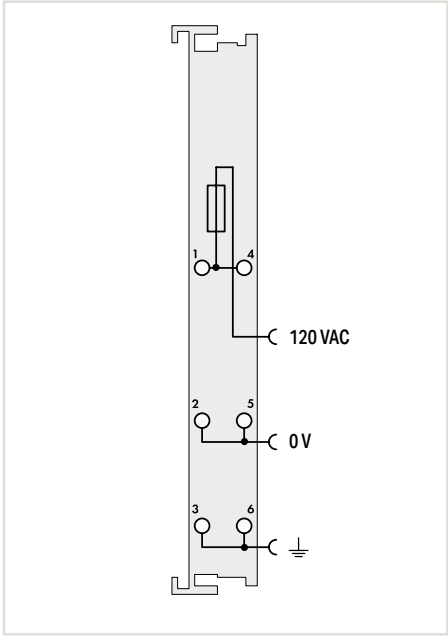
Accessories	Item No.
Pluggable connector	753-110
Coding keys	753-150

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	Power Supply; 24 VAC; Fuse holder	Power Supply; 120 VAC; Fuse holder
Version	Standard	Standard
Item No.	750-617	750-615
Order Text	Power Supply; 24 VAC; Fuse	Power Supply; 120 VAC; Fuse
Technical Data		
Supply voltage (field)	24 VAC; via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact)	120 VAC; via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact)
Current carrying capacity (power jumper contacts)	6.3 A	6.3 A
Fuse	5 x 20; T max. 6.3 A (not included)	5 x 20; T max. 6.3 A (not included)
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; KC; cULus OrdLoc	CE; KC; cULus OrdLoc/HazLoc; Ex ATEX/IECEx
Data sheet and further information, see:	wago.com/750-617	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.

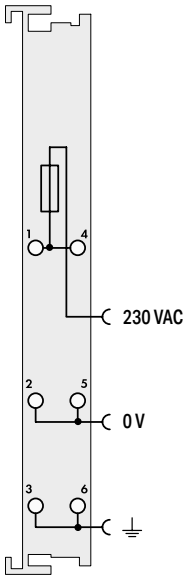
This I/O module provides the applied supply voltage, protected by fuse, to the field devices connected to downstream I/O modules. A blown fuse is indicated by an LED.

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

„ Approvals and corresponding ratings, see page 523 or www.wago.com

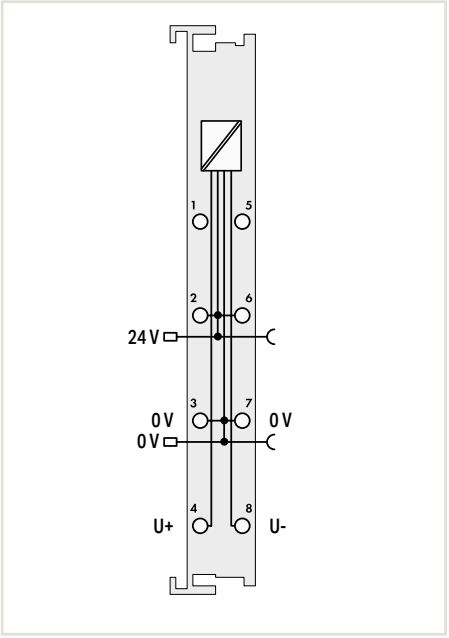
Power Supply; 230 VAC

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; KC; 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	DALI Multi-Master DC/DC Converter
Version	Pluggable (delivery without connector)
Item No.	753-620
Order Text	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; KC; Marine; cULus OrdLoc
Data sheet and further information, see:	wago.com/753-620

Accessories	Item No.
Pluggable connector	753-110
Coding keys	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.

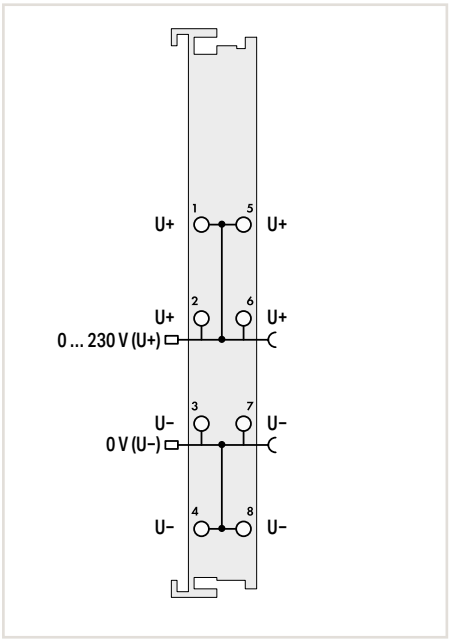
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ Approvals and corresponding ratings, see page 523 or www.wago.com

Potential Distribution

Figure: 750-614

Figure: 753-614



Item Description	Potential Distribution	
Version	**Standard**	**Pluggable (delivery without connector)**
Item No.	**750-614**	**753-614**
Order Text	Potential Distribution	Potential Distribution
Technical Data		
Pluggable connector		•
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	
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/750-614	wago.com/753-614

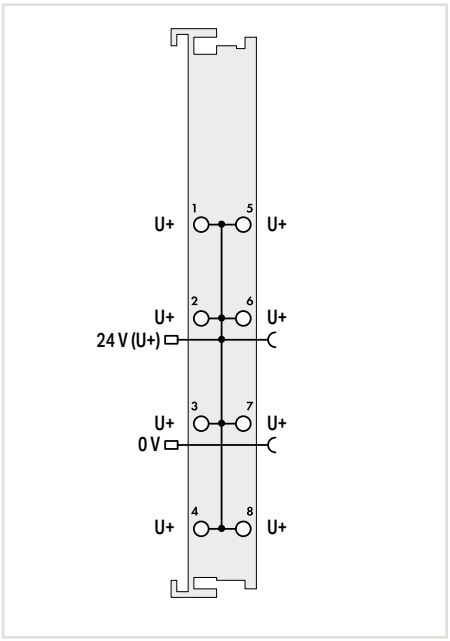
Accessories		Item No.
Pluggable connector		**753-110**
Coding keys		**753-150**

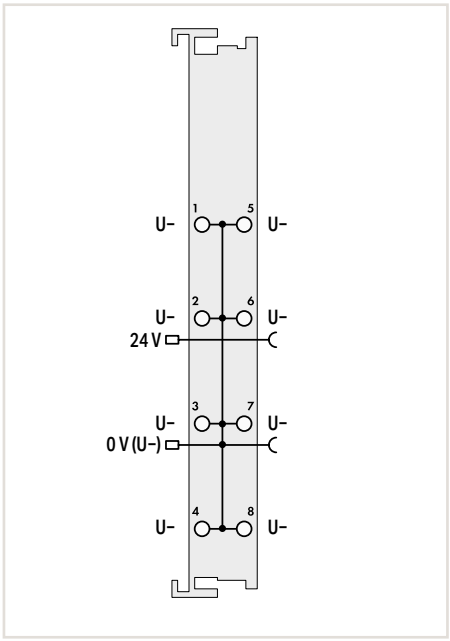
5.10

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

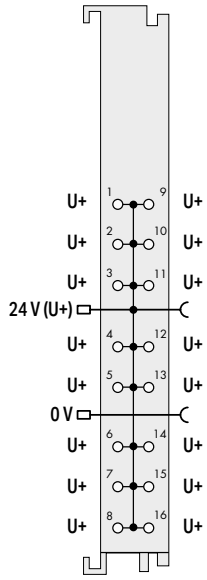
Technical Data

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; KC; Marine; cULus OrdLoc/HazLoc; Ex ATEX/IECEx		CE; KC; Marine; cULus OrdLoc/HazLoc; Ex 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

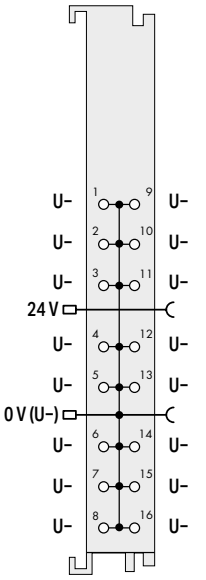


Potential Distribution; 16x 24 V

Standard with 16 connectors

750-1605

Potential Distribution; 16*24V

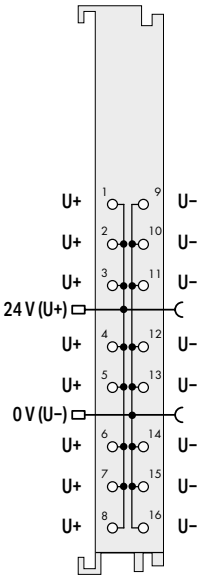


Potential Distribution; 16x 0 V

Standard with 16 connectors

750-1606

Potential Distribution; 16*0V



Potential Distribution; 8x 24 V/8x 0 V

Standard with 16 connectors

750-1607

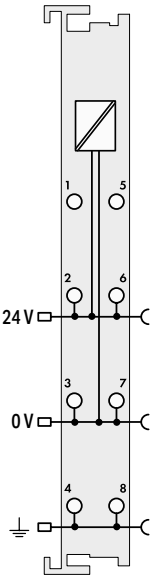
Potential Distribution; 8*24V/8*0V

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; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx	CE; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx	CE; KC; Marine; cULus 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



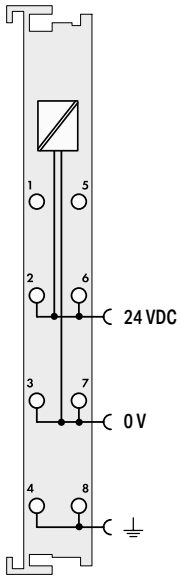
Item Description	Field Supply Filter (Surge); 24 VDC		
Version	Standard	Higher isolation	Higher isolation; Ground fault diagnostics
Item No.	750-624	750-624/020-000	750-624/020-002
Order Text	Field Supply Filter; 24 VDC	Field Supply Filter; 24 VDC; HI	Field Supply Filter; 24 VDC HI; GF
Technical Data			
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

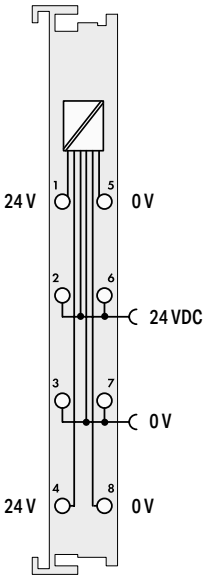
0 … +55 °C
12 x 69.8 x 100 mm
CE; KC; Marine; cULus OrdLoc/HazLoc; IECEx ATEX/IECEx

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

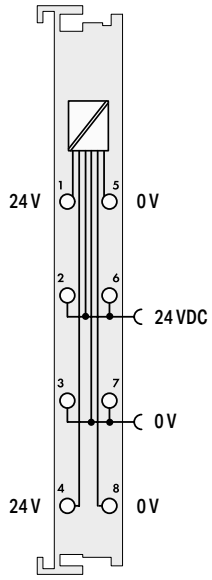


Item Description	Supply Filter; 24 VDC			
Version	Higher isolation	Higher isolation; Extended temperature	Standard	Extended temperature
Item No.	750-626/020-000	750-626/025-001	750-626	750-626/025-000
Order Text	Supply Filter; 24 VDC; HI	Supply Filter; 24 VDC; HI; T	Supply Filter; 24 VDC	Supply Filter; 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	−20 … +60 °C
Dimensions W x H x D	12 x 69.8 x 100 mm			
Approvals	CE; KC; Marine; cULus OrdLoc/HazLoc; Ex 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 transmission via CAGE CLAMP® connection
1.5 A
10 A

