Screw-in Resistance Temperature Sensor HART MSTS-WT

Characteristics

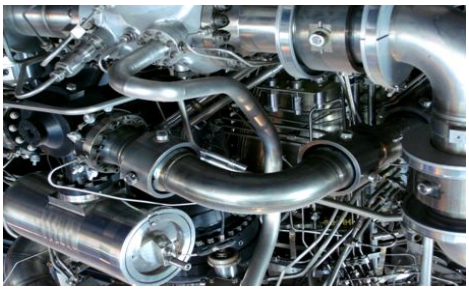
- Input:	RTD Pt100 (maximum range -50...+250 °C)
- Output:	4...20 mA current loop HART (2-wire)
- Voltage supply:	Out of current loop (12...40 VDC)
- Accuracy:	See technical details
- Process connection:	Several options
- Electrical connection:	Lateral, Option: upwards
- Electrical connection:	Several plugs / cable
- Temperature range:	-20...+80 °C (ambient)
- Adjustment:	Software
- Material:	Stainless steel 1.5471 (medium contact)
- Protection:	At least IP65

Technical data

Input		
Sensor RTD Pt100:	-50...250 °C (minimum range: 50°C)	
Output		
Current signal:	4...20 mA with superimposed communication signal (HART), 2-wire current loop	
Current range:	3,6...21 mA	
Signal on error:	21 mA (sensor break, sensor open circuit, sensor short circuit, underflow)	
Performance		
Sensor:	RTD Pt100:	Class A / Class B / Class AA (B1/3 DIN)
Measuring amplifier:	Accuracy:	0,3% of range
	Resolution:	16 Bit
	Filter setting:	0...99 s
	Measuring rate:	10 measurements/s
	Configuration:	Via software (HART communication)
	Transmission behaviour:	Temperature linear
	Turn-on delay time:	<5 s
Programmable 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	

Applications

For use in climating, 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.



Technical data (continued)

Supply		
Voltage:	HART current loop: 12...40 VDC VDC	
Load:	R = (U_B-12 V) / 21 mA	
Reverse battery protection:	available (no function, no damage)	
Ambient conditions		
Temperature:	Operating range:	-20...+80 °C
	Medium:	-50...+250 °C
	Storing:	-40...+100 °C
Condensation:	uncritical	
Mechanics		
Dimensions:	see page 3	
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 3
Material:	Protecting tube:	stainless steel 1.4571 (standard Ø6 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 IP 65 (electronics)
	PCB:	potted

Connection M12x1-plug (example)

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

Electrical connection

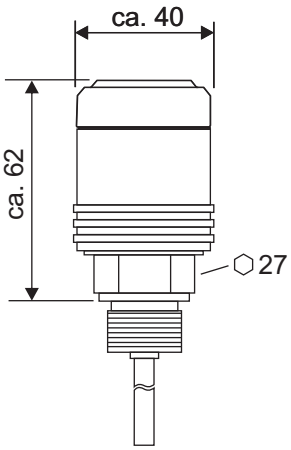
M12x1	Super Seal	Deutsch	Deutsch	Bayonet	Valve	MIL	Cable
							
4-, 5-, 8-pole	3-pole	3-pole	4-pole	4-pole	4-pole	6-pole	4-pole

HART Communication and configuration

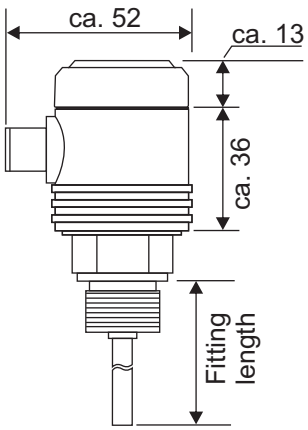
The HART-Tool is a graphical user interface for the ME series with menu-driven progam for configuration. It can be used for putting into operation, configuration, analysis of signals, data backup and documentation of the device.
Connection via HART interface DEV-HM for operating systems: Windows 2000, Windows XP, Windows 7 and 8.1.
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 comunication resistance of 250 Ω has to be taken into account.

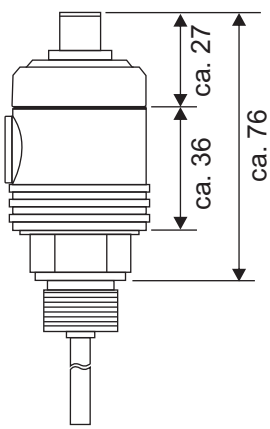
Dimensions (in mm)



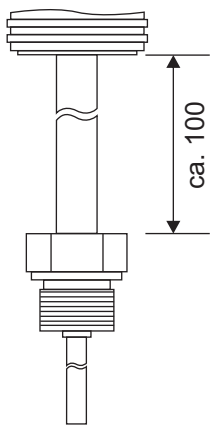
Lateral electrical connection



Electrical connection upwards



Extension



Order code

O	H	X	X	X	X	X	X	-	X	X	X

Input:	RTD Pt100	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-poe	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) Nominal measuring range: -50...250 °C (LRL...URL) / Measuring range: -50...200 °C (LRV...URV) / Damping: 0 s

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	Order No.: