

# Temperature Transmitter

## TS 100



### CUSTOMER BENEFITS

- Customised matching of the temperature measuring range
- Standardized output signal for simple implementation
- Fast customization thanks to modular product design
- Compact and reliable design

# Technical Specifications

## TEMPERATURE MEASURING RANGE

Standard, (1)	0 ... 70°C
Lower end of range	-50°C
Upper end of range	150°C
Temperature span, (2)	> 30°C
Accuracy, (3)	
0 ... 70°C	≤ ± 1°C
-25 ... 85°C	≤ ± 1.5°C
-50 ... 150°C	≤ ± 2°C

- (1) Other temperature measuring ranges on request  
 (2) Measuring range 15 ... 30°C must be contained  
 (3) Probe, electronics, calibration

## TEMPERATURE AND PRESSURE RANGE

Operating range	0 ... 850 bar
Operating temperature	-25 ... 85°C
Process temperature	-50 ... 150°C
Storage temperature	-25 ... 85°C

## ELECTRICAL SPECIFICATIONS

	4 ... 20 mA	0 ... 20 mA	0 ... 5 V / 0 ... 10 V
Power supply	9 ... 33 VDC	15 ... 30 VDC	15 ... 30 VDC
Supply influence	< 0.1% FS	< 0.1% FS	< 0.1% FS
Current consumption			3 mA
Circuit diagram			
Load resistance			
Load influence	< 0.1% FS	< 0.1% FS	< 0.1% FS
4 wires (passive)			

## QUALIFICATIONS

	Description	Level	Typical interferences
EN 61000-4-2	Electrostatic discharge	4 kV contact / 8 kV air	
EN 61000-4-3	Irradiated RF	10V/m (0.08 ... 1 GHz)	Radio sets, wireless phones
EN 61000-4-4	Transients (burst)	2 kV	Motors, valves
EN 61000-4-6	Conducted RF	10 V (0.15 ... 80 MHz)	Frequency converters

## PHYSICAL SPECIFICATIONS

Materials	
Probe	Stainless steel (316L / 1.4435)
Housing	Stainless steel (316L / 1.4404)
Seals	Viton
Cable	PUR, FEP, PE

# Equipment

## OVERVIEW

10.00.0091	Accessories overview
HART001	Cable Socket Connector DIN43650
HART058	Cable Socket Connector DIN 43650, Micro

# Ordering information

	X	XXX	XXX	XX	XXX
<b>Type</b>					
TS 100					290
<b>Temperature measuring range</b>					
Measuring range specified by customer any range between -50...150°C delta ≥ 30°C, 15...30°C must be included					98
<b>Probe</b>					
G 1/2 M, Ø 3.5 x 25.5 mm (standard) (Fig. 3)					71
G 1/2 M, Ø 5 x 100 mm (Fig. 4)					96
G 1/2 M, Ø 5 x 200 mm (Fig. 5)					97
G 1/4 M, Ø 3.5 x 17 mm (Fig. 1)					95
G 1/4 M, Ø 5 x 32 mm (Fig. 2)					70
M 10, Ø 3.5 x 17 mm (Fig. 6)					98
Customized probes available					99
<b>Electrical connection</b>					
DIN-43650, demountable, IP 65, with metal threaded part (Fig. 10), (1)					01
M16 (Binder 723), 5-pins, IP 67 (Fig. 11), (1)					03
MIL C26482, 10-6, IP 40 (Fig. 13), (1)					06
PE cable, IP 67, black (Fig. 14), (2), (3)					13
PUR cable, IP 67, black (Fig. 14), (2), (4)					15
FEP cable, IP 67, black (Fig. 14), (2)					21
Customized connection available					99
<b>Output signal</b>					
4 ... 20 mA					05
0 ... 20 mA					00
0 ... 5 VDC					46
0 ... 10 VDC					47
4 wires (passive)					70
Costumized					99
<b>Accuracy</b>					
According to specifications					3
<b>Temperature range</b>					
-50 ... 100°C					1
-50 ... 150°C (with cooling fins)					2
<b>Option 1</b>					
<b>Option 2</b>					
Electronics packed in gel					D
<b>Option 3</b>					