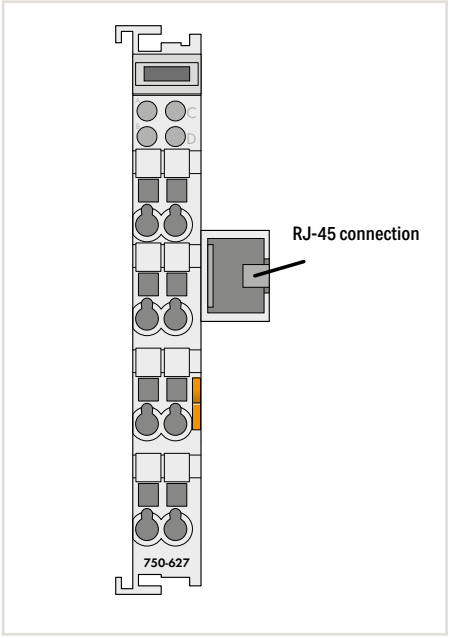
Marine-certified operation in conjunction with 750 Series Couplers and Controllers
Response values:
50 kΩ (±15 %)
25 kΩ (±15 %);
typ. 25 … 30 %;
≤5 s (typ. 2.5 s);
> 10 MΩ (test inactive), > 90 kΩ (test active)
≤ 180 µA (R_F = 0 Ω)
≤ 2 µF
0 … +55 °C
12 x 69.8 x 100 mm
CE; Marine; OrdLoc; ATEX/IECEx
wago.com/750-626/020-002

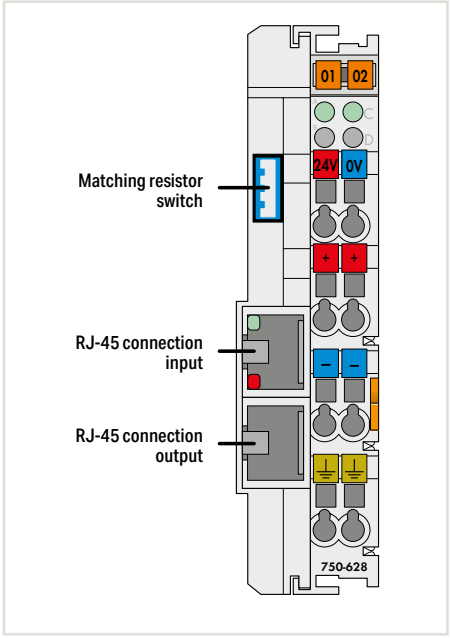
Use in systems with isolation monitoring requires the high isolation variants.

End Module/Coupler Module for Bus Extension

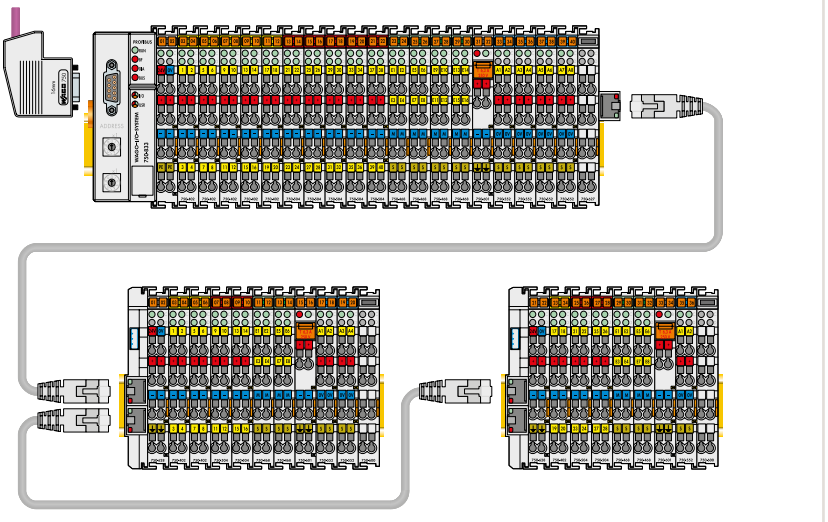
Figure: 750-627

Figure: 750-628





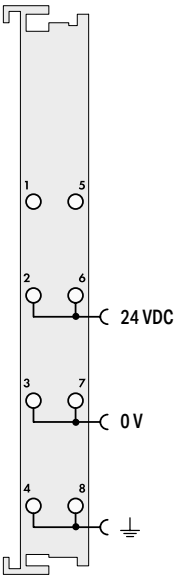
Item Description	Bus Extension End Module	Bus Extension Coupler Module
Version	Standard	Standard
Item No.	750-627	750-628
Order Text	Bus Extension End Module	Bus Extension Coupler Module
Technical Data		
Number of coupler modules	Up to 10	
Number of I/O modules		64 (within the system)
Connection technology (local bus)	1 x RJ-45 socket	2 x RJ-45 socket (input + output)
Distance (max.)	5 m (10 m see manual); (end/coupler modules or coupler/coupler modules)	5 m (10 m see manual); (end/coupler modules or coupler/coupler modules)
Supply voltage (field)		24 VDC (−15 … +20 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission via spring contact)
Supply voltage, system (24 V)		24 VDC (−15 … +20 %); power supply and transmission via CAGE CLAMP® connection
Current consumption – system supply (5 V)	70 mA	150 mA
Current carrying capacity (power jumper contacts)		10 A
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; KC; Marine; cULus OrdLoc	CE; KC; Marine; cULus 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

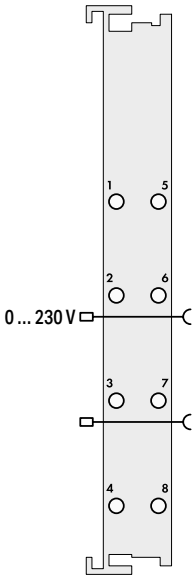


Item Description	**Binary Spacer Module**
Version	**Standard**
Item No.	**750-622**
Order Text	Binary Spacer Module
Technical Data	
Current consumption – system supply (5 V)	10 mA
Supply voltage (field)	24 VDC (–15 … +20 %); via power jumper contacts (power supply via CAGE CLAMP® connection; transmission 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; KC; cULus 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		
Version	**Active; Pluggable (delivery without connector)**	**Active; Without power jumper contacts; Pluggable (delivery without connector)**	**Passive; Pluggable (delivery without connector)**
Item No.	**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; KC; cULus 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).

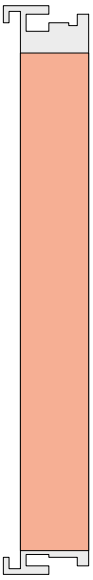
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

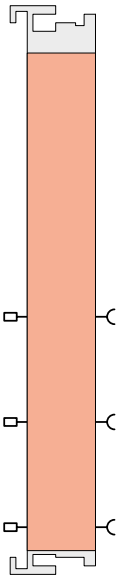
„ Approvals and corresponding ratings, see page 523 or www.wago.com

Distance Module

Figure: 750-616

Figure: 750-616/030-000





Item Description	Distance Module		Distance Module
Version	Standard	Labeled	With power jumper contacts
Item No.	750-616	750-616/030-000	750-621
Order Text	Distance Module	Distance Module	Distance Module
Technical Data			
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; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx		CE; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-616		wago.com/750-621

This distance module visually divides a fieldbus node into sections.

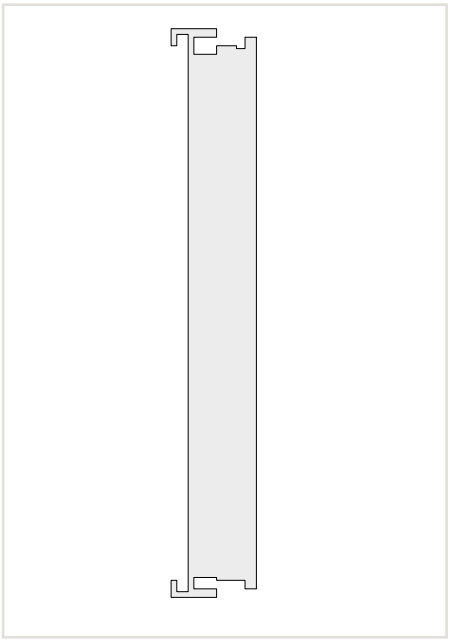
The 750-616 Distance Module has no power jumper contacts. The labeled version of the distance module is available under the item number 750-616/030-000.

Notice:
Operation of the adjacent I/O modules requires a supply module.

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; KC; Marine; cULus OrdLoc/HazLoc; Ex 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

◂ Section 5

I/O System – 750 XTR Series
Contents

	Page
General Product Information	346
Interfaces and Types	347
Application and Installation Instructions	348
Standards and Rated Conditions for Rail Applications (EN 50155)	350
Standards and Rated Conditions	351
Item Number Key	350
Approvals	350
Controllers PFC200 XTR	see Section 4.2
Controllers 750 XTR	see Section 4.4

	Description	Item No.	
Fieldbus Couplers	Fieldbus Coupler PROFIBUS DP; 2nd generation; 12 MBd; extreme	750-333/040-000	352
	Fieldbus Coupler ETHERNET; 3rd generation; extreme	750-352/040-000	353
	Fieldbus Coupler CANopen; D-Sub; extreme	750-338/040-000	354
Digital Input Modules	8-Channel Digital Input; 24 VDC; 3 ms; 2-wire connection; extreme	750-1415/040-000	355
	8-Channel Digital Input; 24 VDC; 3 ms; extreme	750-430/040-000	355
	16-Channel Digital Input; 24 VDC; 3 ms; extreme	750-1405/040-000	356
	8-Channel Digital Input; 24 VDC; 0.2 ms; 2-wire connection; extreme	750-1416/040-000	357
	8-Channel Digital Input; 24 VDC; 0.2 ms; extreme	750-431/040-000	357
	2-Channel Digital Input; 60 VDC; 3 ms; extreme	750-429/040-001	358
	2-Channel Digital Input; 110 VDC; 3 ms; extreme	750-427/040-000	358
	2-Channel Digital Input; 220 VDC; 3 ms; extreme	750-407/040-000	359
Digital Output Modules	2-Channel Digital Output; 24 VDC; 2.0 A; Diagnostics; extreme	750-508/040-000	360
	8-Channel Digital Output; 24 VDC; 0.5 A; Diagnostics; extreme	750-537/040-000	360
	8-Channel Digital Output; 24 VDC; 0.5 A; 2-wire connection; extreme	750-1515/040-000	361
	2-Channel Relay Output; 250 VAC; 1 A; Relay with 2 changeover contacts; extreme	750-517/040-000	362
Analog Input Modules	4-Channel Analog Input; 0 … 20 mA; single-ended; extreme	750-453/040-000	363
	4-Channel Analog Input; 4 … 20 mA; single-ended; extreme	750-455/040-000	363
	2-Channel Analog Input; 4 … 20 mA; Differential input; NAMUR NE 43; extreme	750-492/040-001	364
	4-Channel Analog Input; 0 … 10 VDC; single-ended; extreme	750-468/040-000	365
	4-Channel Analog Input; ±10 VDC; single-ended; extreme	750-457/040-000	365
	2-Channel Analog Input; 0 … 30 VDC; Differential input; extreme	750-483/040-000	366
	2/4-Channel Analog Input; Resistance measurement; adjustable; extreme	750-464/040-000	367
	2-Channel Analog Input; Thermocouple; adjustable; extreme	750-469/040-000	367
	3-Phase Power Measurement; 690 VAC 1 A; extreme	750-495/040-000	368
	3-Phase Power Measurement; 690 VAC 5 A; extreme	750-495/040-001	368
	3-Phase Power Measurement; 690 VAC Rogowski coils; extreme	750-495/040-002	368
Analog Output Modules	2-Channel Analog Output; 0/4 … 20 mA; 16 bits; 6 … 18 VDC; extreme	750-563/040-000	369
	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
Intrinsically Safe XTR Modules	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 Marking and Mounting Accessories		Section 10	

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°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/s² per DIN EN 60068-2-6 and shock resistance of 15g (150 m/s²), as well as 25g (250 m/s²) 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.

