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Temperature head transmitter MST 1 Series
MST110, MST110U

CE eHART®

Your benefits

- Free programmable via PC-Software
- Option: setting with eHART®-protocol
- eHART®-protocol
  Communication through Supply loop 4...20mA using a standard HART®-Modem
- Operation, visualisation and maintenance via PC, e. g. configurationsoftware “HHTemp_V2.06E”
- 4...20mA or 0...10V analog output
- Wide voltage supply range
- Fault signal on sensor break or short circuit, presettable to NAMUR NE 43
- Flat design with total height 18mm

Application

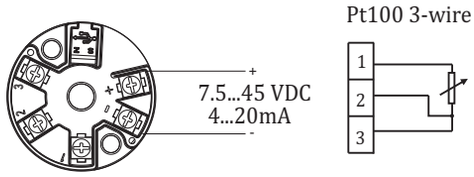
- Temperature head transmitter for converting Input (Pt100 3-wire) to an analog, scalable 0 ... 20 mA or 0 ... 10V output signal, for installation in terminal head Form B

Technical data

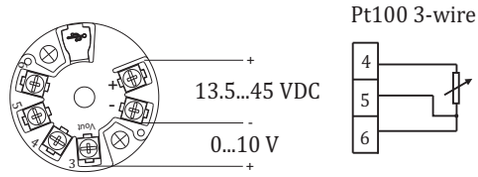
Input			
	Type	Measurement ranges	Min. measurement ranges
MST10R: RTD	Pt100	-200 to 850 °C (-328 to 1562 °F)	10°C
acc. to IEC 60751 (a = 0.00385) Connection type: 3-wire connection Sensor current: < 0.5 mA			
Power supply			
Supply voltage		MST10R: 7.5 to 45V DC; MST10RU: 13.5 to 45V DC	
Output			
Output signal		4 to 20 mA	
Load		R_{max} = [(U_{supply} - 7,5) / 0,022] Ω	
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		no	

Accuracy			
Accuracy	Input	Type	Accuracy
	RTD	Pt100	0.2K or 0.1% of span
Response time		1 s	
Reference conditions		Calibration temperature: +23 °C (73.4K) ± 5 K	
Switch on delay		≤ 2 s	
Influence of supply voltage		≤ ± 0.01%/V deviation from 24V	
Influence of ambient temperature (Totol temperature drift)		Input temperature drift + Output temperature drift Input 0 to 2000 Ω, typ. 0,0015% of measured value Output 4 to 20mA, typ. 0,005% of measured value	
Influence of load		± 0,02%/100Ω, Values refer to the full scale value	
Long-term stability		≤ 0,1 K/year oder ≤ 0,05%/year	
		The % refer to the set span.	
Resolution		1 µA	
Environment conditions			
Installation instructions		Installation angle: no limit	
		Installation area: Connection head accord. To DIN 43729 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		IP00 / IP66 installed	
Shock and vibration resistance		4g / 2 to 150Hz as per IEC 60068-26	
Electromagnetic compatibility (EMC)		Interference immunity and interference emission according to IEC 61326-1 : 2006	
Others			
Dimensions		44 x 18mm	
Weight		Approx. 27 g	
Materials		Housing: PC Potting: Silicon	
Certificate and approvals			
CE-Mark		The device meets the legal requirements of the CE directives. Muesen Technik confirms that the devices has been successfully tested by applying the CE mark.	
Other standards and guidelines		IEC 60529: Degree of protection provided by housing (IP-Code) IEC 61010: Safety requirements for electrical measurement, control and laboratory use. IEC 61326: Electromagnetic compatibility (EMC requirements) NAMUR: Standard working group for measurement and control technology in the chemical industry.	

Electrical Connection

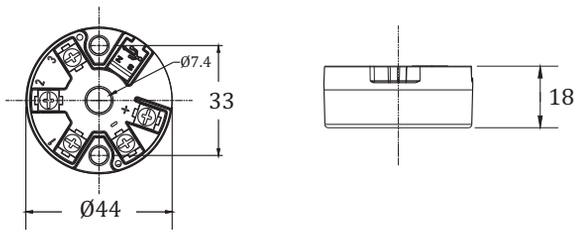


MST110 with 4...20mA output



MST110U with 0...10V output

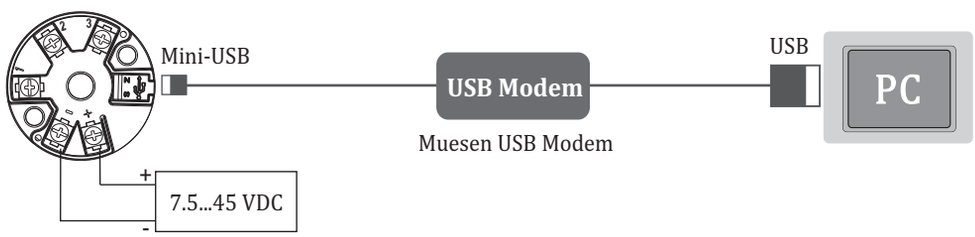
Dimensions



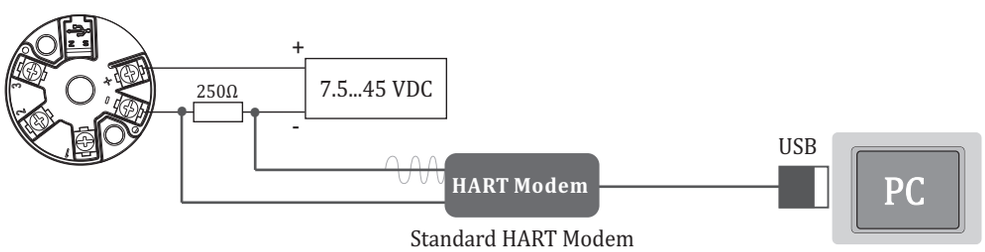
Dimensions in mm

Programming

Transmitter with USB-Interface:



Transmitter with eHART ®protocol



Odering code

MST 1 Series _ _ _ _

Type								
Programmable Temperature head transmitter	MST110							
Input (free configurable)								
Factory preset (Pt100, 3-wire, 0...100 °C)		1	0	0				
Factory preset (Pt100, 3-wire, 0...200 °C)		2	0	0				
Configuration according to customer specification		9	9	9				
Output								
4...20mA, 2-wire					0	0		
0...10V, 3-wire					1	0		
Communication type:								
Configuration via PC-Software using USB-Modem							0	0
Configuration via PC-Software using HART®-Modem (eHART®-protocol)							0	2

Inventory

Type	Interface
MST110-100-00-00	USB
MST110-100-00-02	eHART®