

At a glance

Temperature sensors



Temperature sensors – Highly optimized specialists for any requirements

Temperature is a critical factor in many industrial processes and has to be monitored constantly in order to operate machines and systems safely and efficiently. A reliable and practical solution for temperature measurement are electronic temperature sensors and transmitters. Reliability is not just provided through high accuracy and repeatability but also through many available interfaces to the process and the operator.

surface temperatures in a range between +70 °C and +1000 °C. The distance-spot ratio is thereby of importance, indicating the diameter (S) of the spot at a given distance (D).

The TURCK product portfolio guarantees maximum flexibility for temperature measurement through numerous connection possibilities and output signals.



Temperature measurement in industrial applications is mainly implemented with resistance thermometers or thermoelements. Resistance thermometers detect temperature through the temperature-sensitive resistors. While the resistance of PTCs increases with the rise of temperature, NTCs behave opposite.

The intelligent sensors of the **TS series** fulfill all application specific requirements to the optimum through easy programming, flexible process connection and well readable displays. The compact sensors of the **TT/TC series** are available with integrated probe but also with standard M12 plug connection for separate probes. The infrared sensors of the T-Gage series measure temperatures contactless between 0 and +300 °C at wavelengths between 8 and 14 µm. A further important device of the product portfolio is the IP67 rated Pt100 resistance thermometer for temperatures between -50 and +500 °C. The temperature probes of the **TP-series** are available in different lengths and diameters. When using a thermowell for protection, the sensor can be adapted to critical application conditions.

Thermoelements are applied to detect temperatures up to +1700 °C and higher. A thermoelement consists of two different interconnected metals or semiconductors. A temperature difference between the two metals causes electric potential of corresponding magnitude at the interconnection. In practice, the temperature of a cold spot is detected with a separate probe from which the temperature of the hot spot is then deduced.

More information on the TS series on p. 542 ff., TT/TC series on p. 553 ff. and TP series on p. 561 ff.



Infrared sensors **M18T** (s. P. 568) are applied for non-contact measurement of

Our strengths...



Made-to-measure solutions

Due to its high accuracy of 0.2 K, the temperature sensors of the TS series handle a large spectrum of applications with only a few devices. Temperature is detected with a Pt100 directly connected to the M12 plug connection or via a standard connection cable. A range between -50 °C and +500 °C is covered and the 4-digit 7-segment LED display makes

programming easier. The devices are available with two transistor switching outputs or with one switching and one analog output. High EMC immunity and protection classes IP67/IP69K guarantee reliable operation, even under harsh conditions. All TS sensors are equipped with an IO-Link interface.



Flexible mounting

Inclined by 45° the display is well readable from any position and even from a great distance. Horizontal mounting is also possible. The read direction is reversible by 180° degrees via software.

After locking the pressure connection, the TS500 can be rotated by 320° degrees

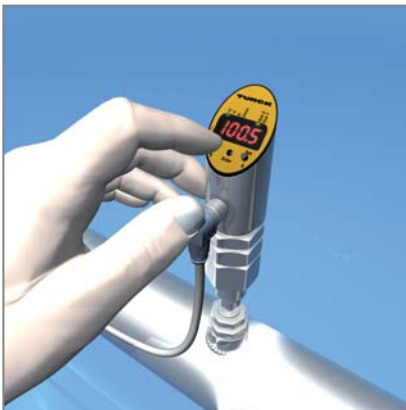
and moved in any desired position. Once the final position is attained, the device is fixed in place with a second coupling nut. Special mounting aids are not required. With a diameter of only 34 mm, several sensors can be mounted side by side in confined spaces.



Clearly visible display

The bright 4-digit 7-segment display indicates the temperature during normal operation and is easy to program. The sloped display allows the sensors to be mounted on top or in front according to the position of the process connection.

The read direction is reversible by 180° degrees via software. Values are thus perfectly readable, even if the sensor is mounted horizontally.



Easy programming

Thanks to the user friendly menu guide the switch and release point, the output function, the analog range and various special functions are easily taught via pushbuttons.

The TS series is programmed with the buttons MODE and SET. Tools are not needed

to view the parameter values. To avoid accidental changes of programmed data, the ENTER button for storing the values is recessed. The button can only be pressed with a pointed object, such as a ball pen for example.



Rugged design

The sensor body, temperature and electrical connection are made of stainless steel. All sensors feature excellent EMC properties and are IP67 protected. Absolute operational safety is thus guaranteed even in rough production environ-

ments. The mineral-insulated probes are enormously flexible and temperature-resistant. Rugged TURCK connection cables provide the necessary security for connection.

Your advantages...

Your advantages...

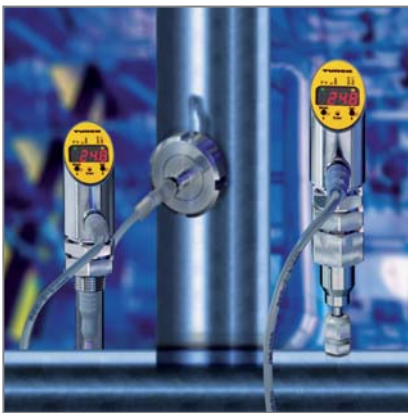


High system availability

The TS series excels in excellent EMC properties and is IP67 protected. Sensor body, temperature and electrical connection of the programmable devices are made of stainless steel and guarantee tremendous operational safety.

- Excellent EMC properties

- Protection against mechanical impacts thanks to the rugged design
- Minimum maintenance effort through optimized temperature coupling
- Short down-times through high system availability and short replacement times



Extremely service-friendly

Flexible mounting options, user-friendliness and accuracy provide calculable advantages, such as:

- Minimum maintenance effort through optimized performance of the sensors and a streamlined product portfolio.
- Easy configuration and operation via pushbuttons

- Failsafe operation through a recessed button for storage of values
- Large and good readable display
- The upper part of the TS500 sensor is rotatable by 320°
- IO-Link communication
- VDMA menu guide (optional)



Efficient standardization

A single sensor replaces many conventional types. The intelligent temperature sensors fulfill many different control tasks and reduce the number of required sensors considerably.

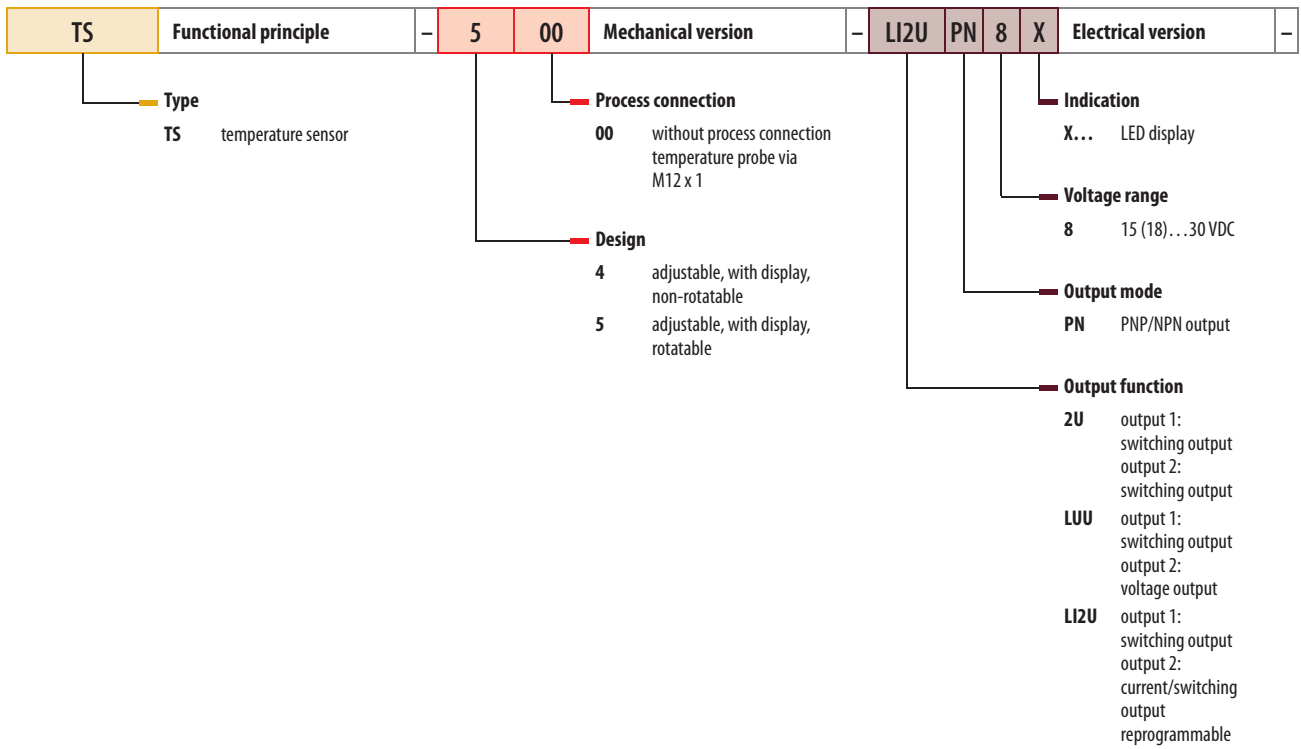
A reduced inventory pays off for you:

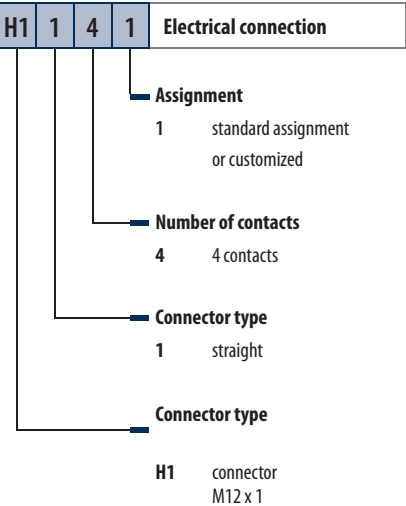
- Only a few sensors are needed to cover a large range of applications

- Reduced training effort due to simple and failsafe operation
- High system safety achieved through a rugged design
- 4-pole standard M12 plug connection at the probe and processing unit

antades

Type code





TS400 series – Pt 100 probe (4-wire)

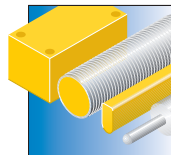


The TS400 processing units are incorporated in a non-rotatable, rugged stainless steel housing. Furthermore, they feature a standard M12 x 1 plug connection for TP probes. The bright 4-digit 7-segment display indicates the temperature during normal operation and guides the operator through the programming menu. Depending on the sensor type, they are available with switching outputs or a combination of switching and analog outputs. IO-Link communication is integrated as a standard.

Features

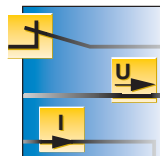
- M12 x 1 plug connection for TP probes.
- Housing, temperature and electrical connection are made of stainless steel
- Highest flexibility through modular system
- Programming protection through recessed pushbutton and keylock
- Permanent display of temperature (°C, °F, K, Ω)
- Storage of max/min values

Properties



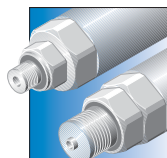
Design

Cylindrical, non-rotatable, with display



Electrical versions

IO-Link capable, dual-channel, switching, current or voltage output



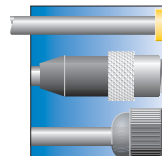
Mechanical connections

G1/2" for bores, mounted via clamping ring or thermowell depending on the probe



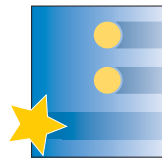
Measuring ranges

-50 ... +500 °C



Electrical connections

4-pole M12 x 1 plug connection



Special features

Failsafe 3-key operation, VDMA menu guide (optional), IP67, fully encapsulated electronics

Pt100 processing unit – Switching and analog outputs (U/I)



General data

Temperature operating range -50...500 °C

Accuracy (Lin. + Hys. + Rep.) 0.2 K

Repeatability 0.1 K

Switching point accuracy 0.2 K

Release points -50...499.8 °C

Switching point -49.8...500 °C

Ambient temperature -40...+80 °C

Storage temperature -40...+80 °C

Protective measure SELV; PELV according to EN 50178


Voltage drop at 2 V

No-load current I₀ 50 mA

Switching frequency 180 Hz

Short-circuit protection yes

Reverse polarity protection yes

Output function  programmable, pnp/npn

Rated operational current 0.2 A

Protection class IP67

Protection class III

Housing material stainless-steel/plastic, V2A (1.4305)

Electrical connection connector, M12 x 1



Coupling nut wrench size 30

Vibration resistance 20 g (9...2000 Hz), according to IEC 68-2-6

Shock resistance 50 g (11 ms) g (11 ms), according to IEC 61508

Mechanical connection G 1/2"

Types and data – selection table

Type	Operating voltage	Current output	Voltage output	Load		
TS-400-2UPN8X-H1141	15...30 VDC	-	-	-	w101	d479
TS-400-LI2UPN8X-H1141	18...30 VDC	4...20 mA	-	0.5 kΩ	w102	d479
TS-400-LUUPN8X-H1141	18...30 VDC	-	0...10 V	-	w103	d479

TS500 series fo Pt 100 probe (4-wire)

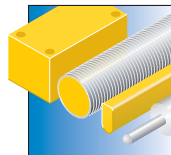


The TS500 processing units are rotatable by 320° and equipped with 4-digit 7-segment displays. A standard M12 x 1 plug connection at the rugged stainless steel housing enables the connection of a TP probe. The display indicates the temperature during normal operation and guides the operator through the programming menu. Depending on the sensor type, they are available with switching outputs or a combination of switching and analog outputs. IO-Link communication is integrated as a standard.

Features

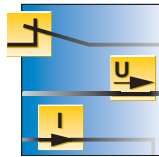
- Sensor rotatable by 320°
- M12 x 1 plug connection for TP probes
- Housing, temperature and electrical connection are made of stainless steel
- Highest flexibility through modular system
- Programming protection through recessed pushbutton and keylock
- Permanent display of temperature (°C, °F, K, Ω)
- Storage of max/min values

Properties



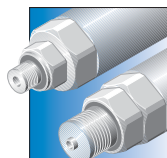
Design

Cylindrical, rotatable, with display



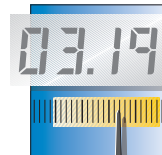
Electrical versions

IO-Link capable, dual-channel, switching, current or voltage output



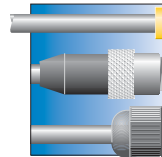
Mechanical connections

G1/2" male thread for bracket



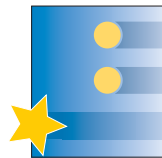
Measuring ranges

-50 ... +500 °C



Electrical connections

4-pole M12 x 1 plug connection



Special features

Failsafe 3-key operation, VDMA menu guide (optional), IP67, fully encapsulated electronics

Rotatable Pt100 processing unit – Switching and analog outputs (U/I)



General data

Temperature operating range -50...500 °C

Accuracy (Lin. + Hys. + Rep.) 0.2 K

Repeatability 0.1 K

Switching point accuracy 0.2 K

Release points -50...499.8 °C

Switching point -49.8...500 °C

Ambient temperature -40...+80 °C

Storage temperature -40...+80 °C

Protective measure SELV; PELV according to EN 50178


Voltage drop at 2 V

No-load current I₀ 50 mA

Switching frequency 180 Hz

Short-circuit protection yes

Reverse polarity protection yes

Output function  programmable, pnp/npn

Rated operational current 0.2 A

Protection class IP67

Protection class III

Housing material stainless-steel/plastic, V2A (1.4305)

Electrical connection connector, M12 x 1



Coupling nut wrench size 30

Vibration resistance 20 g (9...2000 Hz), according to IEC 68-2-6

Shock resistance 50 g (11 ms) g (11 ms), according to IEC 61508

Mechanical connection G 1/2"

Types and data – selection table

Type	Operating voltage	Current output	Voltage output	Load		
TS-500-2UPN8X-H1141	15...30 VDC	-	-	-	w101	d480
TS-500-LI2UPN8X-H1141	18...30 VDC	4...20 mA	-	0.5 kΩ	w102	d480
TS-500-LUUPN8X-H1141	18...30 VDC	-	0...10 V	-	w103	d480

At a glance

Temperature sensors - TT/TC series



Flexible temperature transmitter and sensor

The sensors of the TT/TC series detect temperature with a Pt100 4-wire probe. Available are compact devices with integrated probe but also with standard M12 connector for separate probes. The temperature transmitters of the TT series feature an analog output 4...20 mA (2-wire).

The devices of the TC series instead feature a switching output. Depending on the combination of sensor and probe, temperatures between -50 °C and +500 °C can be detected. Customer specific modification of the temperature range is possible.



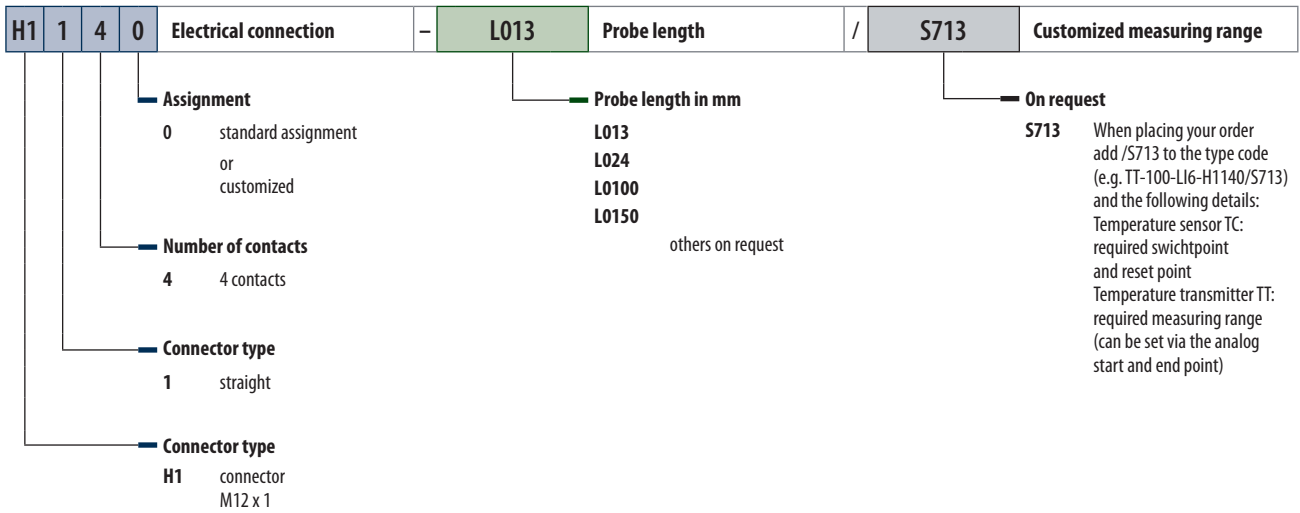
Cost-efficient transmitter solution

Temperature transmitters and switches of the TT/TC series are applied in places where transducers are not required and the customer needs highest flexibility regarding the choice of probe and thermowell:

- Temperature range between -50 °C and +500 °C
- Rugged stainless steel housing, IP67 protected
- Version with integrated probe or without probe
- Connection of separate probes via M12 connector
- Highest flexibility in choice of probe
- Further mounting aids are not required
- Analog output 4...20 mA (TT series) or switching output (TC series)

Type code

TT	Functional principle	-	103A	Mechanical version	-	G1/8	Process connection	-
<p>Type</p> <p>TC temperature switch</p> <p>TT temperature transmitter</p>		<p>Housing</p> <p>100A processor unit without probe, connection of probe via M12 x 1</p> <p>103A processor unit with probe Ø 3 mm, process connection via standard thread accuracy class A</p> <p>206A processor unit with probe Ø 6 mm, process connection via compression fitting thermowell, accuracy class A</p>			<p>Process connection (only devices with built-on probe)</p> <p>G1/8 G1/8" male thread (only 103)</p> <p>CF connection compression fitting thermowell (only 206A)</p>			



TT/TC series – Temperature transmitters and switches



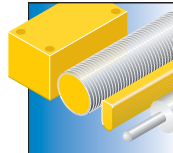
Devices of the TT and the TC series are available with or without probe. The types without probe take any Pt100 (4-wire) probe of the TP series.

The TT temperature transmitters are set to 0...+150 °C by default. The processed signal is provided via an analog current output, 4...20 mA (2-wire). The TC devices feature a switching output, switch and release point are set by default. Customized settings are available on request.

Features

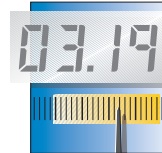
- Operating range -50...+500 °C
- Customized settings
- Transmitters with analog current output 4...20 mA (2-wire), default temperature range 0...+150 °C
- Sensor with PNP output (NO), customized switch and release point

Properties



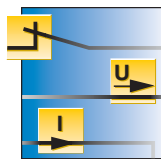
Design

Compact, cylindrical, Ø29 mm



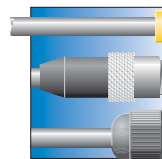
Measuring ranges

-50 ...+500 °C



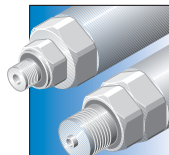
Electrical versions

Analog current output 4...20 mA (2-wire) or PNP switching output (NO)



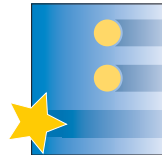
Electrical connections

4-pole M12 x 1 plug connection



Mechanical connections

Standard thread, compression fitting or thermowell, depending on the probe



Special features

Customized temperature range, many connection possibilities for the probe

Processing unit without probe – Current output (2-wire)



Type	TT-100-LI6-H1140	Short-circuit protection	yes
Temperature operating range	-50...+500 °C	Reverse polarity protection	yes
Accuracy (Lin. + Hys. + Rep.)	0.1% of final value BSL	Load	1.2 kΩ
Ambient temperature	-40...+85 °C	Protection class	IP67
Storage temperature	-40...+85 °C	Housing material	stainless steel, V4A 1.4401 (AISI 316)
Measuring element	for connection to probes of the TP series	Pressure resistance	100 bar
Response time	dependent on connected temperature sensor	Electrical connection	connector, M12 x 1
Operating voltage	8...35 VDC	Wiring diagram	w104
No-load current I₀	20 mA	Dimension drawing	d481
Current output	4...20 mA		

Transmitter with compact probe Ø 3 mm – Current output (2-wire)



General data		Short-circuit protection	yes
Temperature operating range	0...150 °C	Reverse polarity protection	yes
Accuracy (Lin. + Hys. + Rep.)	0.1% of final value BSL	Load	1.2 kΩ
Ambient temperature	-40...+85 °C	Protection class	IP67
Storage temperature	-40...+85 °C	Housing material	stainless steel, V4A 1.4401 (AISI 316)
Measuring element	Pt-100 platinum measuring element, DIN EN 60 751	Sensor material	stainless steel, AISI 316
Accuracy	Class A	Pressure resistance	100 bar
Operating voltage	8...35 VDC	Electrical connection	connector, M12 x 1
No-load current I₀	20 mA	Mechanical connection	G1/8" male thread
Current output	4...20 mA		

Types and data – selection table

Type	Immersion depth	w	d
TT-103A-G1/8-LI6-H1140-L013	13 mm	w104	d482
TT-103A-G1/8-LI6-H1140-L024	24 mm	w104	d483

Transmitter with rod-shaped probe Ø 6 mm – Current output (2-wire)




General data			
Temperature operating range	0...150 °C	Short-circuit protection	yes
Accuracy (Lin. + Hys. + Rep.)	0.1% of final value BSL	Reverse polarity protection	yes
Ambient temperature	-40...+85 °C	Load	1.2 kΩ
Storage temperature	-40...+85 °C	Protection class	IP67
Measuring element	Pt-100 platinum measuring element, DIN EN 60 751	Housing material	stainless steel, V4A 1.4401 (AISI 316)
Accuracy	Class A	Sensor material	stainless steel, AISI 316
Operating voltage	8...35 VDC	Pressure resistance	100 bar
No-load current I₀	20 mA	Electrical connection	connector, M12 x 1
Current output	4...20 mA	Mechanical connection	for compression ferrule fittings, protective tubing or direct mounting

Types and data – selection table

Type	Immersion depth	w	d
TT-206A-CF-LI6-H1140-L0100	100 mm	w104	d484
TT-206A-CF-LI6-H1140-L0150	150 mm	w104	d485

Processing unit without probe – Switching output



General data			
Temperature operating range	-50...500 °C	Operating voltage	15...30 VDC
Accuracy (Lin. + Hys. + Rep.)	0.1% of final value BSL	Short-circuit protection	yes
Switching point accuracy	0.5 °C	Reverse polarity protection	yes
Switch point SP1	customized	Output function	 , PNP
Release point rP1	customized	Rated operational current	0.1 A
Ambient temperature	-40...+85 °C	Protection class	IP67
Storage temperature	-40...+85 °C	Housing material	stainless steel, V4A 1.4401 (AISI 316)
Measuring element	for connection to probes of the TP series	Pressure resistance	100 bar
Response time	dependent on connected temperature sensor	Electrical connection	connector, M12 x 1

Types and data – selection table

Type	w	d
TC-100-AP6-H1140	w105	d481
TC-100-AP6-H1140/S713	w105	d481

Transmitter with compact probe Ø 3 mm – Switching output



General data

Temperature operating range	0...150 °C	Short-circuit protection	yes
Accuracy (Lin. + Hys. + Rep.)	0.1% of final value BSL	Reverse polarity protection	yes
Switching point accuracy	0.5 °C	Output function	—, PNP
Switch point SP1	customized	Rated operational current	0.1 A
Release point rP1	customized	Protection class	IP67
Ambient temperature	-40...+85 °C	Housing material	stainless steel, V4A 1.4401 (AISI 316)
Storage temperature	-40...+85 °C	Sensor material	stainless steel, AISI 316
Measuring element	Pt-100 platinum measuring element, DIN EN 60 751	Pressure resistance	100 bar
Accuracy	Class A	Electrical connection	connector, M12 x 1
Operating voltage	15...30 VDC	Mechanical connection	G1/8" male thread

Types and data – selection table

Type	Immersion depth	w	d
TC-103A-G1/8-AP6-H1140-L013	13 mm	w105	d482
TC-103A-G1/8-AP6-H1140-L024	24 mm	w105	d483

At a glance

Temperature probes- TP series



Highest possible flexibility

A temperature probe has to be flexible and robust. All Pt100 probes of the TP series are therefore mineral-insulated, equipped with a standard process connection and available ex-stock. Moreover TURCK Pt100 probes are provided in

4-wire technology. The power resistance is thus compensated and a possible influence on the measured value is avoided right from the start when using long cable connections between the probes and the processing units.



High operational safety

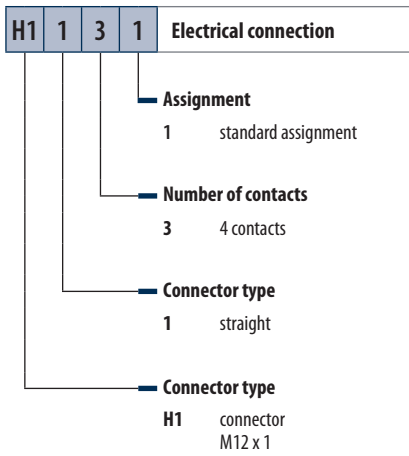
The mineral-insulated probes from TURCK are characterized by enormous flexibility and temperature resistance.

Further advantages:

- High accuracy
- Weldability (like a tube)
- Longevity even under extreme conditions (jacked cables oxidize only on one side and thus achieve double life cycles compared to tubes with the same wall thickness)

Type code

TP	Functional principle	-	103A	Mechanical version	-	G1/8	Process connection	-
	<p>Type</p> <p>TP temperature probe</p>			<p>Housing</p> <p>103A processor unit with probe Ø 3 mm, process connection via standard thread accuracy class A</p> <p>104A process connection for food applications, probe Ø 4 mm, accuracy class A</p> <p>203A for compression fitting/thermowell mounting probe Ø 3 mm, accuracy class A</p> <p>206A for compression fitting/thermowell mounting probe Ø 6 mm,</p> <p>306A cable probe Ø 6 mm</p>			<p>Process connection (only devices with built-on probe)</p> <p>DN25 DN25 für milk pipe connection DIN 11851</p> <p>CF connection via compression fitting or thermowell</p> <p>G1/8 G1/8" male thread</p> <p>TRI3/4 3/4" Tri-Clamp</p>	



Pt100 temperature probe in 4-wire technology



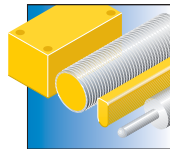
The core element of the TP series is a Pt 100 measuring resistor in 4-wire technology. All probes feature a standard M12 x 1 plug connection.

Resistance thermometers are used in places where temperatures must be detected and monitored to control and optimize processes. Typical applications are process plants, manufacturing facilities and units as well as air-conditioning systems.

Features

- Pt100 probe acc. to DIN EN 60751
- Vibration and shock proof
- class A for temp. < 350 °C
- class B for temp. > 350 °C
- Connection to TS, TT and TC series as well as to IM34, BL20 and BL67

Properties



Design

All types with standard process connection, lengths, Ø 3/6 mm, freely selectable



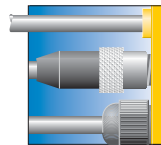
Measuring ranges

-50...+500 °C



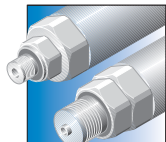
Electrical versions

Pt100 4-wire, other types on request



Electrical connections

4-pole M12 x 1 plug connection



Mechanical connections

Depending on the probe, standard thread, compression fitting or thermowell



Special features

Mineral insulated probe, IP68

Compact probe – Ø 3 mm – Process connection



General data

Temperature operating range	-50...120 °C	Housing material	stainless-steel/plastic, V4A (1.4404)
Measuring element	Pt-100 platinum measuring element, DIN EN 60 751	Sensor material	stainless steel, AISI 316L
Accuracy	class A	Pressure resistance	100 bar
Response time	t _{0.5} = 1.5 s / t _{0.9} = 6.0 s in water @ 0.2 m/s	Electrical connection	connector, M12 x 1
Reverse polarity protection	yes	Mechanical connection	G1/8" male thread
Protection class	IP67		