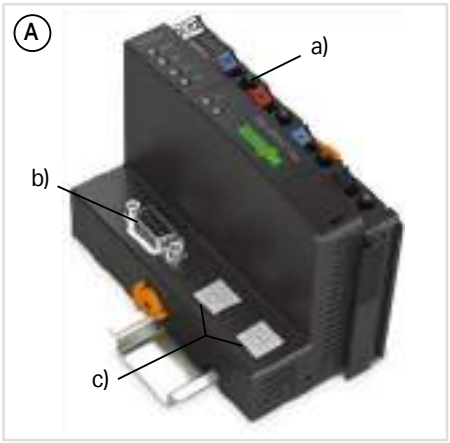
Worldwide Approvals

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

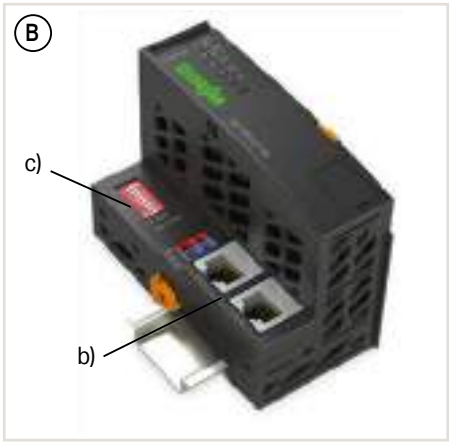


Housing design: fieldbus coupler (A)

- 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)

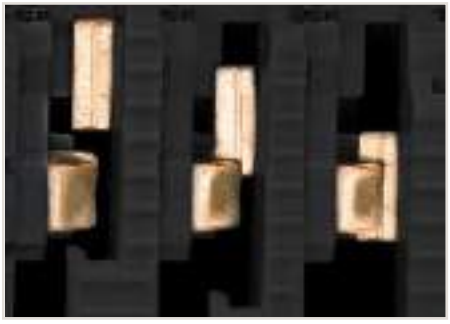
- 16 connection points (CAGE CLAMP®)
- W x H x D (mm) 24 x 67.8 x 100

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

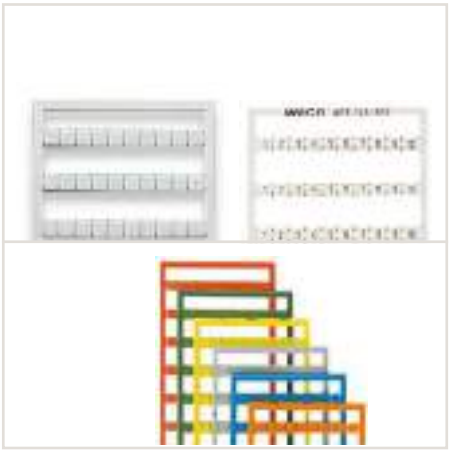
Notice:

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.

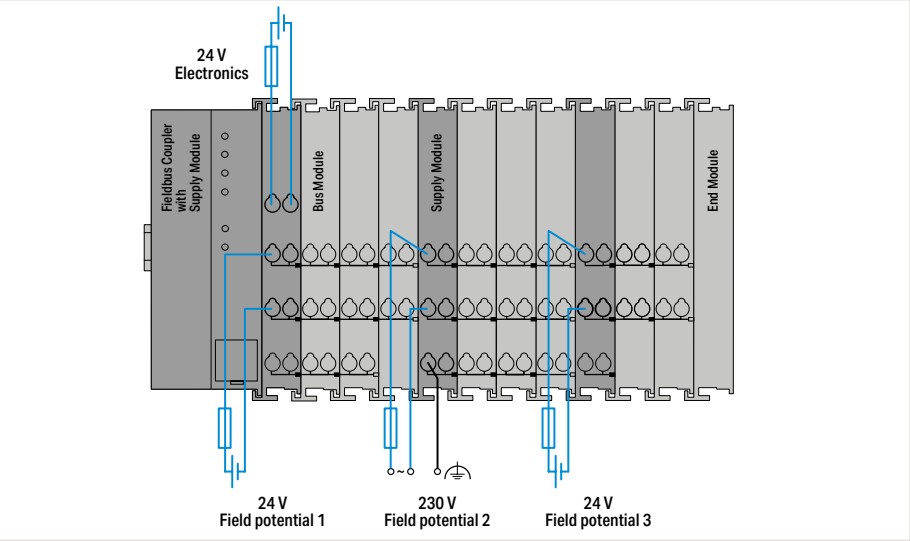
Marker carrier for one single I/O module (suitable for all 750 and 753 Series I/O Modules); the marker carrier can be accommodated in the upper Mini-WSB marker slot.

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.

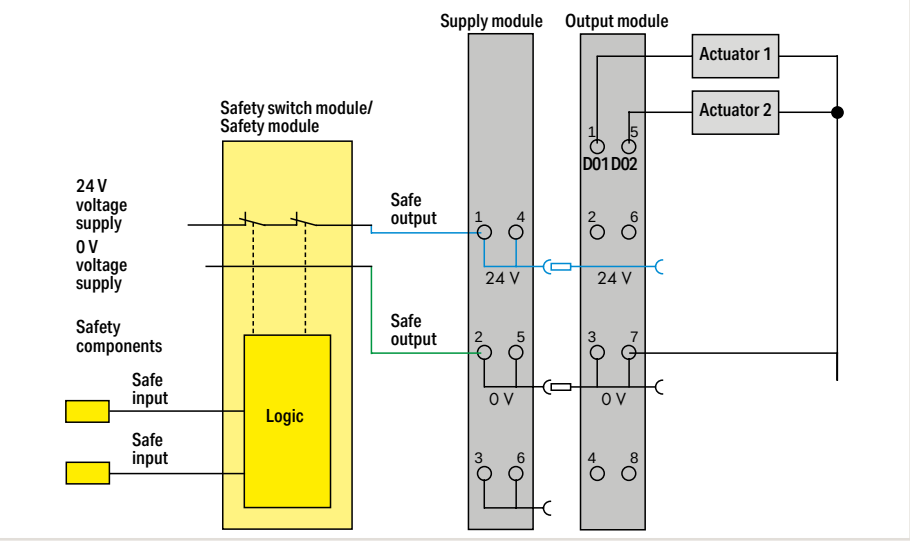
A specific supply module (750-606/040-000) is required to operate intrinsically safe Ex i modules.

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

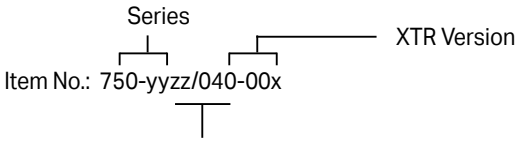
Mixed operation (standard/XTR modules) within a node is possible when groups of I/O modules are electrically isolated on the field side, i.e., electrically isolated power supply. The combination may be useful, for example, when there are only increased requirements for dielectric strength and immunity 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



01zz: Marker
03zz: Fieldbus Coupler
zz: Consecutive number

1yzz: 16 connection points or ribbon cable
y4zz: Input
00 ... 49 = Digital input
50 ... 99 = Analog input

y5zz: Output
00 ... 49 = Digital output
50 ... 99 = Analog input

y6zz: Communication/system modules
0z: Power supply, field-side connection, end module
1z: Power supply, spacer module
2z: Filter
5z: Serial interface

09zz: Accessories

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

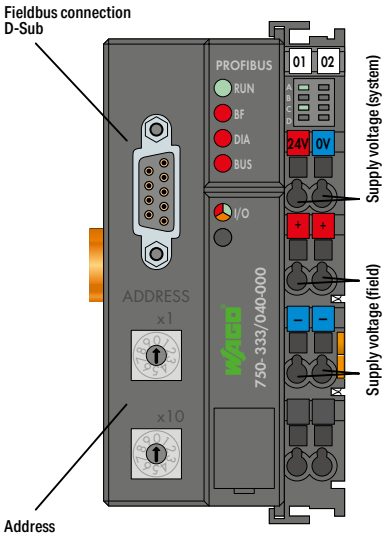
Railway Applications (EN 50155)	Class/Standard Compliance
4.1 Rated operating conditions	
4.1.1 Altitude above sea level	AX (EN 50125-1)
4.1.2 Surrounding air temperature	TX
4.1.3 Shock and vibration	1A and 1B (EN 61373)
4.1.4 Relative humidity	95 % (coated PCBs)
5.1 Power supply	
5.1.1.1 Master voltage 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_2S 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 mm²/24 … 14 AWG; 8 … 9 mm/0.31 … 0.35 inch 0.25 … 1.5 mm²/24 … 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 mm²/24 … 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	**Fieldbus Coupler PROFIBUS DP; 2nd generation; 12 MBd**
Version	**Extreme**
Item no.	**750-333/040-000**
Order text	FC PROFIBUS; G2; 12 MBd; XTR

Technical Data	
Fieldbus	PROFIBUS
Protocols	PROFIBUS DP/V1
Connection technology: Fieldbus input/output	Socket D-Sub 9
Number of fieldbus nodes on master (max.)	96 with repeater
Baud rate	9.6 kBd ... 12 MBd
Transmission medium	Copper cable per EN 50170
Number of modules per node (max.)	63
Input and output process image (internal) max.	244 bytes
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)	200 mA
Total current (system supply)	1800 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; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-333/040-000

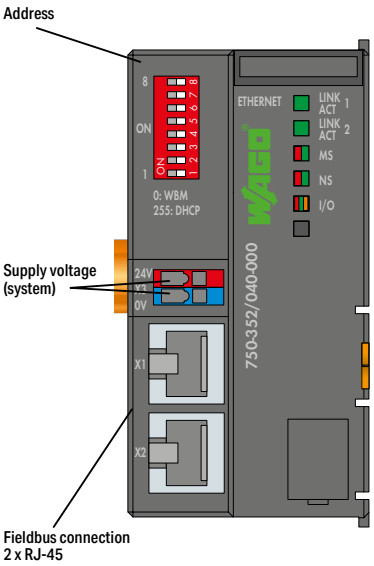
Accessories	**Item no.**
GSD files	Download: www.wago.com

„ 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

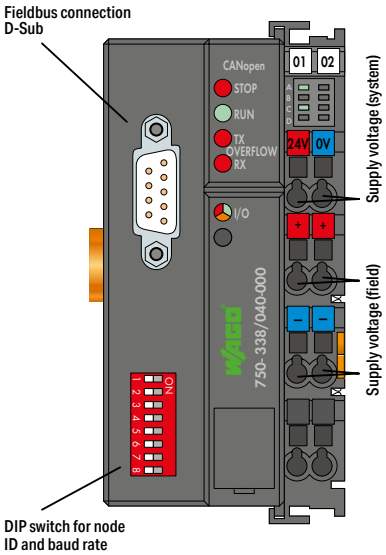
Fieldbus Coupler ETHERNET



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; KC; 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 mm²
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; KC; Marine; cULus OrdLoc/HazLoc; Ex ATEX/IECEx
Data sheet and further information, see:	wago.com/750-338/040-000

Accessories	Item no.
EDS files	Download: www.wago.com

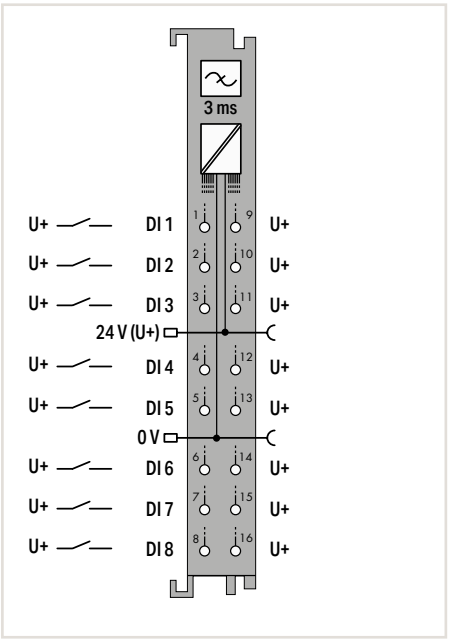
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

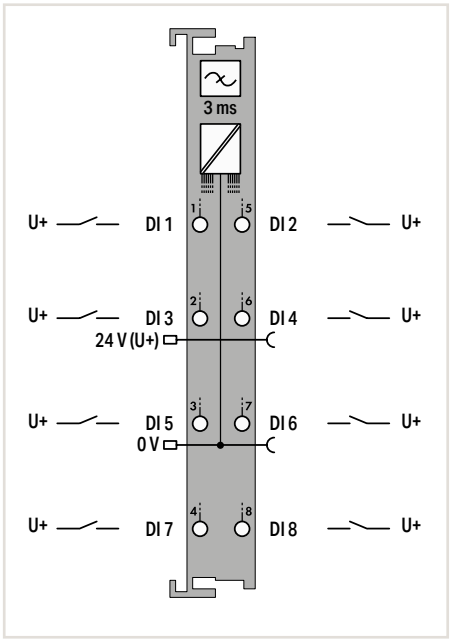
„ Approvals and corresponding ratings, see page 526 or www.wago.com

