



ABB MEASUREMENT & ANALYTICS

Non-invasive sensor

A new era of temperature measurement



Why use a non-invasive sensor?

A simpler and safer approach

- **SAFER**

and no risk of thermowell breaking off

- **REDUCED COST**

Quick to install for less costly installation

No thermowell testing, calculations or need for exotic materials

- **HIGH PERFORMANCE**

Keep your measurement quality

- **SIMPLER**

Straightforward from ordering to maintenance

No thermowell stocking



TSP341-N

At a glance

Introducing TSP341-N – A simpler and safer way of measuring your process temperature without the need to shut down, drill a hole or install a thermowell.

With its innovative double sensor architecture and specially developed calculation algorithm, it greatly enhances your safety and reduces your installation costs without sacrificing the quality of your measurement.

Main data at a glance for TSP341-N

Process connection	Surface mounting to vessels and piping (Clamp-on concept)
Sensor	Thin film resistor Pt100 in three-wire circuit; nickel tip
Material connection heads	Aluminum, epoxy-coated or stainless steel
Communication	4 to 20 mA, HART 7
Accuracy	Similar to invasive sensor under common conditions
Response time	Matches or exceeds invasive sensor performance
Measuring range (surface temperature)	-40 to 400 °C (-40 to 752 °F)
Transport/storage temperature	-20 to 70 °C (-4 bis 158 °F)
Ambient temperature range at connection head	without LCD indicator: -40 to 85 °C (-40 to 185 °F) with LCD indicator: -20 to 70 °C (-4 to 158 °F)
IP rating	IP 66 / IP 67
Vibration resistance	10 to 58 Hz: 0,075 mm (0,003 in.) > 58 to 2000 Hz: 10 m/s ² (1 g)
Explosion protection	Global approvals; intrinsic safety and flameproof enclosure

SAFER

No process penetration

The non-invasive sensor measures at the surface, eliminating the need for a thermowell and avoiding process intrusion altogether: Its approach is inherently safer!

- Reduces risks for humans, the environment, the medium as well as other system components
- Eliminates risk of failure of a thermowell
- Simplifies the compliance of safety and environmental aspects



LOWER COST OF OWNERSHIP

Faster and more cost-efficient

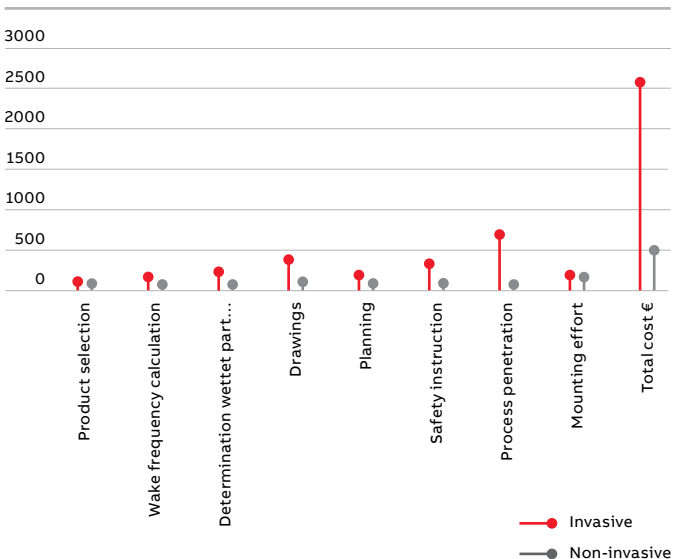
No need to shut down for installation and service

Suitable for various applications and industries

Increases plant availability, lowers system costs significantly

More than 75% CAPEX cost reduction

Cost comparison invasive vs. non-invasive



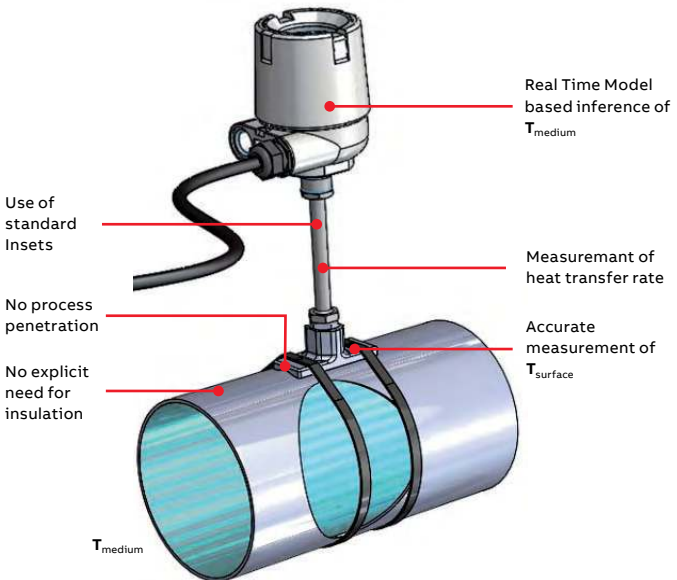
HIGH PERFORMANCE

Keep your measurement quality

—
Accuracy and response time close to or better than invasive measurement

—
Repeatability proven under long-term industrial testing during development

—
Standard insets widely used in industry



SIMPLER

Straightforward from ordering to maintenance



Easy ordering and delivery process

Ordering a TSP341-N is completely simple. A thermowell is not necessary, therefore process compatibility does not have to be considered.



Less installation effort

Low installation time and effort due to the clamp-on concept. The installation can be done while the process is running. The sensor can be easily integrated into an existing system structure.



Intuitive commissioning and handling

Product parameterization happens via the HART interface. Handling during operation is possible. The TSP341-N has the ABB common look and feel with text display.



Minimal maintenance effort

The product is independent of the process and easy to maintain. An incorrect installation can be removed quickly. Maintenance may be carried out without shutting down the process.

Contact

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