Types and data – selection table

Type	Immersion depth	w	d
TP-103A-G1/8-H1141-L013	13 mm	w106	d486
TP-103A-G1/8-H1141-L024	24 mm	w106	d487

Standard rod-shaped probe – Ø 3 mm



General data

Temperature operating range	-50...500 °C	Protection class	IP67
Storage temperature	-40...+85 °C	Housing material	stainless-steel/plastic, V4A (1.4404)
Measuring element	Pt-100 platinum measuring element, DIN EN 60 751	Sensor material	stainless steel, AISI 316L
Accuracy	class A	Pressure resistance	100 bar
Response time	t _{0.5} = 1.5 s / t _{0.9} = 6.0 s in water @ 0.2 m/s	Electrical connection	connector, M12 x 1
Reverse polarity protection	yes	Mechanical connection	for compression ferrule fittings, protective tubing or direct mounting

Types and data – selection table

Type	Immersion depth	w	d
TP-203A-CF-H1141-L100	100 mm	w106	d488
TP-203A-CF-H1141-L150	150 mm	w106	d489
TP-203A-CF-H1141-L250	250 mm	w106	d490
TP-203A-CF-H1141-L200	200 mm	w106	d489
TP-203A-CF-H1141-L300	300 mm	w106	d491

Standard rod-shaped probe – Ø 6 mm



General data

Temperature operating range -50...500 °C

Storage temperature -40...+85 °C

Measuring element Pt-100 platinum measuring element, DIN EN 60 751

Accuracy class A

Response time t_{0.5} = 6 s / t_{0.9} = 15 s in water @ 0.2 m/s

Reverse polarity protection yes

Protection class IP67

Housing material stainless-steel/plastic, V4A (1.4404)

Sensor material stainless steel, AISI 316L

Pressure resistance 100 bar

Electrical connection connector, M12 x 1

Mechanical connection for compression ferrule fittings, protective tubing or direct mounting

Types and data – selection table

Type	Immersion depth	w	d
TP-206A-CF-H1141-L100	100 mm	w106	d492
TP-206A-CF-H1141-L150	150 mm	w106	d493
TP-206A-CF-H1141-L200	200 mm	w106	d494
TP-206A-CF-H1141-L300	300 mm	w106	d495

Cable probe – Ø 6 mm



General data

Temperature operating range -50...105 °C

Measuring element Pt-100 platinum measuring element, DIN EN 60 751

Accuracy class A

Response time t_{0.5} = 8 s / t_{0.9} = 20 s in water @ 0.2 m/s

Reverse polarity protection yes

Protection class IP68

Housing material stainless steel, V2A (1.4301)

Sensor material rubber, TPE

Pressure resistance 15 bar

Electrical connection connector, M12 x 1

Mechanical connection for compression ferrule fittings, protective tubing or direct mounting

Types and data – selection table

Type	Immersion depth	w	d
TP-306A-CF-H1141-L1000	1000 mm	w106	d496
TP-306A-CF-H1141-L5000	5000 mm	w106	d497

Accessories for temperature sensors



We offer a large range of function supporting accessories such as compression and cutting ring fittings for easy and safe mounting, as well as protective aids such as thermowells and caps. They are tailored to the correspondent sensor types and protect them against mechanical stresses.

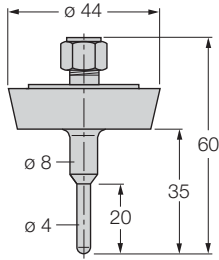
Features

- Compression fittings for temperature probes with different process connections
- Thermowells

THW-3 – Thermowells for 3 mm probes

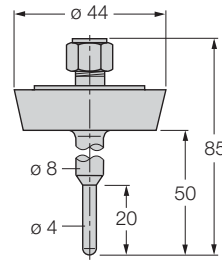
THW-3-DN25K-L035

Thermowell for
temperature probes



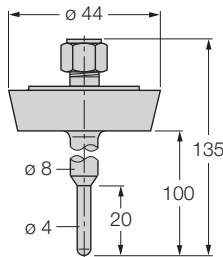
THW-3-DN25K-A4-L050

Thermowell for
temperature probes



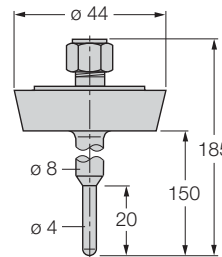
THW-3-DN25K-A4-L100

Thermowell for
temperature probes



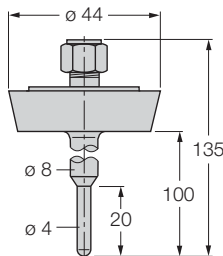
THW-3-DN25K-A4-L150

Thermowell for
temperature probes



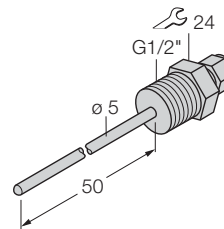
THW-3-DN25K-A4-L250

Thermowell for
temperature probes



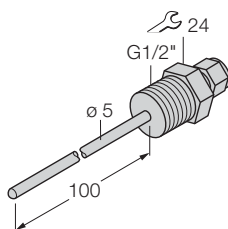
THW-3-G1/2-A4-L050

Thermowell for
temperature probes



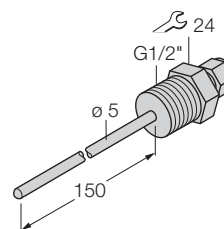
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Thermowell for
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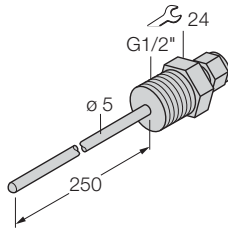
THW-3-G1/2-A4-L150

Thermowell for
temperature probes



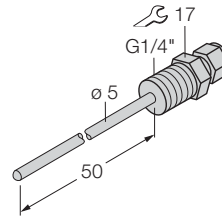
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Thermowell for
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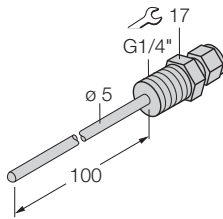
THW-3-G1/4-A4-L050