Digital Input; 24 VDC

Figure: 750-1415/040-000

Figure: 750-430/040-000

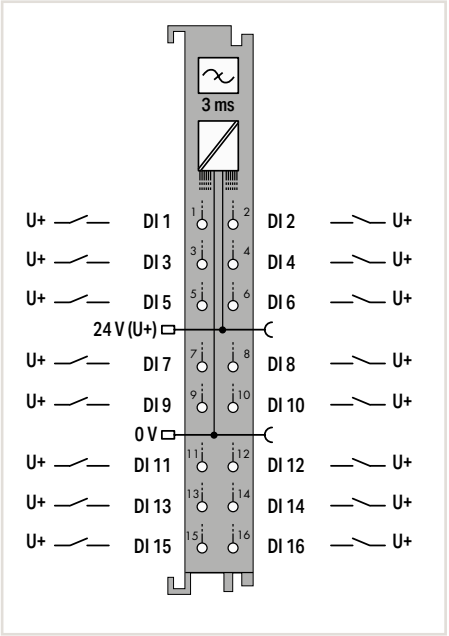




Item Description	8-Channel Digital Input; 24 VDC; 3 ms; 2-wire connection	8-Channel Digital Input; 24 VDC; 3 ms
Version	**Extreme**	**Extreme**
Item no.	**750-1415/040-000**	**750-430/040-000**
Order text	8DI; 24 VDC; 3ms; 2-wire; XTR	8DI; 24 VDC; 3ms; XTR
Technical Data		
Number of digital inputs	8	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

6

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

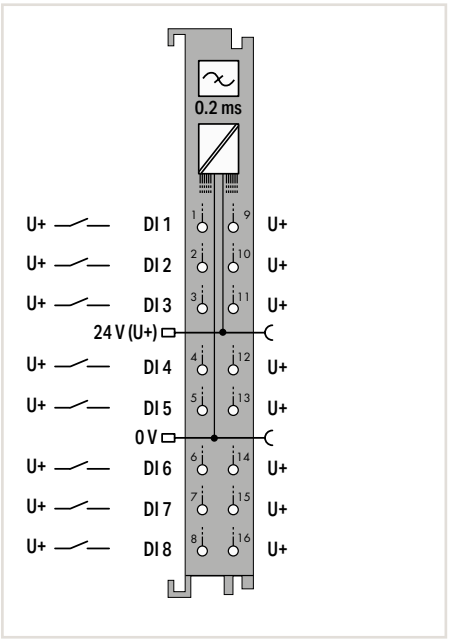
„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

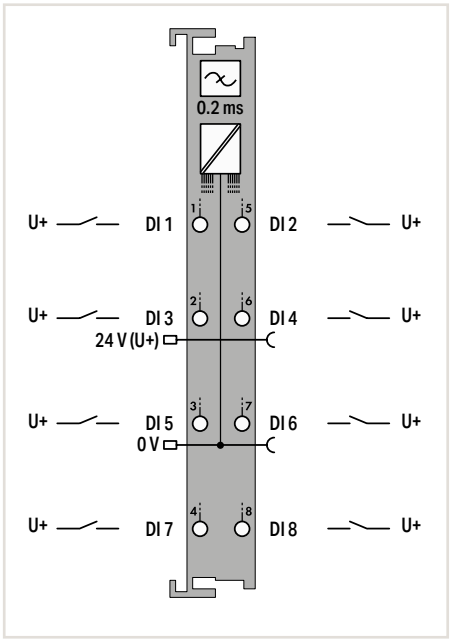
„ Approvals and corresponding ratings, see page 526 or www.wago.com

Digital Input; 24 VDC

Figure: 750-1416/040-000

Figure: 750-431/040-000

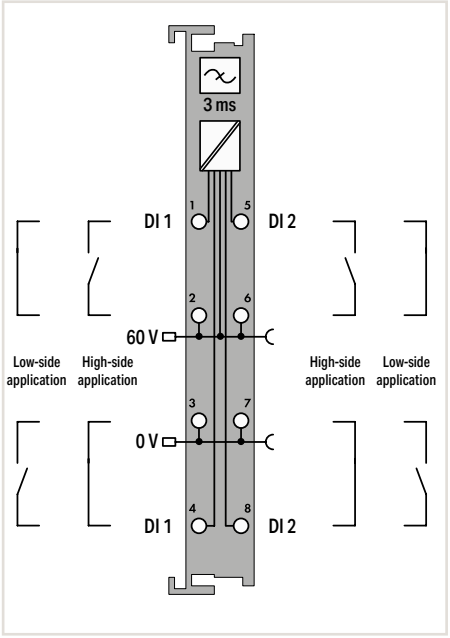


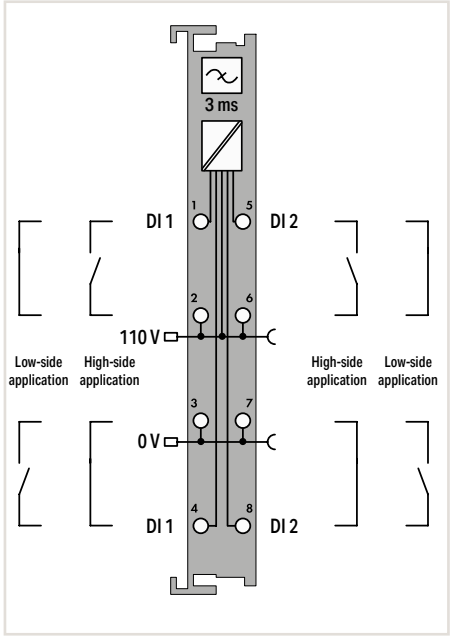


Item Description	8-Channel Digital Input; 24 VDC; 0.2 ms; 2-wire connection	8-Channel Digital Input; 24 VDC; 0.2 ms
Version	**Extreme**	**Extreme**
Item no.	**750-1416/040-000**	**750-431/040-000**
Order text	8DI; 24 VDC; 0.2ms; 2-wire; XTR	8DI; 24 VDC; 0.2ms; XTR
Technical Data		
Number of digital inputs	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

6

Digital Input; 60 VDC; 110 VDC or 220 VDC





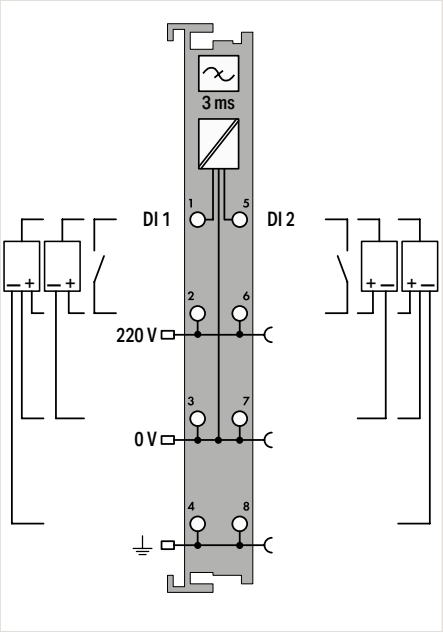
Item Description	2-Channel Digital Input; 60 VDC; 3 ms	2-Channel Digital Input; 110 VDC
Version	Extreme	Extreme
Item no.	750-429/040-001	750-427/040-000
Order text	2DI; 60 VDC; 3ms; XTR	2DI; 110 VDC; XTR
Technical Data		
Number of digital inputs	2	2
Signal type	60 VDC	110 VDC
Voltage range for signal (0)	-7.5 … +12 VDC	-14 … +50 VDC
Voltage range for signal (1)	44 … 78 VDC	70 … 143 VDC
Sensor connection	2-wire	2-wire
Input characteristic	High-side/low-side switching; configurable	High-side/low-side switching; configurable
Input filter (digital)	3 ms	3 ms
Input current per channel for signal (1) typ.	2.9 mA	2.5 mA
Supply voltage (sensor)	60 VDC	110 VDC
Supply voltage (field)	60 VDC (–25 … +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)	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	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)	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 60 V: IV (EN 60664-1 / to 5,000 m ASL)	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	2 bits
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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx	CE; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-429/040-001	wago.com/750-427/040-000

Notice:
An additional supply module must be added for operation with 60 VDC!

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

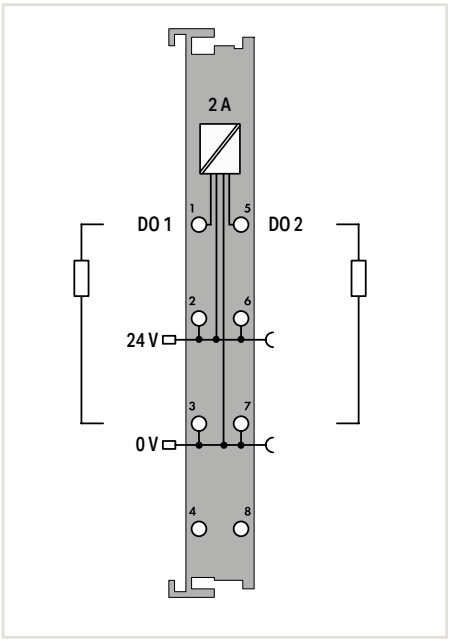
2
220 VDC
-3 … +100 VDC
160 … 286 VDC
2-wire; 3-wire; 4-wire
High-side switching
3 ms
1.2 mA
220 VDC
220 VDC (–25 … +25 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
5 mA
5.0 kV (EN 60870-2-1 / Class VW3); 4.0 kV (UL 508); 4.0 kV (EN 60664-1 / to 4,000 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; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx
wago.com/750-407/040-000

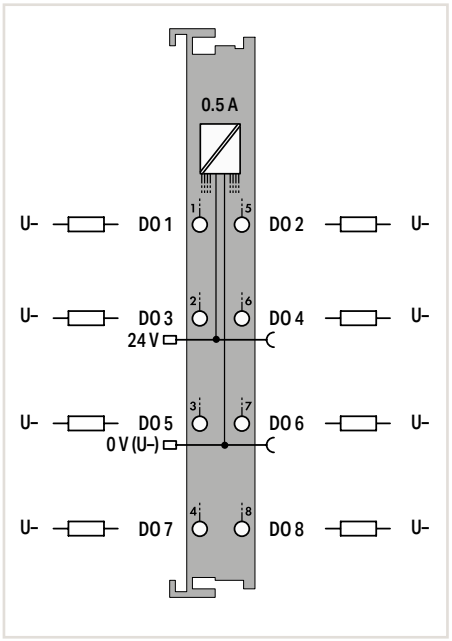
Notice:
An additional supply module must be added for operation with 220 VDC!

