High accurate temperature DIN transmitter YST300

Application

- Linearised temperature measurement with Pt100...Pt1000, Cu50...Cu100, Ni100...Ni1000 or TC sensor (Type B, E, J, K, N, R, S, T)
- Conversion of linear resistance variation to a standard analogue current signal.
- Amplification of a bipolar mV signal to a standard 4...20 mA current signal.

Your benefits

- Universal Input (RTD/TC/mV/Ω)
- Free setting with PC-configurationsoftware
- Operation, visualisation and maintenance via PC, e. g. configurationsoftware “HHTemp_V2.06E”
- 2 wire technology, 4...20mA analog output
- High accuraty in totol ambient temperature range:
  0.02% of span for Pt100 sensor
  0.1% of span for TC sensor
- Fault signal on sensor break or short circuit, presettable to NAMUR NE 43
- Internal temperature sensor for active temperature compensation (for TC sensor)
- The slim housing with 12.6mm wide for DIN-rail mounting

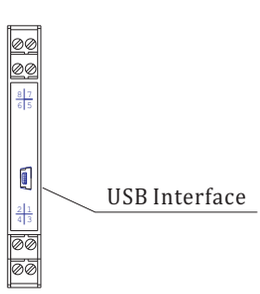
Technical data

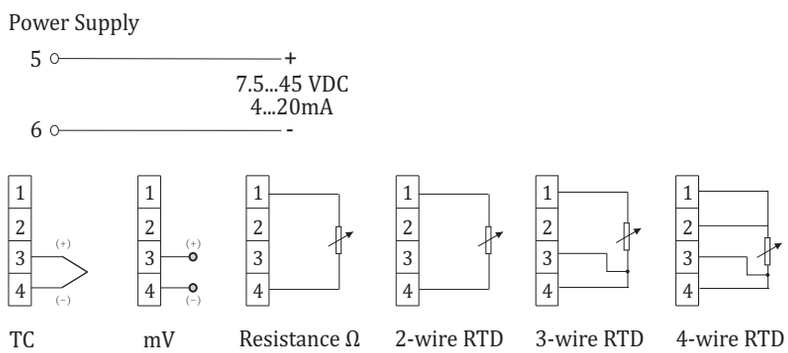
Input			
Input	Type	Measurement ranges	Min. meas. ranges
Resistances thermometer (RTD)	Pt100 Pt500 Pt1000 *acc. to IEC 60751 (a = 0.00385)*	-200 to 850 °C (-328 to 1562 °F) -200 to 250 °C (-328 to 482 °F) -200 to 250 °C (-328 to 482 °F)	10°C 10°C 10°C
	Cu50 Cu100	-50 to 150 °C (-58 to 302 °F) -50 to 150 °C (-58 to 302 °F)	10°C 10°C
	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)	10°C 10°C 10°C
Resistancetransmitter	Widerstand Ω	0 to 400 Ω 0 to 2000 Ω	10 Ω 10 Ω
Connection type: 2-, 3- or 4-wire connection, Sensor current: < 0.5 mA			

Input			
Thermocouples(TC)	B (PtRh30-PtRh6)	0 to +1820 °C (32 to 3308 °F)	500°C
	E (NiCr-CuNi)	-270 to +1000 °C (-454 to 1832 °F)	50°C
	J (Fe-CuNi)	-210 to +1200 °C (-346 to 2192 °F)	50°C
	K (NiCr-Ni)	-270 to +1372 °C (-454 to 2501 °F)	50°C
	N (NiCrSi-NiSi)	-270 to +1300 °C (-454 to 2372 °F)	50°C
	R (PtRh13-Pt)	-50 to +1768 °C (-58 to 3214 °F)	500°C
	S (PtRh10-Pt)	-50 to +1768 °C (-58 to 3214 °F)	500°C
	T (Cu-CuNi)	-270 to +400 °C (-454 to 752 °F)	50°C
Voltage transmitters(mV)	(mV)	-10 to 75mV	5mV
		-100 to 100mV	5mV
		-500 to 500mV	10mV
		-1000 to 1000mV	20mV
Connection type: 2-wire connection, Sensor current: < 0.5 mA			
Power supply			
Supply voltage		7.5 to 45V DC	
Output			
Output signal		4 ... 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 22.0 mA	
Linearisation/transmission behaviour		Temperature linear, resistance linear, voltage linear	
Galvanic isolation		no	
Performance characteristics			
Response time		0.25 s	
Reference conditions		Calibration temperature: +23 °C (73.4K) ± 5 K	
Accuracy	Input	Type	Accuracy
	RTD	Pt100. Ni100	0.02%
		Pt500. Ni500	0.05%
		Pt1000. Ni1000	0.3%
		Cu50	0.2%
		Cu100	0.3%
	TC	K, J , T, E	typ. 0.1%
		N	typ. 0.1%
		S, B, R	typ. 0.1%
	Ω	10 to 400 Ω	± 0.1 Ω or 0.02%
		10 to 2000 Ω	± 1.5 Ω or 0.03%
	mV	-10 to 75mV	± 4 µV or 0.02%
		-100 to 100mV	± 4 µV or 0.02%
		-100 to 500mV	± 7.5 µV or 0.02%
		-100 to 2000mV	± 7.5 µV or 0.02%
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	

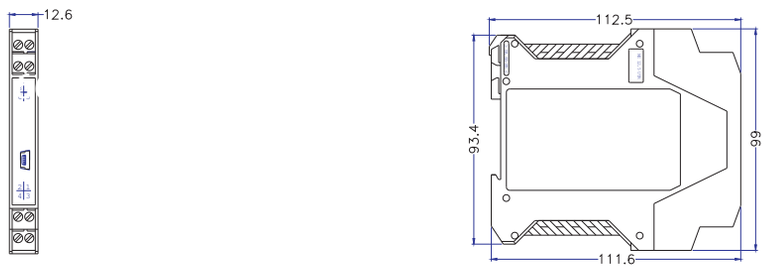
Influence of load	± 0,02%/100Ω, Values refer to the full scale value
Influence of cold junction (for TC)	Pt100 DIN IEC 60751 Cl. B
Long-term stability	≤ 0,1 K/year oder ≤ 0,05%/year The % refer to the set span.
Self stability configuration	0 to 2%
Filter configurating	0 to 160µA
Resolution	0,3µA
Environment conditions	
Installation instructions	Installation angle: no limit
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	IP20
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	12.6 x 99 x 112.5mm
Weight	Approx. 80g
Materials	Housing: PC
Certificate and approvals	
CE-Mark	The device meets the legal requirements of the CE directives. B+B 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





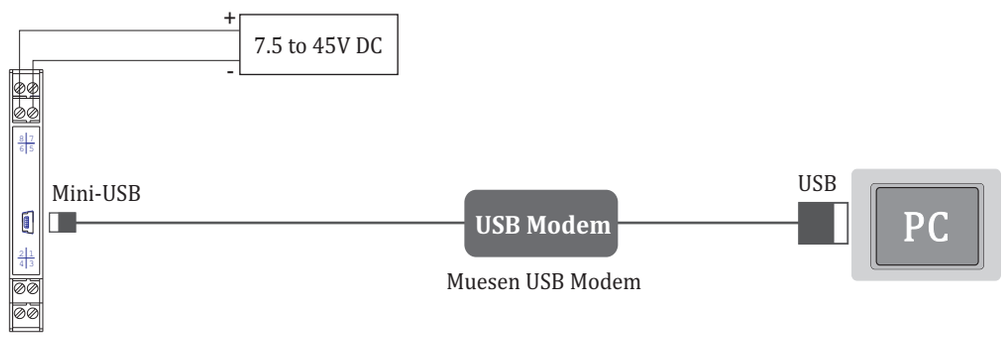
Dimensions



Dimensions in mm

Programming

With USB Modem



Odering code

Typ 300 series

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Type										
Programmable Temperature DIN-rail transmitter	Typ	360								
Programmable Temperature DIN-rail transmitter galvanic isolated	Typ	363								
HART® Programmable Temperature DIN-rail transmitter galvanic isolated, with HART®-Protocol	Typ	365								
Input (configurable)										
Factory preset (Pt100, 3-Leiter, 0...100 °C)					1	0	0			
Configuration according to customer specification					9	9	9			
Output										
4...20mA, 2-wire								0	0	
Additives										
None										0 0
According to customer specification										9 9

Inventory

Type	Interface
Typ 360-100-00-00	USB
Typ 363-100-00-00	USB
Typ 365-100-00-00	HART®