Thermowell for
temperature probes



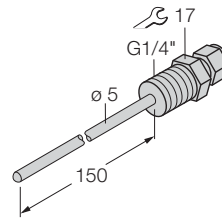
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Thermowell for
temperature probes



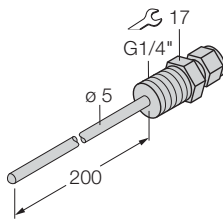
THW-3-G1/4-A4-L150

Thermowell for
temperature probes



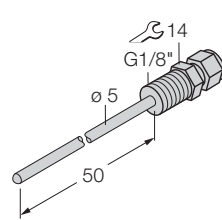
THW-3-G1/4-A4-L200

Thermowell for
temperature probes



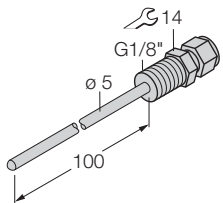
THW-3-G1/8-A4-L050

Thermowell for
temperature probes



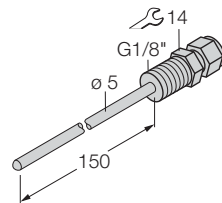
THW-3-G1/8-A4-L100

Thermowell for
temperature probes



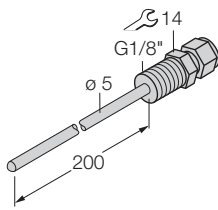
THW-3-G1/8-A4-L150

Thermowell for
temperature probes



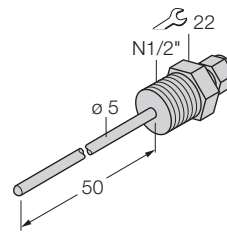
THW-3-G1/8-A4-L200

Thermowell for temperature probes



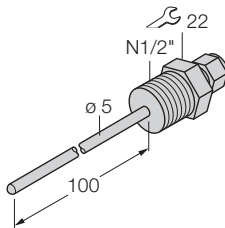
THW-3-N1/2-A4-L050

Thermowell for temperature probes



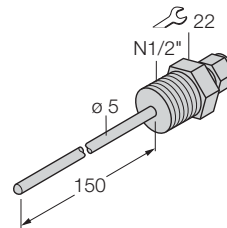
THW-3-N1/2-A4-L100

Thermowell for temperature probes



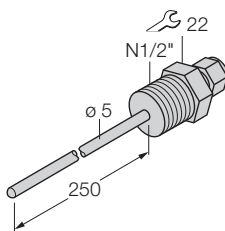
THW-3-N1/2-A4-L150

Thermowell for temperature probes



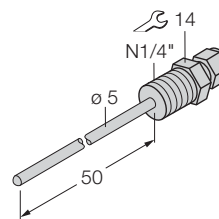
THW-3-N1/2-A4-L250

Thermowell for temperature probes



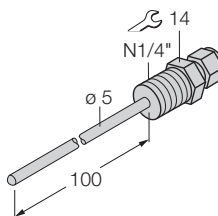
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Thermowell for temperature probes



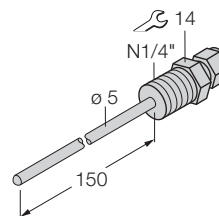
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Thermowell for temperature probes



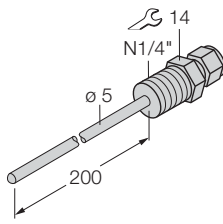
THW-3-N1/4-A4-L150

Thermowell for temperature probes



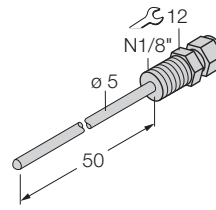
THW-3-N1/4-A4-L200

Thermowell for temperature probes



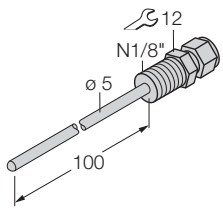
THW-3-N1/8-A4-L050

Thermowell for temperature probes



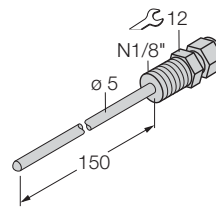
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Thermowell for temperature probes



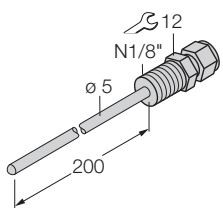
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Thermowell for temperature probes



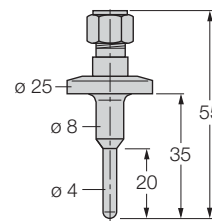
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Thermowell for temperature probes



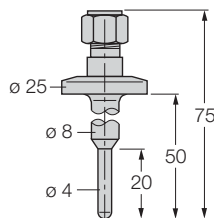
THW-3-TRI3/4-A4-L035

Thermowell for temperature probes



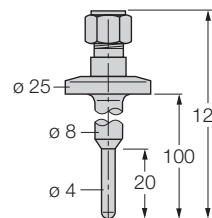
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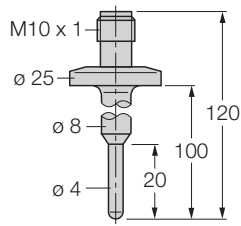
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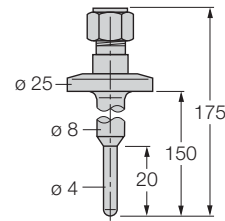
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Thermowell for temperature probes

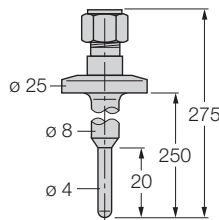




THW-3-TRI3/4-A4-L100
Thermowell for temperature probes

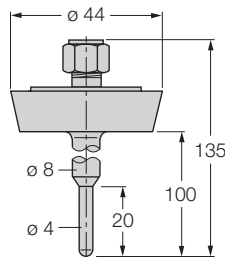


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Thermowell for temperature probes