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

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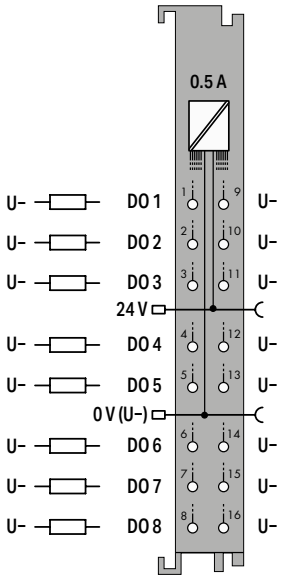
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ Approvals and corresponding ratings, see page 526 or www.wago.com

Digital Output; 24 VDC

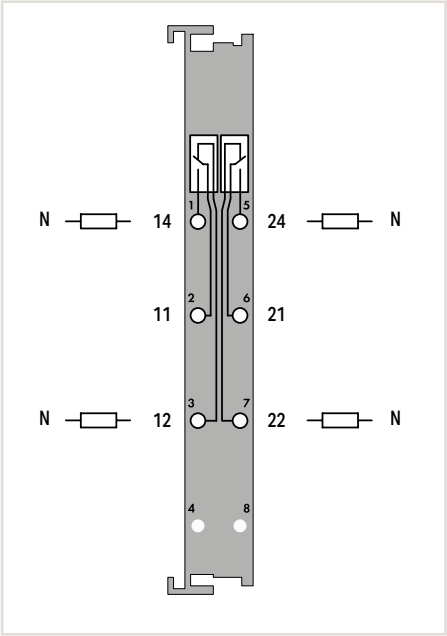


Item Description	**8-Channel Digital Output; 24 VDC; 0.5 A; 2-wire connection**
Version	**Extreme**
Item no.	**750-1515/040-000**
Order text	8DO; 24 VDC; 0.5A; 2-wire; XTR

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

6

Relay Output; 230 VAC

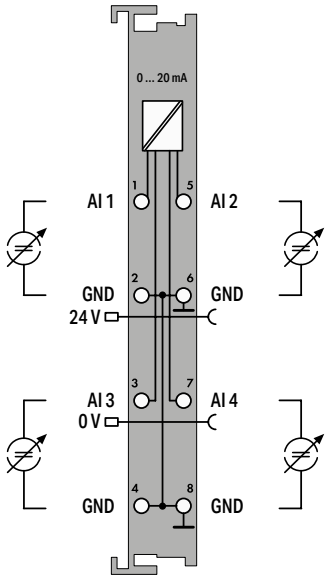


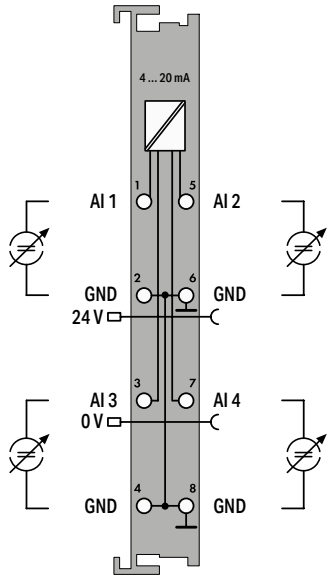
Item Description	2-Channel Relay Output; 250 VAC; 1 A; Relay with 2 changeover contacts
Version	**Extreme**
Item no.	**750-517/040-000**
Order text	2RO; 250 VAC; 1A; Relay2CO; XTR
Technical Data	
Number of digital outputs	2
Switching voltage (max.)	250 VAC; 300 VDC
Output circuit design	2 changeover 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

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

„ Approvals and corresponding ratings, see page 526 or www.wago.com

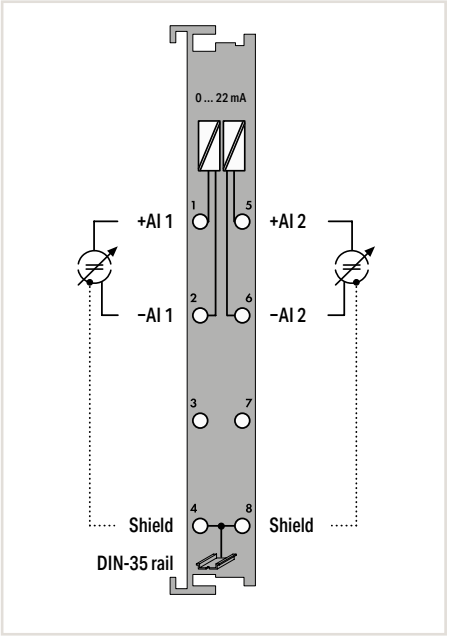
Analog Input; 0 … 20 mA or 4 … 20 mA





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
Measuring 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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx	CE; KC; 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



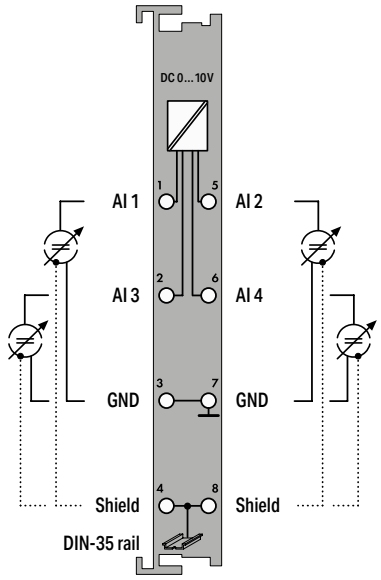
Item Description	2-Channel Analog Input; 4 … 20 mA; Differential input; NE43
Version	Extreme
Item no.	750-492/040-001
Order text	2AI; 4-20mA; Diff; NE43; XTR
Technical Data	
Number of analog inputs	2
Signal type	3.8 … 20.5 mA (NE43)
Signal characteristic	Differential
Resolution	13 bits
Conversion time	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; KC; Marine; cULus OrdLoc/HazLoc; Ex ATEX/IECEx
Data sheet and further information, see:	wago.com/750-492/040-001

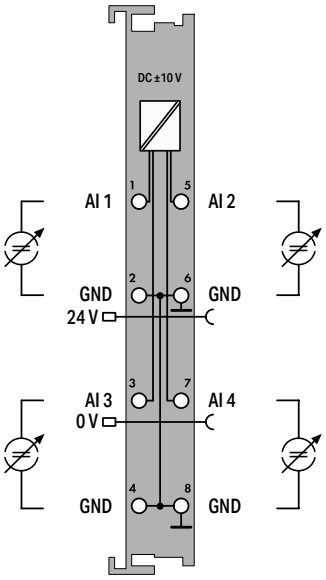
6

„ 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 … 10 VDC or ±10 VDC





Item Description	4-Channel Analog Input; 0 … 10 VDC; single-ended	4-Channel Analog Input; ±10 VDC; single-ended
Version	**Extreme**	**Extreme**
Item no.	**750-468/040-000**	**750-457/040-000**
Order text	4AI; 0-10 VDC; SE; XTR	4AI; ±10 VDC; SE; XTR
Technical Data		
Number of analog inputs	4	4
Signal type	0 … 10 V	±10 V
Signal characteristic	Single-ended	Single-ended
Resolution	12 bits	12 bits
Conversion time	4 ms	10 ms
Input resistance	133 kΩ	> 100 kΩ
Input voltage (max.)	35 V	±40 V
Measuring error max., 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 (-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)	60 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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx	CE; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-468/040-000	wago.com/750-457/040-000

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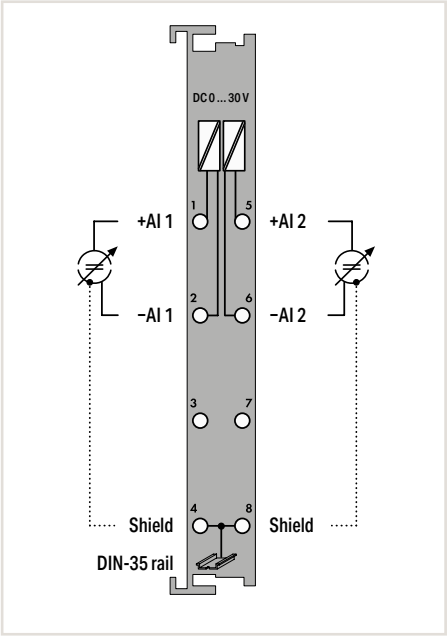
Analog Input; 0 … 30 VDC



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

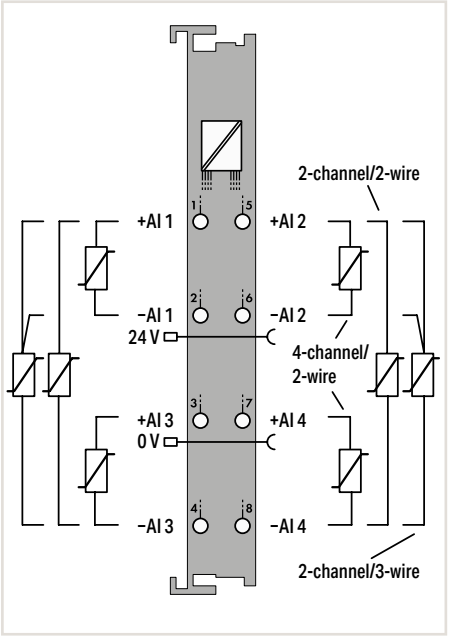
„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

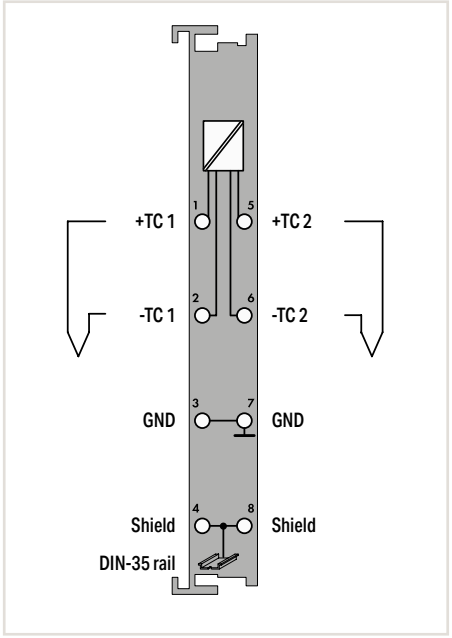
„ Approvals and corresponding ratings, see page 526 or www.wago.com

Analog Input; for Resistance Sensors or Thermocouples

Figure: 750-464/040-000

Figure: 750-469/040-000

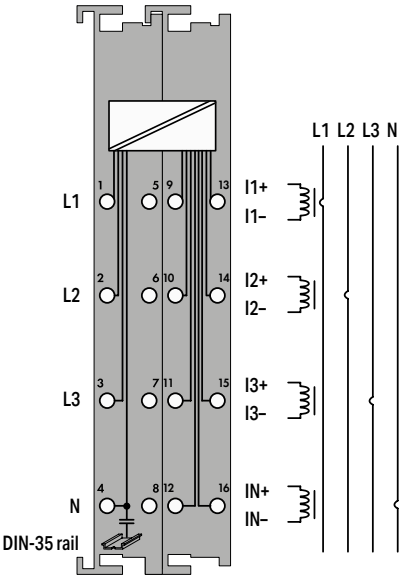


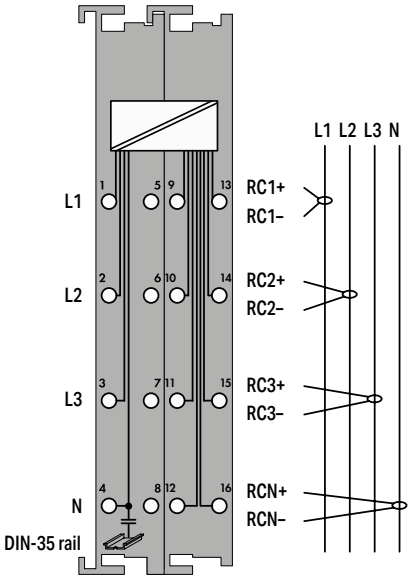


Item Description	2/4-Channel Analog Input; Resistance measurement; adjustable	2-Channel Analog Input; Thermocouple; adjustable
Version	**Extreme**	**Extreme**
Item no.	**750-464/040-000**	**750-469/040-000**
Order text	2/4AI; RTD; Adjust; XTR	2AI; TC; Adjust; XTR
Technical Data		
Number of analog inputs	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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx	CE; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-464/040-000	wago.com/750-469/040-000

6

Analog Input; for 3-Phase Power Measurement





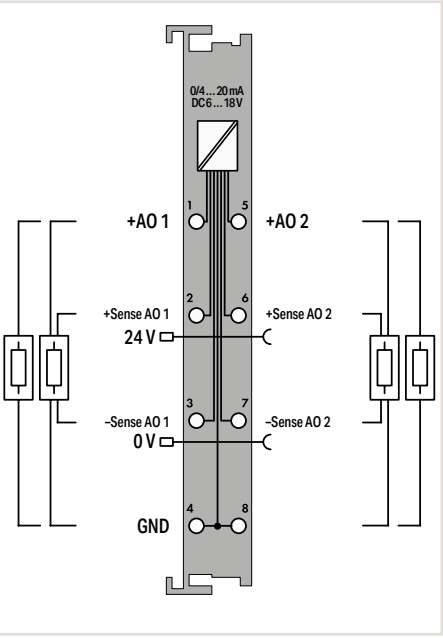
Item Description	3-Phase Power Measurement; 690 VAC 1 A		3-Phase Power Measurement;
Version	Extreme	690 VAC 5 A; extreme	690 VAC Rogowski coils; extreme
Item no.	750-495/040-000	750-495/040-001	750-495/040-002
Order text	3-PHASE POM; 690VAC 1A; XTR	3-PHASE POM; 690VAC 5A; XTR	3-PHASE POM; 690VAC R.C.; XTR

