



Temperature Transmitter TET

PT100 screw-in resistance temperature sensor HART



- 4-20 mA output (HART)
- Rotatable sensor head
- Very robust sensor

D-EN-TET-20191001



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Applications

For use in air-conditioning, ventilating and heating installations and the whole range of industrial application. Because of the used materials the sensor is very sturdy. With the numerous electrical connections and the configuration via HART the temperature sensor is also suitable for applications with higher requirements.

Characteristics

Input	RTD PT100 (max. range -50...+200 °C)
Output	4-20 mA current loop HART (2-wire)
Voltage supply	Out of current loop (12...40 VDC)
Accuracy	See technical details
Process connection	Several options
Electrical connection	lateral, Option: upwards. Several plugs / cable
Temperature range	-20...+80 °C (ambient)
Adjustment	Software
Material	Stainless steel 1.4571 (medium contact)
Protection	At least IP65

HART communication and configuration

The HART-Tool is a graphical user interface for the ME series with menu-driven program for configuration. It can be used for putting into operation, configuration, analysis of signals, data backup and documentation of the device. Connection via HART interface DEV-HM for operating systems: Windows 2000, Windows XP, Windows 7, 8.1 and 10.

Possible settings are:

Adjustment and simulation of output current, filter function, limits of nominal measuring range (URL, LRL), limits of used measuring range URV, LRV), linear output signal, HART address, 2-point calibration.

Please note: When using communication via a HART modem, a communication resistance of 250 Ω has to be taken into account.

Important instructions!

Technical changes and errors reserved.

Pictures can be similar.

The operating instructions belonging to this device must be observed! Download at www.schmidt-messtechnik.com.



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Technical data			
Input	Sensor	Type	RTD PT100, 2-wire
		Range	-50...200 °C, minimum range -50 °C, (Higher measurement range up to 250 °C possible on request.)
Output	Current signal	4...20 mA with superimposed communication signal (HART), 2-wire current loop	
	Current range	3,8...20,5 mA	
	Signal on error	3,6 mA (sensor short circuit, underflow) 21 mA (sensor break, sensor open circuit, overflow)	
Performance	Sensor	RTD Pt100	Class A / Class B / Class AA (B 1/3 DIN)
	Measuring amplifier	Accuracy	±0,3% of range
		Resolution	16 Bit
		Filter setting	0...99 s
		Transmission behaviour	Temperature linear
		Measuring rate	10 measurements/s
		Configuration	via software (HART-communication)
		Turn-on delay time	<5 s
Pro-grammable features	Measuring amplifier	Nominal measuring range (LRL, URL) / Measuring range start (LRV) / Measuring range end (URV) / Adjustment, simulation of output current / Filter function	
		Linear output signal / HART address / 2-point calibration	
Supply	Voltage	HART current loop: 12...40 VDC	
	Load	$R = (U_B - 12 \text{ V}) / 22 \text{ mA}$	
	Reverse battery protection	available (no function, no damage)	

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Technical data			
Environmental conditions	Temperature	Operating range	-20...+80 °C
		Attention: Temperatures above +85 °C can destroy the electronics.	
		Medium	-50...+200 °C
		Storing	-40...+100 °C
	Condensation	uncritical	
Mechanics	Dimensions	See page 5	
	Process connection	1/4" / 3/8" / 1/2" / 3/4" / 1" / 1/4NPT / 3/8NPT / 1/2NPT	
	Extension	100 mm (option)	
	Electrical connection	lateral	
		Option	upwards
		Plugs and cables	see page 5
	Material	Protection tube	Stainless steel 1.4571 (standard 6x0,5 mm)
		Extension	Stainless steel 1.4571
		Process connection	Stainless steel 1.4571
		Body	PBT GF30
		Cover	PBT GF30
	Weight	Approx. 140 g (70 mm, 1/2", M12)	
	Fitting position	any	
	System pressure	PN 25	
	Protection of device	Ingress protection	At least IP65 (electronics)
		PCB	potted



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Connection M12x1-plug (example)

Assignment plug M12x1 (4-, 5-, 8-pole)				
Current loop 4...20 mA HART + 1 - 3				

Electrical connection

M12x1	Super Seal	Deutsch	Deutsch	Bayonet	Valve	MIL	Cable
4-, 5-, 8-pole	3-pole	3-pole	4-pole	4-pole	4-pole	6-pole	4-pole

Dimensions (in mm)

	Lateral electrical connection	Electrical connection upwards	Extension
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Order code

TET		X	X	X	X	X	X	-	X	X	X
Input:	RTD Pt100, 2-wire	0									
Sensor type:	Class A	0									
	Class B	1									
	Class AA (B 1/3 DIN)	3									
Protecting tube:	Ø6x0,5 mm	0									
	Other protecting tube (to specify)	1									
	Ø6x0,5 mm with extension 100 mm	2									
	Other protecting tube with extension 100 mm (to specify)	3									
Fitting length:	50 mm	0									
	100 mm	1									
	200 mm	2									
	250 mm	3									
	400 mm	4									
	600 mm	5									
	1000 mm	6									
	Other length (to specify)	7									
Process connection:	1/4"	0									
	3/8"	1									
	1/2"	2									
	3/4"	3									
	1"	4									
	1/4NPT	5									
	3/8" NPT	6									
	1/2" NPT	7									
Electrical connection:	Lateral (standard)	0									
	Upwards	1									
Electrical connection:	M12x1, 4-pole	0									
	M12x1, 5-pole	1									
	M12x1, 8-pole	2									
	Deutsch DT04, 3-pole	3									
	Deutsch DT04, 4-pole	4									
	Super Seal 1.5, 3-pole	5									
	Bayonet (DIN), 4-pole	6									
	Valve plug, 4-pole	7									
	Cable, 2 m	8									
	MIL, 6-pole										
Configuration:	Factory setting ¹⁾	0									
	Customized (to specify) ²⁾	1									
Other:	Special model	0									

1) Measuring range: -50...200 °C (LRV...URV) / Damping: 0 s RTD Pt100, 2-wire

2) All settings, which are possible according the technical data, can be selected. For not given values the details of factory-set are used.

Accessories

Interface HART, USB, software