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Muesen
Make Things Different

High accurate temperature head transmitter MST3er Series MST320, MST323, MST325

High accurate temperature head transmitter for resistance thermometers (RTD), thermocouples (TC), resistance and voltage transmitters, settable via HART®-protocol* (MST325), for installation in a sensor head (From B)

Application areas

Temperature head transmitter with HART®-protocol* for converting various input signals into a scalable 4 to 20 mA analogue output signal

Input

Resistance thermometer (RTD)
Thermocouple (TC)
Resistance transmitter (Ω)
Voltage transmitter (mV)

Performance

- Universal settings with HART®-protocol* for variousinput signals
- 2 wire technology, 4 to 20mA analogue output
- Best in Class accuracy in total ambient temperature range
- Galvanic isolation** (MST323 and MST325)
- An internal temperature sensor for activetemperature compensation(For T/C)
- Wide voltage supply range
- Expanded resistance input (max 2K Ω)
- Expanded voltage input (max 2KmV)

** MST325 is with HART-Protocll-communication.*
** * MST323 and MST325 are galvanic isolated, MST320 is not isolated.*

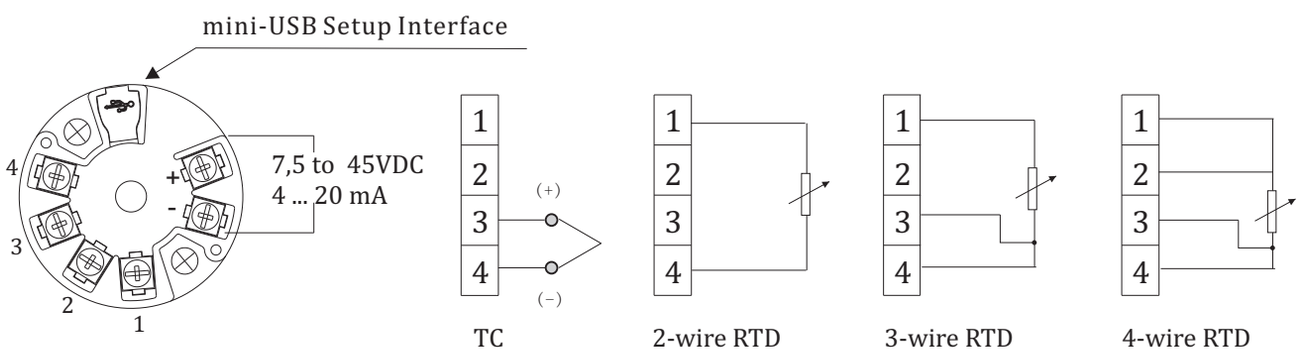
Technical data

Power supply			
Supply voltage		7.5 ...45V DC	
Input			
Input	Type	Measurement ranges	Min.meas.Ranges
Resistances thermometer (RTD)	Pt100 Pt500 Pt1000 *acc. to IEC 60751(a=0.00385)*	-200 to 850 °C (-328 to 1562 °F) -200 to 250 °C (-328 to 482 °F) -200 to 250 °C (-328 to 482 °F)	10K 10K 10K
	Cu50 Cu100	-50 to 150 °C (-58 to 302 °F) -50 to 150 °C (-58 to 302 °F)	10K 10K
	Ni100 Ni500 Ni1000 *acc. to DIN 43760(a=0.006180)*	-60 to 180 °C (-76 to 356°F) -60 to 180 °C (-76 to 356°F) -60 to 150 °C (-76 to 302 °F)	10K 10K 10K
Resistancetransmitter	Widerstand Ω	10 to 400 Ω 10 to 2000 Ω	10Ω 10Ω
Connection type: 2-, 3- or 4-wire connection Sensor current: 0.5 mA			
Thermocouples(TC)	B(PtRh30-PtRh6) E(NiCr-CuNi) J(Fe-CuNi) K(NiCr-Ni) N(NiCrSi-NiSi) R(PtRh13-Pt) S(PtRh10-Pt) T(Cu-CuNi)	0 to +1820 °C (32 to 3308 °F) -270 to +1000 °C (-454 to 1832 °F) -210 to +1200 °C (-346 to 2192 °F) -270 to +1372 °C (-454 to 2501 °F) -270 to +1300 °C (-454 to 2372 °F) -50 to +1768 °C (-58 to 3214 °F) -50 to +1768 °C (-58 to 3214 °F) -270 to +400 °C (-454 to 752 °F)	500K 50K 50K 50K 50K 500K 500K 50K
Voltage transmitters(mV)	(mV)	-10 to 75mV -100 to 100mV -100 to 500mV -100 to 2000mV	5mV 5mV 6mV 20mV

