

# 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  $\pm 10$  %  
 : 115 V AC  $\pm 10$  %  
 : 24 V DC  $\pm 15$  %

Power consumption : < 5 VA

Operating temperature : -10..+55 °C

CE – conformity : IEC61326 05/2004, IEC 61000-4-2,  
 IEC 61000-4-3, IEC 61000-4-4,  
 IEC 61000-4-5, IEC 61000-4-6,  
 IEC 61000-4-8, IEC 61000-4-11,  
 CISPR16-1/16-2

### 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 $\Omega$ ,  
 potentiometer min.1 k $\Omega$ .. max. 100 k $\Omega$

Accuracy : < 0.2 %,  $\pm 1$  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 %,  $\pm 1$  Digit

### Outputs

#### Alarm outputs

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

#### Analog output

: 0/4..20 mA burden  $\leq 500 \Omega$ ,  
 0/2..10 V burden > 500  $\Omega$  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 60715:2001-09

### Weight

: approx. 450 g

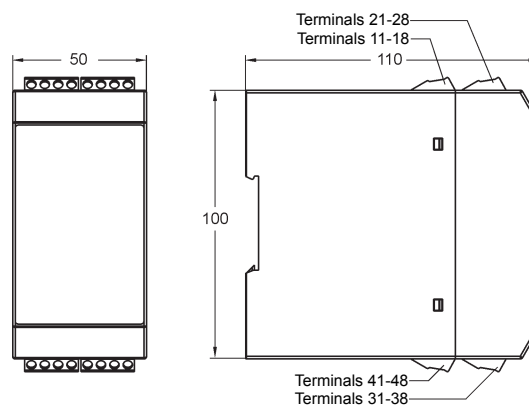
### Connection

: screw terminals 0.14..2.5 mm<sup>2</sup>  
 AWG 26..AWG14

### Protection class

: case IP30, terminals IP20 acc. to  
 BGV A3

## Dimensions

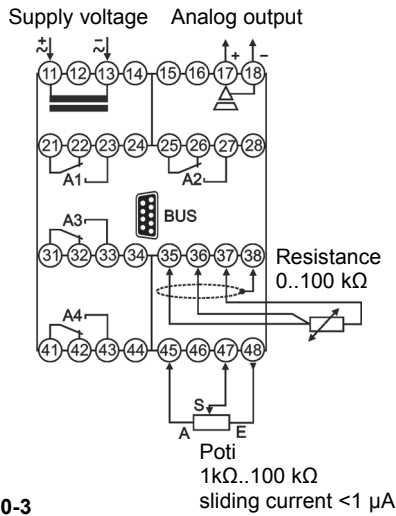


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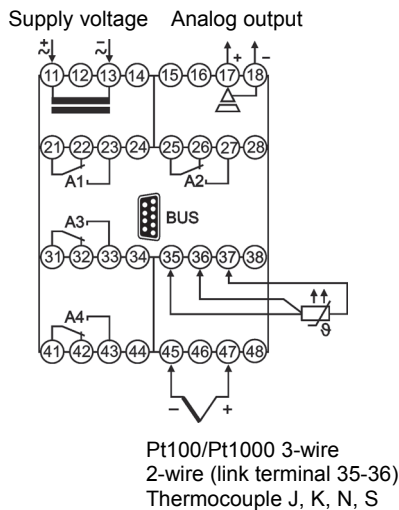
**Product Information**

**Connection diagrams**

**Device type PMT50-2**  
 Resistance, Potentiometer



**Device type PMT50-3**  
 Pt100, Pt1000, thermocouple



**Ordering code**

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

<b>1. Device type/input</b>	
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
<b>2. Analog output</b>	
AO	0/4..20 mA, 0/2..10 V DC isolated
<b>3. Alarm outputs</b>	
00	not installed
2R	2 relay outputs, A1, A2 SPDT
<b>4. Alarm output/BUS configuration</b>	
00	not installed
2R	2 relay outputs, A3, A4 SPDT
MB	Modbus RTU/ASCII, RS485
PB	Profibus DP
<b>5. Supply voltage</b>	
0	230 V AC, ± 10 % 50-60 Hz
1	115 V AC, ± 10 % 50-60 Hz
5	24 V DC, ± 15 %
<b>6. Options</b>	
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