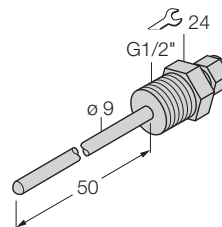


THW-3-TRI3/4-A4-L250
Thermowell for temperature probes

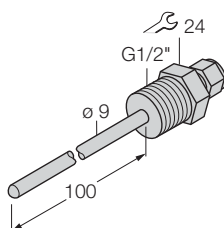
THW-6 – Thermowells for 6 mm probes



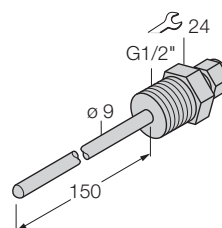
THW-6-DN25K-A4-L100
Thermowell for temperature probes



THW-6-G1/2-A4-L050
Thermowell for temperature probes

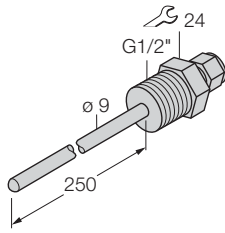


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Thermowell for temperature probes

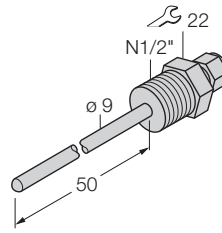


THW-6-G1/2-A4-L150
Thermowell for temperature probes

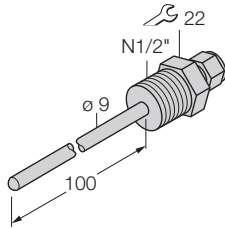
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Thermowell for
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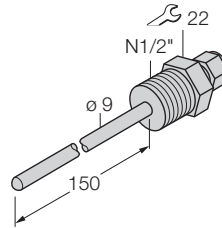
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Thermowell for
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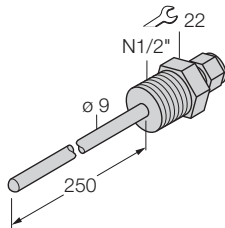
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Thermowell for
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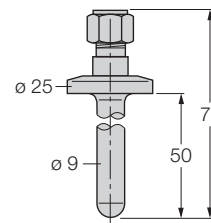
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Thermowell for
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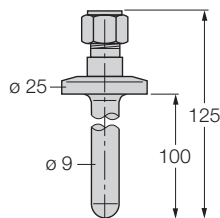
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Thermowell for
temperature probes



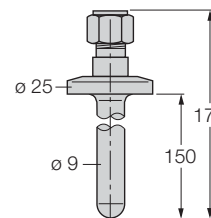
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Thermowell for
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THW-6-TRI3/4-A4-L100
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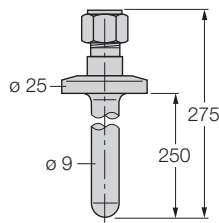


THW-6-TRI3/4-A4-L150
Thermowell for
temperature probes



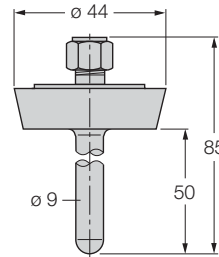
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Thermowell for temperature probes



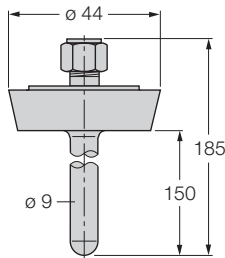
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Thermowell for temperature probes



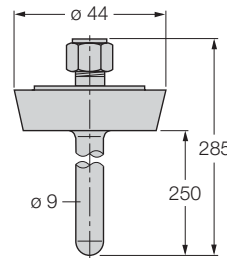
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Thermowell for temperature probes



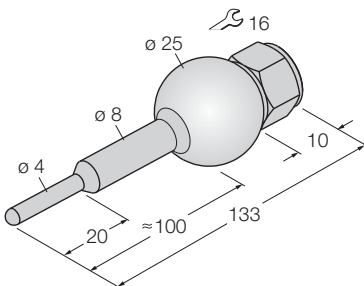
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Thermowell for temperature probes



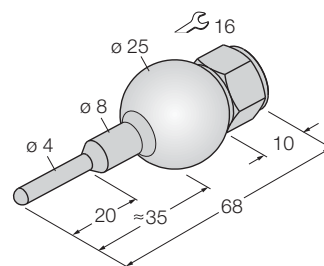
THW-3-UNI25-A4-L100

Thermowell for temperature probes



THW-3-UNI25-A4-L035

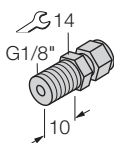
Thermowell for temperature probes



CF-3 – Compression fittings for 3 mm probes

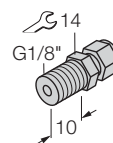
CF-M-3-G1/8-A4

Compression fitting for temperature probes



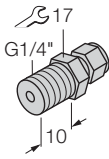
CF-M-3-N1/8-A4

Compression fitting for temperature probes



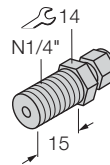
CF-M-3-G1/4-A4

Compression fitting
for direct mounting of
temperature probes



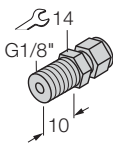
CF-M-3-N1/4-A4

Compression fitting
for direct mounting of
temperature probes



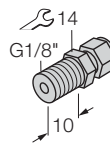
CF-P-3-G1/8-A4

Compression fitting
for direct mounting of
temperature probes



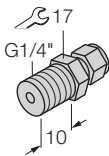
CF-P-3-N1/8-A4

Compression fitting
for direct mounting of
temperature probes



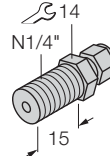
CF-P-3-G1/4-A4

Compression fitting
for direct mounting of
temperature probes



CF-P-3-N1/4-A4

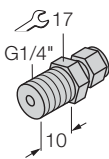
Compression fitting
for direct mounting of
temperature probes



CF-6 – Compression fittings for 6 mm probes

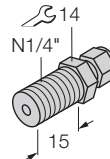
CF-M-6-G1/4-A4

Compression fitting
for direct mounting of
temperature probes



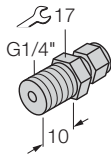
CF-M-6-N1/4-A4

Compression fitting
for direct mounting of
temperature probes



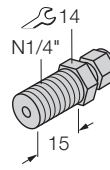
CF-P-6-G1/4-A4

Compression fitting
for direct mounting of
temperature probes



CF-P-6-N1/4-A4

Compression fitting
for direct mounting of
temperature probes



Accessories

PTS-Cover

Protective cap

