

# Standard Signal Transmitter PMT50Ex-1


**PROFIBUS**

- **Signal conditioning – Linearisation – Characteristic adjustment**
- **Input for standard signals 0/2..10 V and 0/4..20 mA**
- **Measuring range programmable**
- **Linearisation and characteristic adjustment programmable via 32 bases**
- **Automatic input fault detection**

## Characteristics

The programmable universal transmitter PMT50Ex operates with analog input signals. The device convert input signals to an 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 16 V DC max. 20 mA allows the feeding of 2- and 3-wire transmitter. 2 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  $\pm 15\%$   
 $U_m = 253$  V AC and 125 V DC  
 (terminals 11, 13)

Power consumption : < 5 VA

Operating temperature : -10..+55 °C

CE-conformity : ATEX-directive 2014/34/EU

Standards : EN 60079-0:2006 EN 60079-11:2007  
 EN 61241-0:2006 EN 61241-11:2006

EMC-directive / standard : 2014/30/EU / EN 61326-1:2013

### Explosion protection

Marking : II (1) G [Ex ia] IIC/IIB or II (1) D  
 [Ex iaD]

Approval : TÜV 08 ATEX 554329

Input : 0/2..10 V DC, 0/4..20 mA  
 Fault detection : broken line in the measuring circuit  
 Ri : current 10  $\Omega$   
 voltage 10 k $\Omega$   
 (terminals 45, 46, 47)

Accuracy : < 0.1 %,  $\pm 1$  Digit  
 Max.  $U_0$  no load : 18.9 V  
 Max.  $I_0$  short circuit : 92.5 mA  
 Max. output power  $P_0$  : 580 mW  
 Resistance : 272  $\Omega$   
 Characteristic curve : trapezoidal  
 Internal inductivity : 4  $\mu$ H  
 Internal capacity : 1.2 nF  
 Transmitter supply : 16 V DC, max. 20 mA  
 (terminals 48)

Explosion protection	Ex ia/IIC	or	ia/IIC	ia/IIB
Max. external inductivity	: 2,3 mH		0,1 mH	5 mH
Max. external capacity	: 0,12 $\mu$ F		0,22 $\mu$ F	0,76 $\mu$ F
Max. values	$U_i$			
	$I_i$			
	$P_i$			
				: 30 V
				: 52 mA
				: 980 mW

### Outputs

Alarm outputs : relay SPDT  
 < 250 V AC < 250 VA < 2 A  $\cos \varphi \geq 0,3$   
 < 300 V DC < 40 W < 2 A  
 (terminals 21, 22, 23; 25, 26, 27)

Analog output : 0/4..20 mA burden  $\leq 500 \Omega$   
 0/2..10 V burden > 500  $\Omega$  isolated  
 output changes burden depending

Accuracy : 0.2 %; TK 0.01 %/K  
 (terminals 17, 18)

Fault indicating : break of wire in the measuring circuit  
 → analog output programmable  
 0 mA, < 3.6 mA or > 21.5 mA  
 → alarm relay(s)  
 min. or max. programmable

### Bus system

Modbus : RS485, RTU or ASCII  
 max. 38400 Baud

Profibus : Profibus DP

Connection : 9pol. D-SUB connector in the front

Display : graphic-LCD-Display, 128 x 64 Pixel  
 with white back-light

Case : Polyamide (PA) 6.6, UL94V-0

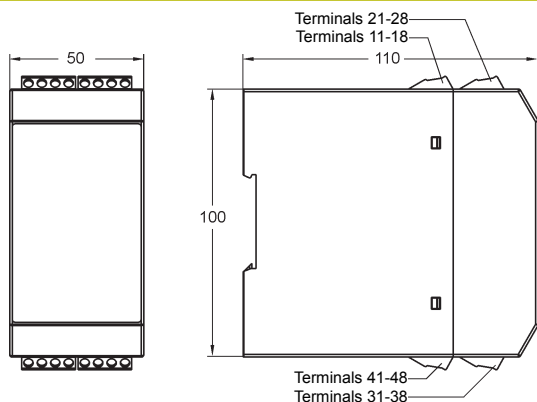
Weight : approx. 450 g

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

Protection class : case IP30, terminals IP20 acc. to  
 BGV A3

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### Dimensions



### Ordering code

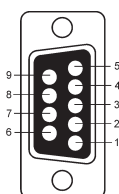
PMT50Ex -  1. -  2. -  3. -  4. -  5. -  6.

1. Model/input	
1	Standard signals 0/4..20 mA, 0/2..10 V DC
	Intrinsically safe EX II (1) G [Ex ia] IIC/IIB EX II (1) D [Ex iaD]
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. BUS configuration	
00	not installed
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 connector in the front



### Connection diagram