Technical Data

Signal type	3-phase power measurement		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		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)		7 (3 voltage measurement inputs; 4 differential current measurement inputs)
Rated voltage	U_{LN} = 400 VAC/DC; U_{LL} = 690 VAC		U_{LN} = 277 VAC/DC; U_{LL} = 480 VAC
Input resistance (voltage path) typ.	1429 kΩ		1429 kΩ
Measuring current (max.)	1 A	5 A	Rogowski coils
Input resistance (current path) typ.	22 mΩ	5 mΩ	44 kΩ
Resolution	24 bits		24 bits
Measuring error max., 25 °C	AC current/voltage: ±0.5 % of the upper-range value		AC current/voltage: ±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; KC; Marine; ATEX/IECEx		CE; KC; 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	
Rogowski coils		See Full Line Catalog, Volume 4

Analog Output; Configurable 0/4 … 20 mA; 6 … 18 VDC



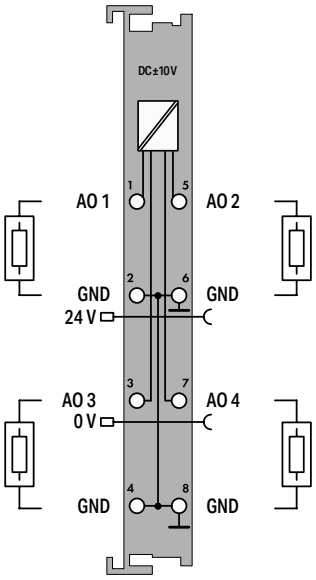
Item Description	**2-Channel Analog Output; 0/4 … 20 mA; 16 bits; 6 … 18 VDC**
Version	**Extreme**
Item no.	**750-563/040-000**
Order text	2AO; 0/4-20mA; 16Bit; 6-18 VDC; XTR
Technical Data	
Number of analog outputs	2
Signal type	0 … 20 mA; 4 … 20 mA; 6 … 18 V
Load impedance	> 1.8 kΩ (voltage output); < 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

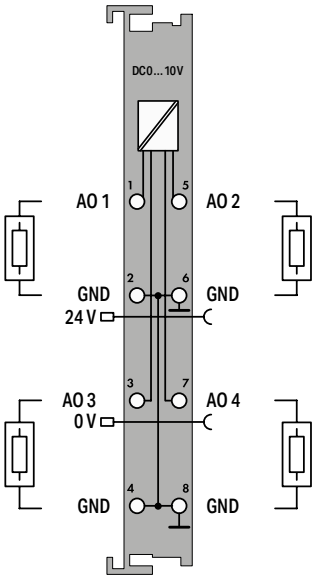
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ Approvals and corresponding ratings, see page 526 or www.wago.com

6

Analog Output; ±10 VDC or 0 … 10 VDC



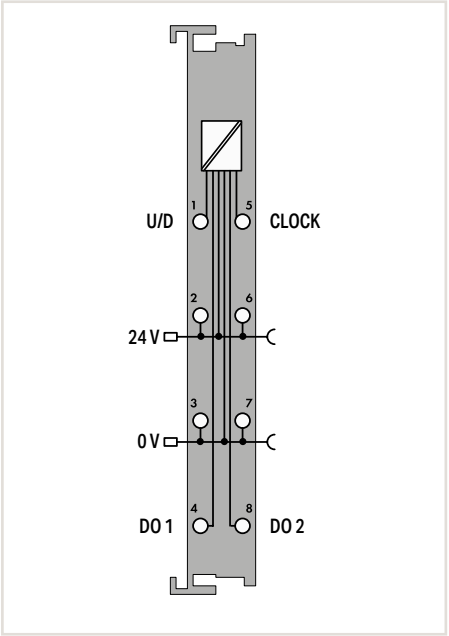


Item Description	4-Channel Analog Output; ±10 VDC	4-Channel Analog Output; 0 … 10 VDC
Version	Extreme	Extreme
Item no.	750-557/040-000	750-559/040-000
Order text	4AO; ±10V DC; XTR	4AO; 0-10V DC; XTR
Technical Data		
Number of analog outputs	4	4
Signal type	±10 V	0 … 10 V
Load impedance	> 5 kΩ	> 5 kΩ
Resolution	12 bits	12 bits
Conversion time	10 ms	10 ms
Output 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)	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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx	CE; KC; 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"

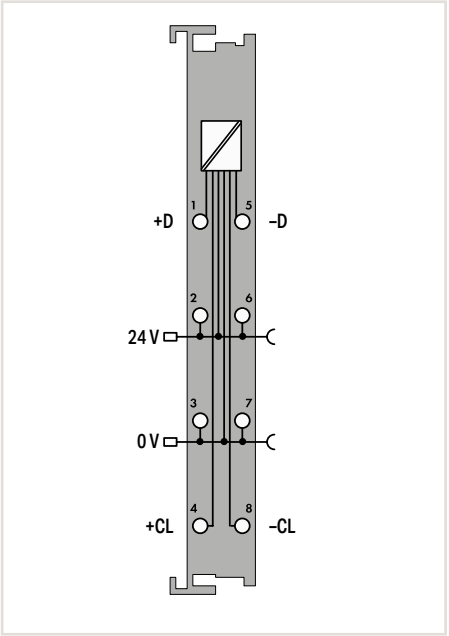
„ Approvals and corresponding ratings, see page 526, 527 or www.wago.com

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

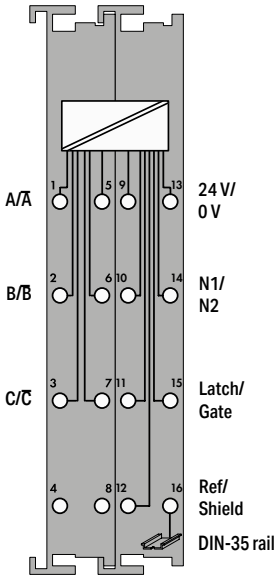


Item Description	**SSI Transmitter Interface; adjustable**
Version	**Extreme**
Item no.	**750-630/040-001**
Order text	SSI Interface; Adjust; XTR
Technical Data	
Transmitter connection	On + D; - D; Off + Cl; - Cl
Transmitter supply	24 VDC; via power jumper contacts
Baud rate	62.5 … 250 kHz
Serial input	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

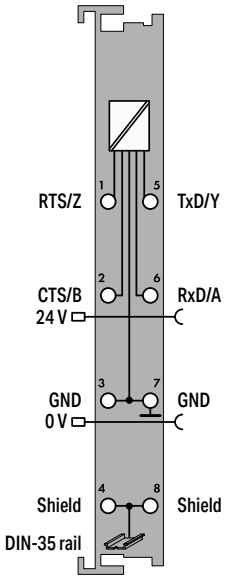
Incremental Encoder Interface



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

6

Serial Interface RS-232/485

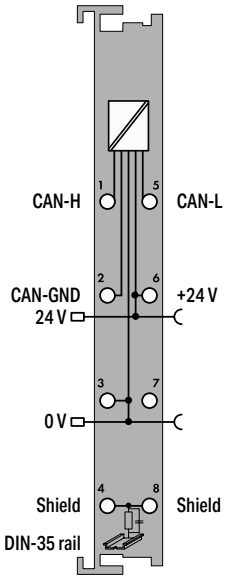


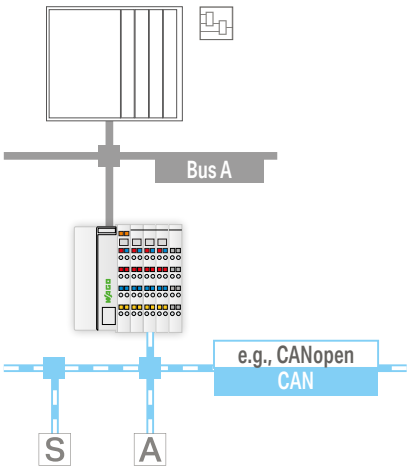
Item Description	Serial Interface RS-232/485
Version	Extreme
Item no.	750-652/040-000
Order text	RS232/485 Interface; XTR
Technical Data	
Signal type	RS-232; RS-422; RS-485
Transmission channels	1 TxD / 1 RxD; full-duplex; half-duplex
Baud rate	9600 Bd (default setting); 300 … 115200 Bd
Parity	None/Odd/Even
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; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-652/040-000

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

„ Approvals and corresponding ratings, see page 527 or www.wago.com

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 (automatic 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).

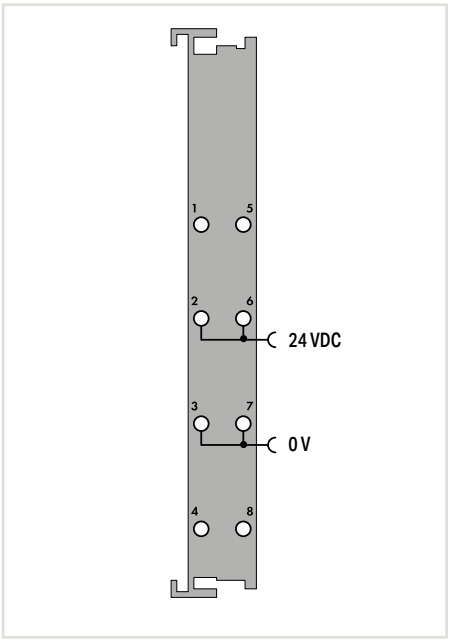
The module offers three different operating modes:

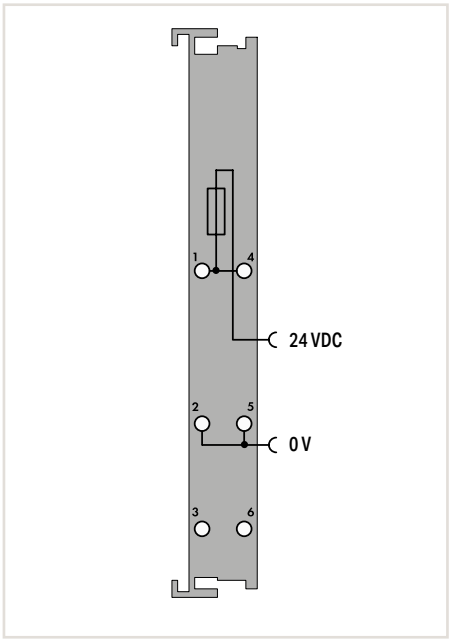
- Sniffer mode: Detailed analysis of the CAN bus through passive "snooping"
- Transparent mode: Active CAN subscriber that can send and receive any type of CAN telegram
- Mapped mode: Enables direct generation of CAN telegrams from the process image, or selective copying of process values from received 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



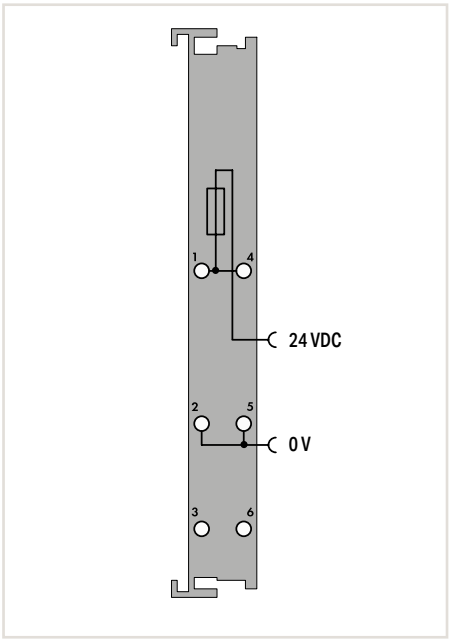


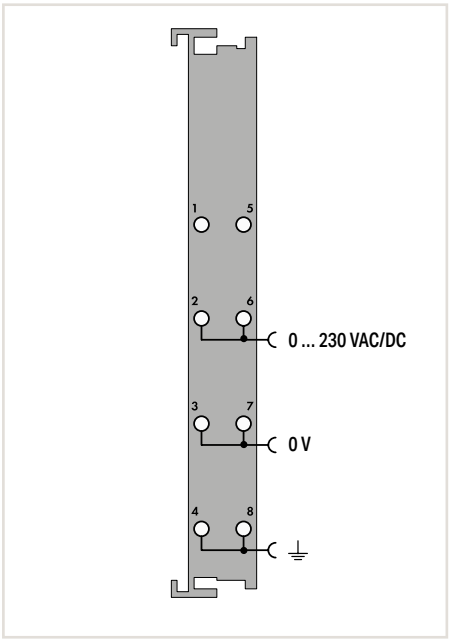
Item Description	Power Supply; 24 VDC	Power Supply; 24 VDC; Fuse holder
Version	**Extreme**	**Extreme**
Item no.	**750-602/040-000**	**750-601/040-000**
Order text	Power Supply; 24 VDC; XTR	Power Supply; 24 VDC; Fuse; XTR
Technical Data		
Supply voltage (system)	5 VDC; via data contacts	5 VDC; via data 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; KC; Marine; cULus OrdLoc/HazLoc; ATEX/IECEx	CE; Marine; cULus 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.

