

Product Information

Transmitter

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 : 30 V		
	I _i : 52 mA		
	P _i : 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

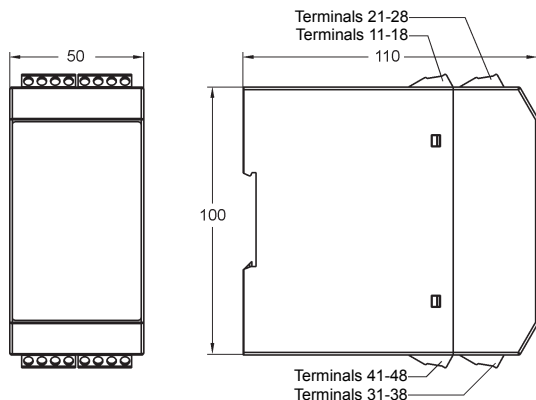
Connection : screw clamps 0.14..2.5 mm²
AWG 26..AWG14

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

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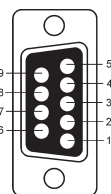
Dimensions



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

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

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, $\pm 10\%$ 50-60 Hz
1	115 V AC, $\pm 10\%$ 50-60 Hz
5	24 V DC, $\pm 15\%$
6. Options	
00	without option

Connection diagram

