

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 are measured in a range between -50...+500 °C. The temperature range can be customized on request.



Cost-efficient transmitter solution

Temperature transmitters and sensors 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 -50...+500 °C
- Rugged stainless steel housing, IP67 protected
- Versions 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 - **103A** - **G1/8** - **H1 1 4 0** - **L013 / S713**

TT	Functional principle	-	103A	Mechanical version	-	G1/8	Process connection	-
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Functional principle

- TC temperature switch
- TT temperature transmitter

Housing

- 100A** processor unit without probe, connection of probe via M12 x 1
- 103A** processor unit with probe Ø 3 mm, process connection via standard thread accuracy class A
- 206A** processor unit with probe Ø 6 mm, process connection via compression fitting thermowell, accuracy class A

Process connection (only devices with built-on probe)

- G1/8** G1/8" male thread (only 103A)
- CF** connection compression fitting thermowell (only 206A)

H1	1	4	0	Electrical connection	-	L013	Probe length	/	S713	Costumized measuring range	
				<ul style="list-style-type: none"> Assignment 0 standard assignment or customized Number of contacts 4 4 contacts Connector type 1 straight Connector type H1 connector M12 x 1 			<ul style="list-style-type: none"> Probe length in mm L013 13 mm (only with 103A) L024 24 mm (only with 103A) L100 100 mm (only with 206A) L150 150 mm (only with 206A) 				<ul style="list-style-type: none"> Customized measuring range on request S713 when placing your order add "/S713" to the type code (e.g. "TT-100-LI6-H1140/S713") and the following details: temperature sensor TC: desired switch and release point temperature transmitter TT: measuring range (adjustable via analog star and end point)

TT/ TC series – Temperature transmitters and switches



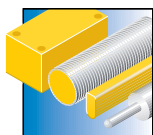
The temperature transmitters of the TT series as well as the temperature switches of the TC series are available with or without integrated probe. The versions without probe take any Pt100 (4-wire) probe of the TP series.

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
- Transmitter 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



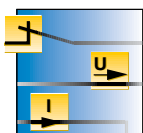
Designs

Compact cylindrical design, Ø 29 mm



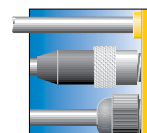
Measuring ranges

-50...+500 °C



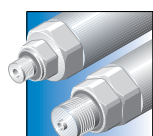
Electrical versions

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



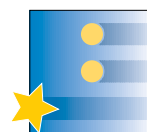
Electrical connections

Male M12 x 1, 4-pin



Connectivity

Probes available with standard thread, compression fitting or thermowell



Special features

Customized temperature range, many connection possibilities for the probe



Internet link

Scan the QR code to access our products on the internet

Processing unit without probe – 1 current output (2-wire)



General data			
Output 1	analog output	Operating range	4...20 mA (2-wire)
Protection class	IP67	Connection	male, M12 x 1
Temperature operating range	-50...500 °C	Mechanical connection	for compression ferrule fittings, protective tubing or direct mounting
Pressure resistance	100 bar	Operating voltage	8...35 VDC
Housing material	V4A 1.4401 (AISI 316)	Response time	Dependent on connected temperature sensor
Accuracy (Lin. + Hys. + Rep.)	0.2 K		

Types and data – selection table

Type	w	d
TT-100-LI6-H1140	w169	d643

Processing unit without probe – 1 switching output



General data			
Output 1	switching output	Protection class	IP67
Connection	male, M12 x 1	Temperature operating range	-50...500 °C
Operating voltage	15...30 VDC	Switching frequency	1 kHz
Housing material	V4A 1.4401 (AISI 316)	Ambient temperature	-25...+80 °C
Response time	Dependent on connected temperature sensor	Switching point accuracy	0.2 K

Types and data – selection table

Type	w	d
TC-100-AP6-H1140	w170	d643
TC-100-AP6-H1140/S713	w170	d643

Temperature transmitter with compact probe Ø 3 mm – 1 current output (2-wire)



General data			
Output 1	analog output	Operating range	4...20 mA (2-wire)
Protection class	IP67	Connection	male, M12 x 1
Sensor quality	AISI 316	Temperature operating range	0...150 °C
Mechanical connection	G 1/8" male thread	Pressure resistance	100 bar
Operating voltage	8...35 VDC	Housing material	V4A 1.4401 (AISI 316)
Outer diameter	3 mm	Accuracy	Class A
Accuracy (Lin. + Hys. + Rep.)	0.2 K		

Types and data – selection table

Type	Immersion depth (L)	w	d
TT-103A-G1/8-LI6-H1140-L013	13 mm	w169	d644
TT-103A-G1/8-LI6-H1140-L024	24 mm	w169	d645

Temperature switch with compact probe Ø 3 mm – 1 switching output



General data			
Output 1	switching output	Protection class	IP67
Connection	male, M12 x 1	Sensor quality	AISI 316
Temperature operating range	0...150 °C	Mechanical connection	G 1/8" male thread
Pressure resistance	100 bar	Operating voltage	15...30 VDC
Switching frequency	1 kHz	Housing material	V4A 1.4401 (AISI 316)
Outer diameter	3 mm	Ambient temperature	-25...+80 °C
Switching point accuracy	0.2 K	Accuracy	Class A

Types and data – selection table

Type	Immersion depth (L)	w	d
TC-103A-G1/8-AP6-H1140-L013	13 mm	w170	d644
TC-103A-G1/8-AP6-H1140-L024	24 mm	w170	d645

Temperature transmitter with rod-type probe Ø 6 mm – 1 current output (2-wire)



General data			
Output 1	analog output	Operating range	4...20 mA (2-wire)
Protection class	IP67	Connection	male, M12 x 1
Sensor quality	AISI 316	Temperature operating range	0...150 °C
Mechanical connection	for compression ferrule fittings, protective tubing or direct mounting	Pressure resistance	100 bar
Operating voltage	8...35 VDC	Housing material	V4A 1.4401 (AISI 316)
Outer diameter	6 mm	Accuracy	Class A
Accuracy (Lin. + Hys. + Rep.)	0.2 K		

Types and data – selection table

Type	Immersion depth (L)	w	d
TT-206A-CF-LI6-H1140-L0100	100 mm	w169	d646
TT-206A-CF-LI6-H1140-L0150	150 mm	w169	d647