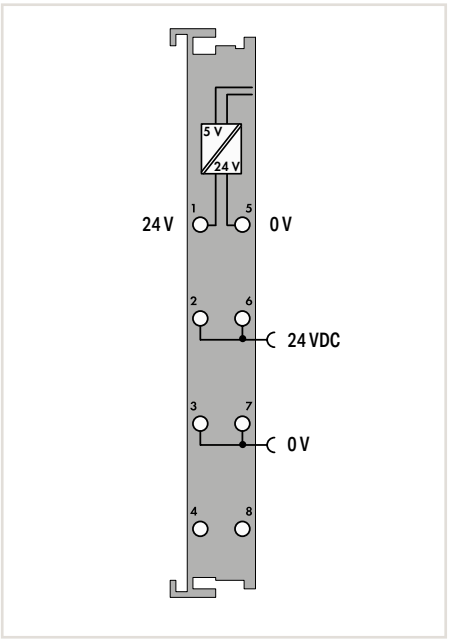
„ Mini-WSB marker card and mounting accessories, see Section “Accessories and Tools”

„ Approvals and corresponding ratings, see page 527 or www.wago.com

6

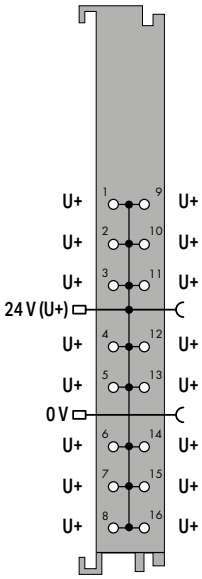


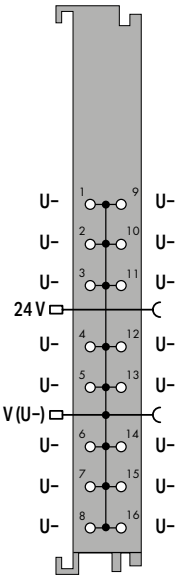




Power Supply; 24 VDC; Fuse holder; Diagnostics	Power Supply; 0 … 230 VAC/DC	System Power Supply; 24 VDC
Extreme	Extreme	Extreme
750-610/040-000	750-612/040-000	750-613/040-000
Power Supply; 24 VDC; Fuse Diagn; XTR	Power Supply; 0-230 VAC/VDC; XTR	System Power Supply; 24 VDC; XTR
5 VDC; via data contacts	5 VDC; via data contacts	24 VDC (−25 … +30 %); power supply and transmission via CAGE CLAMP® connection
		500 mA
		2000 mA
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	10 A
5 x 20; T max. 6.3 A (not included)		
Supply voltage (field): Detection “on” at > 15 VDC; Detection “off” at < 5 VDC		
5 mA		
2 bits (1 bit current monitoring; 1 bit fuse fault)		
1 kV	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)	1 kV
	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)	
−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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx	CE; KC; 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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx	CE; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-1605/040-000	wago.com/750-1606/040-000

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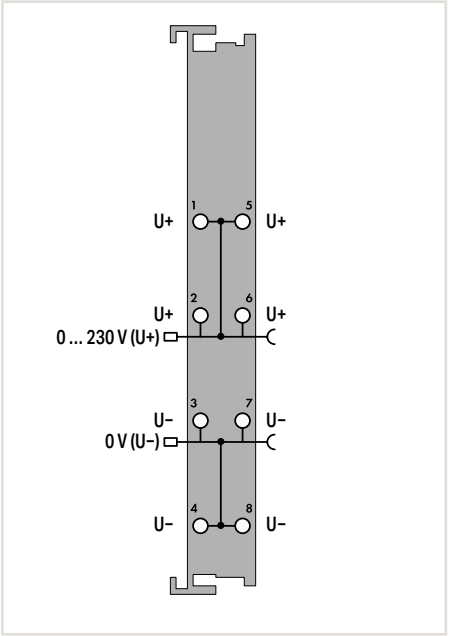
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ Approvals and corresponding ratings, see page 527 or www.wago.com

Potential Distribution

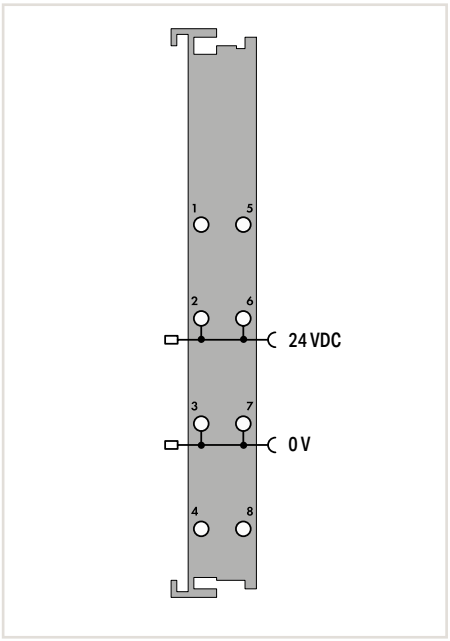


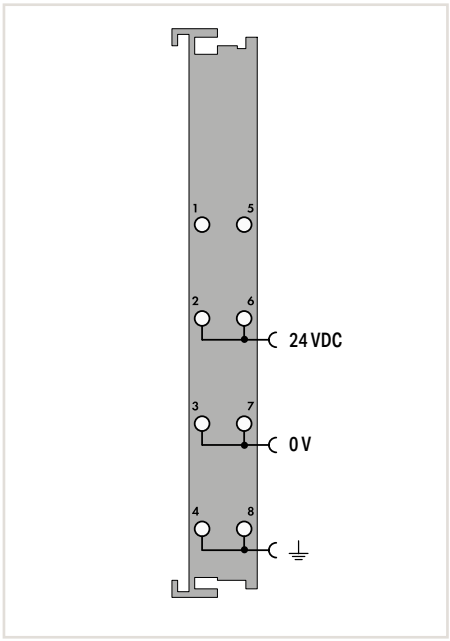
Item Description	Potential Distribution
Version	Extreme
Item no.	750-614/040-000
Order text	Potential Distribution; XTR
Technical Data	
Supply voltage (field)	0 … 230 VAC/DC; via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current carrying capacity (power jumper 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

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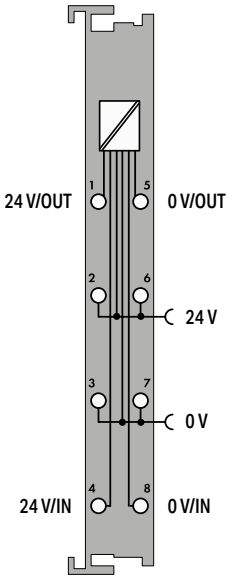
„ Mini-WSB marker card and mounting accessories, see Section "Accessories and Tools"

„ Approvals and corresponding ratings, see page 527 or www.wago.com

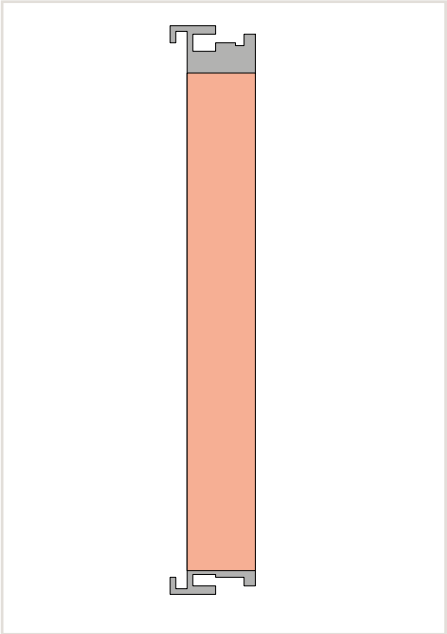
Supply Filter



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; KC; Marine; OrdLoc/HazLoc; ATEX/IECEx
Data sheet and further information, see:	wago.com/750-626/040-000

6

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; KC; Marine; cULus OrdLoc/HazLoc; Ex ATEX/IECEx
Data sheet and further information, see:	wago.com/750-616/040-000

A distance module visually divides a fieldbus node into sections.

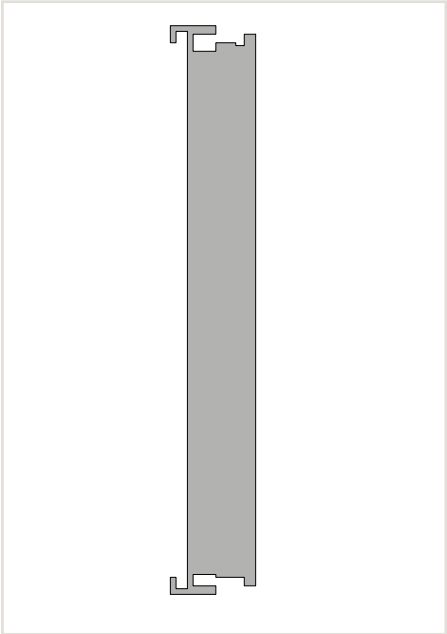
Notice:
Operation of the adjacent I/O modules requires a supply module.

6

„ 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; KC; 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.