Output	
Output signal	4 to 20 mA
Load	max.(VVersorgungsspannung-7.5 V)/0.022 A
Signal on alarm	Underranging: Linear drop to 3.8 mA
	Overranging: linear rise to 20.5 mA
	Sensor break; sensor open-circuit: 3.6 mA or 22mA
Linearisation/transmission behaviour	Temperature linear, resistance linear, voltage linear
Galvanic isolation	U=2 KV AC (input/output)
Performance characteristics	
Response time	1s
Referenzbedingungen	Calibration temperature: +23 °C (73.4K)± 5 K
Long term stability	RTDs - ±0.1% of reading or 0.1 °C, whichever is greater, for 24 months. Thermocouples - ±0.1% of reading or 0.1 °C, whichever is greater, for 12 months.
Switch on delay	⩽5s
Influence of ambient	Negligible
Load influence	Negligible
Power supply influence	Negligible
Self stability configuration	0 to 2%
Filter configurating	0 to 160µA
Resolution	0.3 µ A

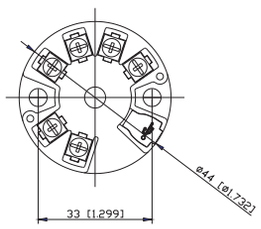
Accuracy			
	Input	Type	Accuracy
Accuracy	RTD	Pt100. Ni100 Pt500. Ni500 Pt1000. Ni1000 Cu50 Cu100	0.02% 0.05% 0.3% 0.2% 0.3%
	TC	K, J , T, E N S, B, R	typ. 0.1% typ. 0.1% typ. 0.1%
	Ω	10 to 400 Ω 10 to 2000 Ω	± 0.1 Ω or 0.02% ± 1.5 Ω or 0.03%
	mV	-10 to 75mV -100 to 100mV -100 to 500mV -100 to 2000mV	± 4 µV or 0.02% ± 4 µV or 0.02% ± 7.5 µV or 0.02% ± 7.5 µV or 0.02%
Environment conditions			
Installation instructions		Installation angle: no limit	
		Installation area: Connection head accord. To DIN 43 729 From B; TAF 10 field housing"	
Storage temperature			
Ambient temperature limits		-40 to +85 °C (-40 to 185 °F)	
Storage temperature		-40 to +100 °C (-40 to 212 °F)	
Condensation		Allowable	
Degree of protection		IP 00	
Shock and vibration resistance		4g/2 to 150 Hz as per IEC 60 068-26	
Electromagnetic compatibility (EMC)		Interference immunity and interference emission according to GB/T17626.2-1998), compliance with IEC 61000-4-3:1995	
Others			
Dimensions		44 mmX22.5 mm	
Weight		Approx. 33.5g	
Materials		Housing: PC Potting: epoxy	

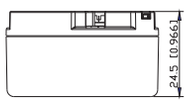
Electrical Connection



The MST325 has no USB Interfece, it can be set up only with HART Modem.

Dimensions

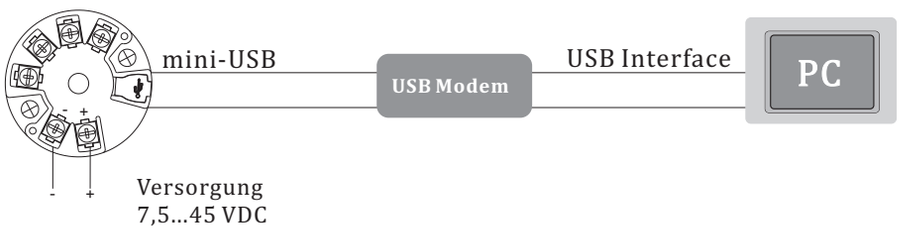




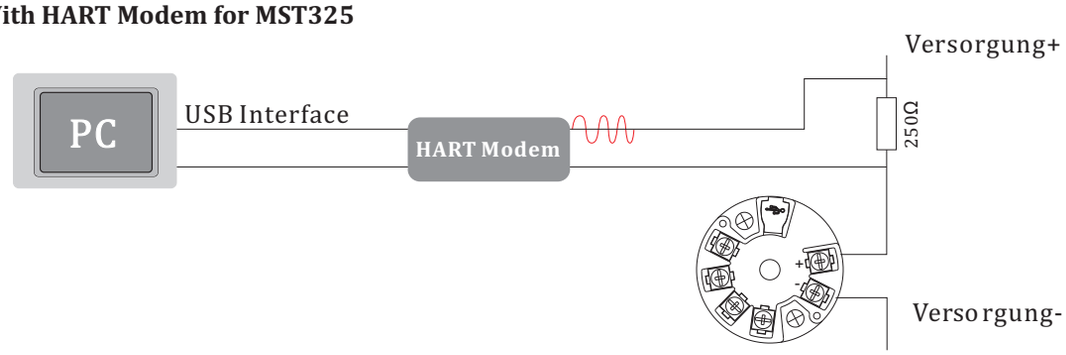
Dimensions in mm

How to programm

With USB Modem for MST320 and MST323



With HART Modem for MST325



Odering code

MST3er Series

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Type									
Programmable Temperature head transmitter	MST320								
Programmable Temperature head transmitter galvanic isolated	MST323								
HART® Programmable Temperature head transmitter galvanic isolated, with HART®-Protocol	MST325								
Input (configurable)									
Factory preset (Pt100, 3-wire, 0...100 °C)			1	0	0				
Configuration according to customer specification			9	9	9				
Output									
4...20mA, 2-wire						0	0		
0...10V, 3-wire						9	9		
Additives									
None								0	0
According to customer specification								9	9