

Temperature Transmitter PMT50-2 /-3



PROFIBUS

- Signal conditioning – linearisation – output characteristic transformation
- Input for resistance and Potentiometer or RTD Pt100/Pt1000 and thermocouples
- Measuring range programmable
- Linearisation or transformation of output characteristic via 32 base-points programmable
- Automatic fault detection in the measuring circuit

Characteristics

The programmable universal transmitter PMT50 operates with analog input signals. The device convert input signals to analog output 0/4..20 mA; 0/2..10 V DC. Optional a serial interface is available. The device offers a linearisation function for any sensor curves and a simulator function. The integrated transmitter supply 24 V DC max. 30 mA allows the feeding of 2-and 3-wire sensors. 4 alarm outputs for monitoring and controlling are available.

Technical data

Power supply

Supply voltage : 230 V AC ± 10 %
 : 115 V AC ± 10 %
 : 24 V DC ± 15 %

Power consumption : < 5 VA

Operating temperature : -10..+55 °C

CE – conformity : EN 61326-1:2013, EN 60664-1:2007

Inputs

Fault detection : type -2: (only resistance measurement) broken line;
 type -3: broken line (Pt100 / Pt1000,TC) and short circuit (only Pt100 / Pt1000)

Device type 2

Input : resistance 0..100 k Ω ,
 potentiometer min.1 k Ω .. max. 100 k Ω

Accuracy : < 0.2 %, ± 1 Digit

Device type 3

Input : Pt100 (3-wire) -100.0..+600.0 °C
 Pt1000 (3-wire) -100.0..+300.0 °C
 : Thermocouple (TC)
 type J -100.0..+800.0 °C
 type K -150..+1200 °C
 type N -150..+1200 °C
 type S -50..+1600 °C

Accuracy

: < 0.1 %, ± 1 Digit

Outputs

Alarm outputs

: relay SPDT
 < 250 V AC < 250 VA < 2 A
 cos Phi ≥ 0.3
 < 300 V DC < 40 W < 2 A

Analog output

: 0/4..20 mA burden $\leq 500 \Omega$,
 0/2..10 V burden > 500 Ω isolated
 output changes automatically
 (burden depending)

Fault indication

: for broken line or short circuit detection
 → analog output (programmable)
 0 mA, < 3.6 mA or >21.5 mA
 → Alarm relays
 min. or max. programmable

Bus system

Modbus

: RS485, RTU or ASCII
 max. 38400 Baud

Profibus

: Profibus DP

Connection

: 9 pole D-SUB plug in the front

Display

: Graphic-LCD-Display
 128 x 64 Pixel,
 with white LCD backlight

Case

: Polyamide (PA) 6.6 , UL94V-0
 TS35 acc. to DIN EN 60715

Weight

: approx. 450 g

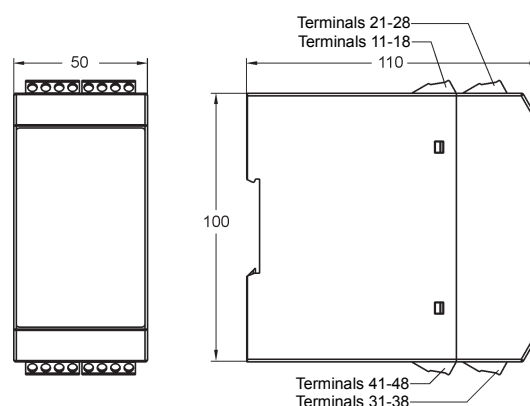
Connection

: screw terminals 0.14..2.5 mm²
 AWG 26..AWG14

Protection class

: case IP30, terminals IP20 acc. to
 BGV A3

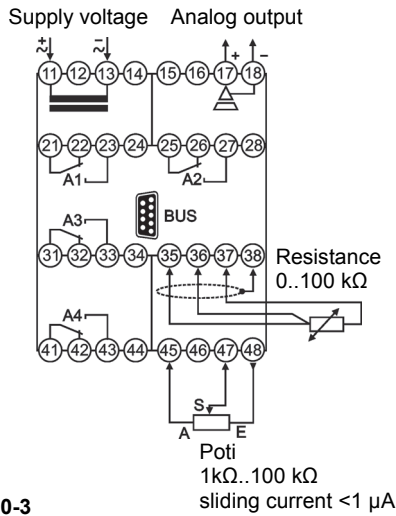
Dimensions



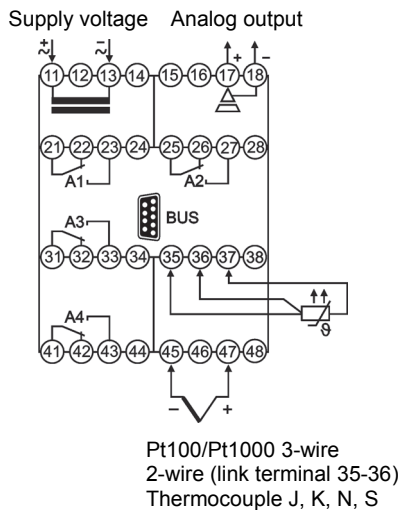
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Connection diagrams

Device type PMT50-2
Resistance, Potentiometer



Device type PMT50-3
Pt100, Pt1000, thermocouple



Ordering code

1. 2. 3. 4. 5. 6.
PMT50 - - - - - -

1. Device type/input	
2	Resistance in the range 0..100 kΩ Poti 1 kΩ..100 kΩ
3	RTD Pt100, 3-wire, -100.0..+600.0 °C RTD Pt1000, 3-wire, -100.0..+300.0 °C Thermocouple J (Fe-CuNi), -100.0..+800.0 °C K (NiCr-Ni), -150..+1200 °C N (NiCrSi-NiSi), -150..+1200 °C S (Pt10Rh-Pt), -50..+1600 °C
2. Analog output	
AO	0/4..20 mA, 0/2..10 V DC isolated
3. Alarm outputs	
00	not installed
2R	2 relay outputs, A1, A2 SPDT
4. Alarm output/BUS configuration	
00	not installed
2R	2 relay outputs, A3, A4 SPDT
MB	Modbus RTU/ASCII, RS485
PB	Profibus DP
5. Supply voltage	
0	230 V AC, ± 10 % 50-60 Hz
1	115 V AC, ± 10 % 50-60 Hz
5	24 V DC, ± 15 %
6. Options	
00	without option

Bus connection

Modbus		
PIN	Signal	EIA/TIA-485 Name
5	D1	B / B'
9	D0	A / A'
1	Common	C / C'
Profibus		
3	RxD / TxD-P	
5	DGND	
6	VP / +5V max. 10 mA	
8	RxD / TxD-N	

9-pol. D-Sub plug
in the front