6

Intrinsically Safe XTR Modules

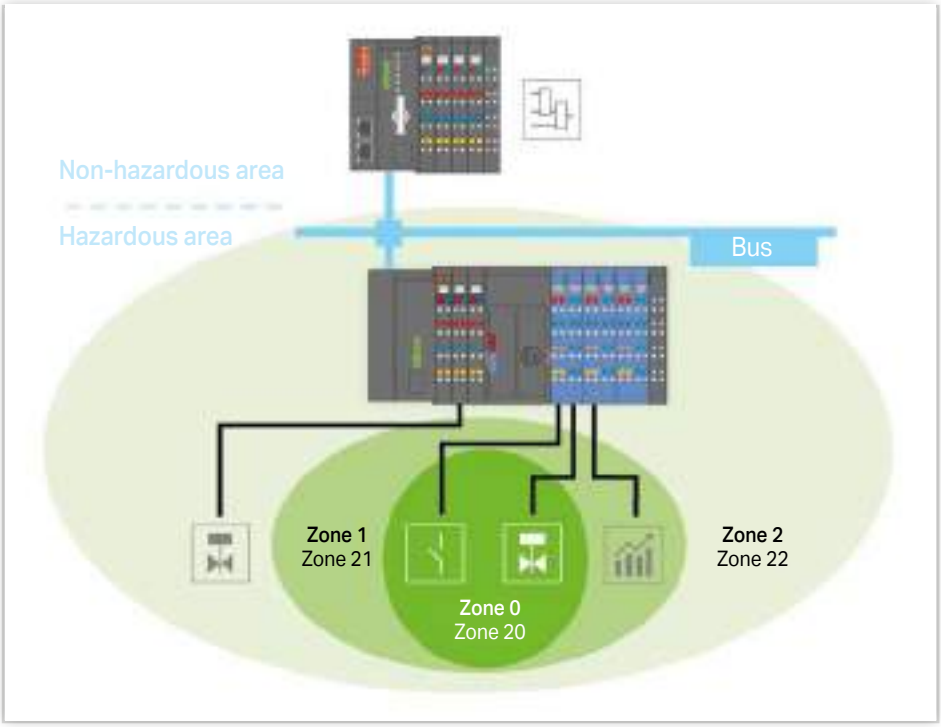
Specialty housing	
Dimensions W x H x D	48 x 70.9 x 100
Height from upper-edge of DIN-rail	63.7 mm
Connection technology	CAGE CLAMP®
Conductor cross section	0.25 … 1.5 mm² / 24 … 14 AWG
Strip length	5 … 6 mm / 0.22 inch

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

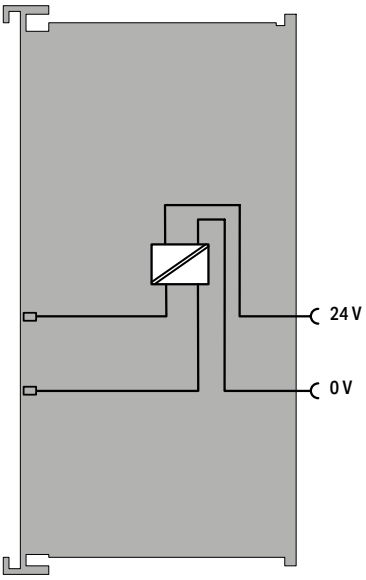
6

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

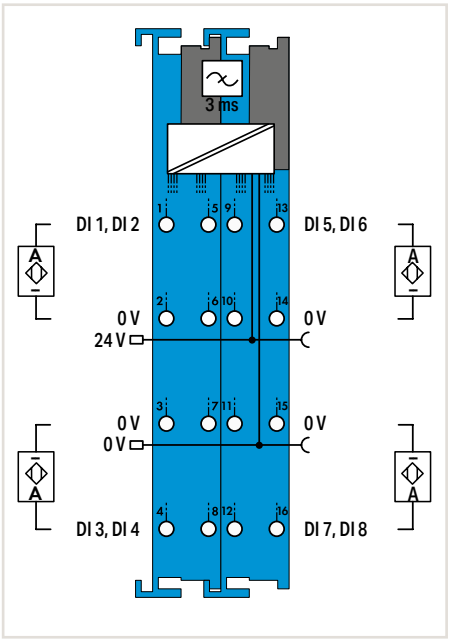


Item Description	**Power Supply; 24 VDC; intrinsically safe**
Version	**Extreme**
Item no.	**750-606/040-000**
Order text	Power Supply; 24 VDC; Ex i; XTR
Technical Data	
Current consumption – system supply (5 V)	7.5 mA
Supply voltage (field)	24 VDC; via power jumper contacts (power supply via CAGE CLAMP® 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!

6

8-Channel Digital Input; NAMUR; Intrinsically Safe; Extreme



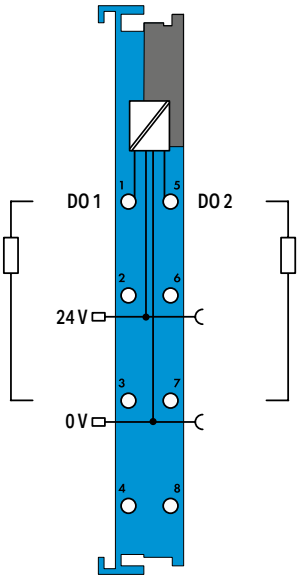
Item Description	8-Channel Digital Input; NAMUR; intrinsically safe
Version	**Extreme**
Item no.	**750-439/040-000**
Order text	8DI; NAMUR; Ex i; XTR
Technical Data	
Number of digital inputs	8
Signal type	NAMUR
Sensor connection	2-wire
Input characteristic	High-side switching
Input filter (digital)	3 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 = max. 26.8 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 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 = 11.76 V; I_o = 12.48 mA; P_o = 36.67 mW; Linear characteristic curve
Reactances Ex ia IIC	L_o = 100 mH; C_o = 1.5 µF
Reactances Ex ia IIB	L_o = 100 mH; C_o = 9.9 µF
Reactances Ex ia IIA	L_o = 100 mH; C_o = 39 µF
Reactances Ex ia I	L_o = 100 mH; C_o = 38 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/750-439/040-000

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

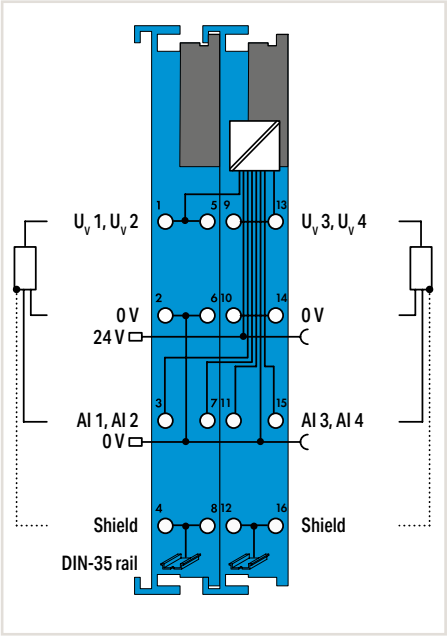


Item Description	2-Channel Digital Output; 24 VDC; intrinsically safe
Version	**Extreme**
Item no.	**750-535/040-000**
Order text	2DO; 24 VDC; Ex i; XTR
Technical Data	
Number of digital outputs	2
Signal type	24 VDC
Output characteristic	High-side switching
Load type	Resistive; inductive; lamp load
Actuator 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)

6

4-Channel Analog Input; 0/4 … 20 mA; NE43; Intrinsically Safe; Extreme



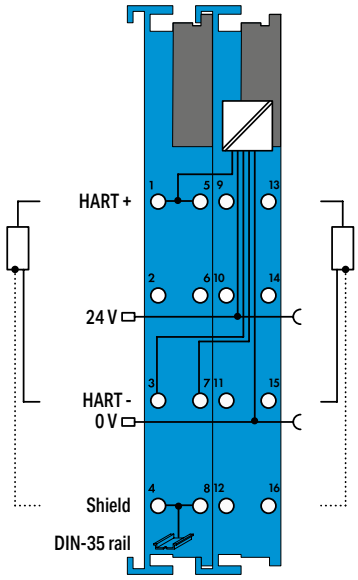
Item Description	4-Channel Analog Input; 0/4 … 20 mA; intrinsically safe
Version	**Extreme**
Item no.	**750-486/040-000**
Order text	4AI; 0/4-20mA; Ex i; XTR
Technical Data	
Number of analog inputs	4
Signal type	0 mA … 20 mA; 4 mA … 20 mA; 3.6 … 21 mA
Signal characteristic	Single-ended
Input resistance	< 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



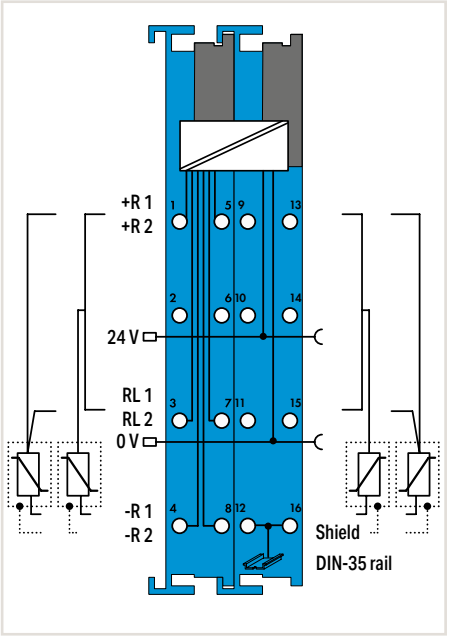
Item Description	**2-Channel Analog Input; 4 … 20 mA HART; intrinsically safe**
Version	**Extreme**
Item no.	**750-484/040-000**
Order text	2AI; 4-20mA HART; Ex i; XTR
Technical Data	
Number of analog inputs	2
Signal type	4 … 20 mA
Signal characteristic	Single-ended
Resolution	12 bits
Conversion time	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)

6

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 kΩ, 5 kΩ; Potentiometer setting: 0 … 100 % (1.2 kΩ, 5 kΩ)
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 µF
Reactances Ex ia IIB	L_o = 100 mH; C_o = 240 µF
Reactances Ex ia IIA	L_o = 100 mH; C_o = 1000 µF
Reactances Ex ia I	L_o = 100 mH; C_o = 1000 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/750-481/040-000

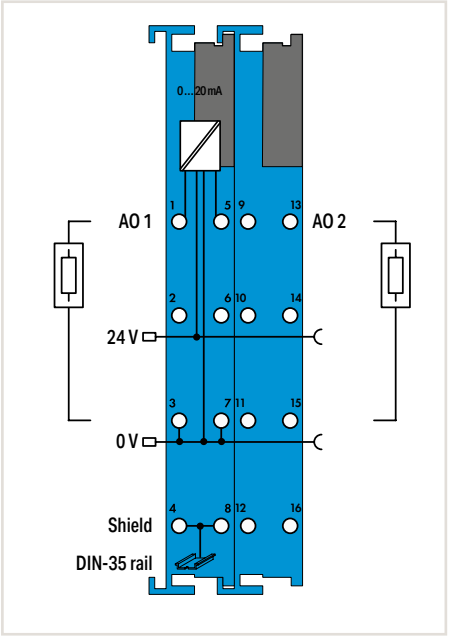
Reactances without accounting for the concurrence of capacitance (C_o) and inductance (L_o)

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

„ Approvals and corresponding ratings, see page 526 or www.wago.com

6

2-Channel Analog Output; 0 … 20 mA; Intrinsically Safe; Extreme

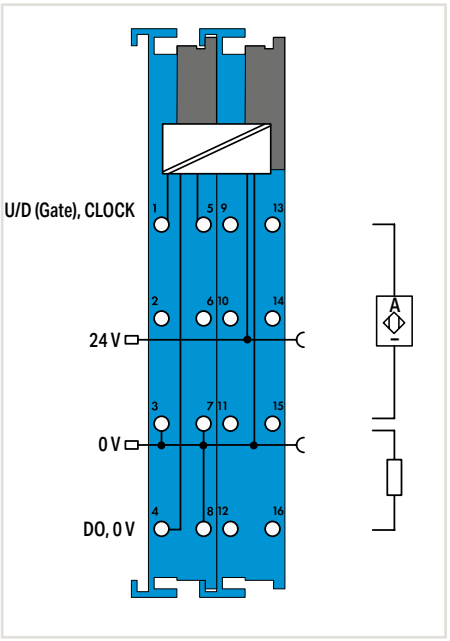


Item Description	2-Channel Analog Output; 0 … 20 mA; intrinsically safe
Version	**Extreme**
Item no.	**750-585/040-000**
Order text	2AO; 0-20mA; Ex i; XTR
Technical Data	
Number of analog outputs	2
Signal type	0 … 20 mA
Signal characteristic	Single-ended
Load impedance	< 500 Ω
Resolution	12 bits
Conversion 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)

6

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 µs
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 µF
Input reactances Ex ia IIB	L_o = 100 mH; C_o = 9 µF
Input reactances Ex ia IIA	L_o = 100 mH; C_o = 36 µF
Input reactances Ex ia I	L_o = 100 mH; C_o = 35 µF
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 µF
Output reactances Ex ia IIB	L_o = 13 mH; C_o = 0.719 µF
Output reactances Ex ia IIA	L_o = 23 mH; C_o = 2.369 µF
Output reactances Ex ia I	L_o = 33 mH; C_o = 3.849 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/750-633/040-000

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