

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 $\pm 15\%$
 Um = 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 Ω
 voltage 10 k Ω
 (terminals 45, 46, 47)

Accuracy : < 0.1 %, ± 1 Digit
 Max. U₀ no load : 18.9 V
 Max. I₀ short circuit : 92.5 mA
 Max. output power P₀ : 580 mW
 Resistance : 272 Ω
 Characteristic curve : trapezoidal
 Internal inductivity : 4 μ 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 μ F		0,22 μ F	0,76 μ 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 Ω 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

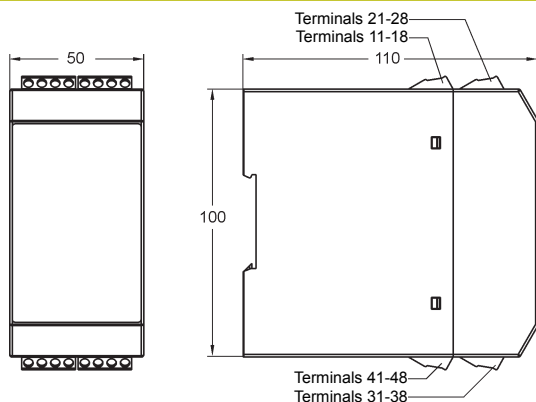
Weight : approx. 450 g

Connection : screw clamps 0.14..2.5 mm²
 AWG 26..AWG14

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

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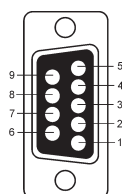
Dimensions



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



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
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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, $\pm 10\%$ 50-60 Hz
1	115 V AC, $\pm 10\%$ 50-60 Hz
5	24 V DC, $\pm 15\%$

6. Options

00	without option
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Connection diagram