(1) Cable socket connector not included

(2) Please specify the required cable length

(3) Suitable for drinking water (food approved)

(4) For operating temperature > 50°C, PE or FEP cable must be used

# Technical drawings

## Probe

## Dimensions

## Electrical connection

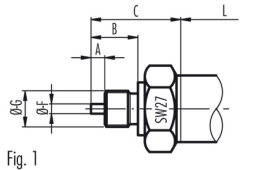


Fig. 1

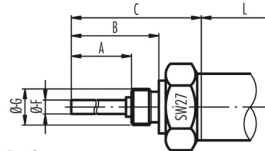


Fig. 2

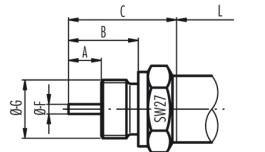


Fig. 3

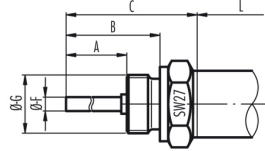


Fig. 4

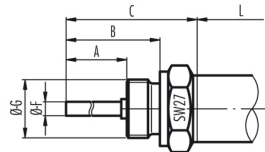


Fig. 5

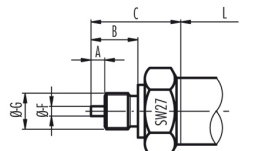
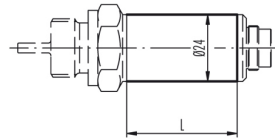


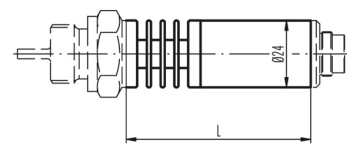
Fig. 6

Version for media temperature up to 100°C



L = 45 mm

Version for media temperature up to 150°C



L = 72 mm

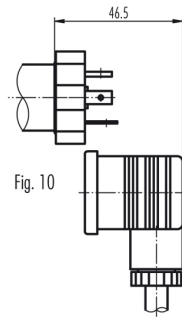


Fig. 10

Pin	2-Wire	3-Wire	4-Wire
1	+Vin	+Vin	+Vin
2	Tout	Tout	+Tout
3		GND	GND
			-Tout

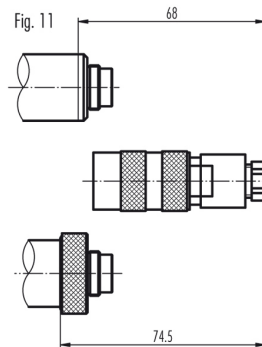
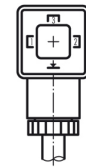


Fig. 11

Cable socket connector

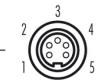
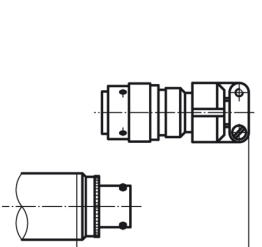


Fig. 12

Pin	2-Wire	3-Wire	4-Wire
1		+Vin	+Vin
2	Tout	Tout	+Tout
3	+Vin	+Vin	-Tout
4	GND	GND	



Cable socket connector



Fig. 13

Pin	2-Wire	3-Wire	4-Wire
A	+Vin	+Vin	+Vin
B		GND	GND
C			+Tout
D	Tout	Tout	-Tout

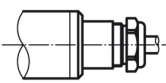


Fig. 14

Colour	2-Wire	3-Wire	4-Wire
white	+Vin	+Vin	+Vin
green	Tout	Tout	-Tout
yellow		GND	GND

Probe	A	B	C	Ø-F (Probe)	Ø-G (Thread)
Fig. 1	5	17	32.5	3.5	G 1/4 M
Fig. 2	22	32	47.5	5	G 1/4 M
Fig. 3	12	25.5	39.5	3.5	G 1/2 M
Fig. 4	88	100	113.5	5	G 1/2 M
Fig. 5	188	200	213.5	5	G 1/2 M
Fig. 6	5	17	32.5	3.5	M 10

Specifications may change without notice.

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