

## Temperature transmitters

# TS 100

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Version: 28.03.2012

# Technical Specifications

## Temperature measuring range

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

(1) Other temperature measuring ranges on request

(2) Probe, electronics, calibration

## Temperature range

<b>Operating temperature</b>	-25...85 °C
<b>Process temperature</b>	-50...150 °C
<b>Storage temperature</b>	-25...85 °C

## Electrical specifications

	4 ... 20 mA	0 ... 20 mA	0 ... 5 V / 0 ... 10 V
<b>Power supply</b>	9...33 V DC	15...30 V DC	15...30 V DC
Supply influence	< 0.1% FS	< 0.1% FS	< 0.1% FS
<b>Current consumption</b>			3 mA
<b>Circuit diagram</b>			
<b>Load resistance</b>			$R_L > 10k\Omega$
Load influence	< 0.1% FS	< 0.1% FS	< 0.1% FS
<b>4 wires (passive)</b>			

## Qualifications

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

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## Physical specifications

<b>Materials</b>	
Probe	Stainless steel (316L / 1.4435)
Housing	Stainless steel (316L / 1.4404)
Seals	Viton
Cable	PUR, PTFE, PE

## Equipment

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### Overview

<b>10.00.0091</b>	Accessories overview

## Ordering information

		X. XXXX.	XXXX.	XX.	XXX
<b>Type</b>					
	TS 100	29			
<b>Platzhalter</b>					
<b>Temperature measuring range</b>					
	0...70°C (Standard)	1			
	kundenspezifischer Messbereich	1			
<b>Probe</b>					
	G 1/4 A, Ø 3.5 x 17 mm (Fig. 1)	95			
	G 1/4 A, Ø 5 x 32 mm (Fig. 2)	70			
	G 1/2 A, Ø 3.5 x 25.5 mm (standard) (Fig. 3)	71			
	G 1/2 A, Ø 5 x 100 mm (Fig. 4)	96			
	G 1/2 A, Ø 5 x 200 mm (Fig. 5)	97			
	M 10, Ø 3.5 x 17 mm (Fig. 6)	98			
	Customized probes available	XX			
<b>Electrical connection</b>					
	DIN 43650, demountable, IP 65, (Fig. 10), (1)		01		
	Binder 723, 5-pin, IP 67, (Fig. 11), (1)		03		
	Binder 723, 5-pin, demountable, IP 67, (Fig. 12), (1)		43		
	MIL C26482, 10-6, IP 40, (Fig. 13), (1)		06		
	PE cable, IP 67, (Fig. 14), (2), (3)		13		
	PUR cable, IP 67, (Fig. 14), (2), (4)		15		
	PTFE cable, IP 67, (Fig. 14), (2)		21		
	Customized connection available		XX		
<b>Output signal</b>					
	4...20 mA		05		
	0...20 mA		00		
	0... 5 V DC		46		
	0...10 V DC		47		
	4 wires (passive)		70		
<b>Accuracy</b>					
	According to specifications			3	
<b>Temperature range</b>					
	0...80°C			0	
	-25...100°C			1	
	-25...150°C			2	
	Customized temperature range			9	
<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 PTFE cable must be used

# Technical drawings

## Probe

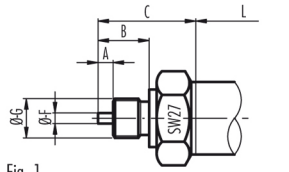


Fig. 1

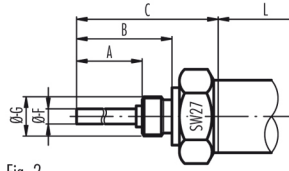


Fig. 2

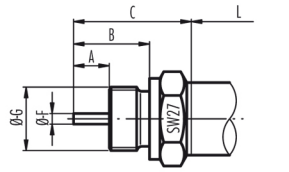


Fig. 3

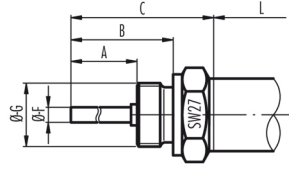


Fig. 4

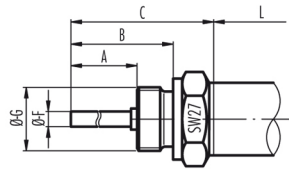


Fig. 5

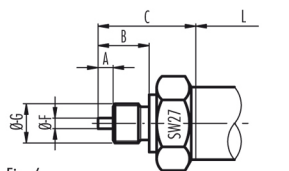
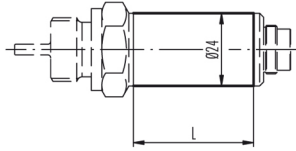


Fig. 6

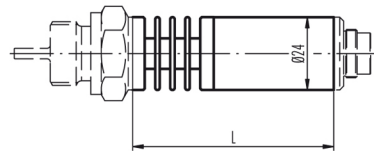
## Dimensions

Version for media temperature up to 100°C



L = 40 mm for connector DIN 43650 (Fig. 10)  
L = 45 mm for all other versions

Version for media temperature up to 150°C



L = 67 mm for connector DIN 43650 (Fig. 10)  
L = 72 mm for all other versions

## Electrical connection

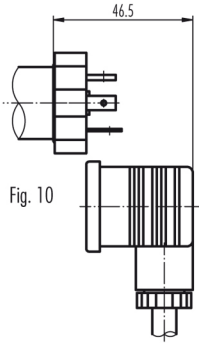


Fig. 10

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

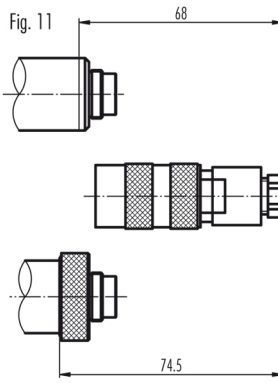
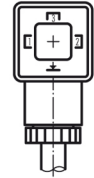


Fig. 11

Cable socket connector

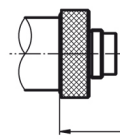
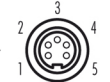


Fig. 12

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

Cable socket connector

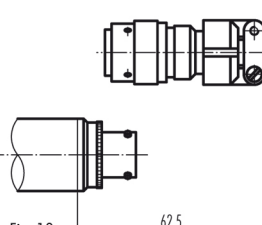


Fig. 13

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

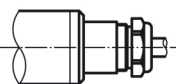


Fig. 14

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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