

Monitoring Relay MR50Ex



- Input standard signals 0/4..20 mA, 0/2..10 V DC
- Measuring range programmable
- Max. 2 alarm outputs
- Isolated analog output 0/4..20 mA, 0/2..10 V DC

Characteristics

The Monitoring Relay MR50Ex has inputs for industry standard signals 0/4..20 mA and 0/2..10 V DC. Measuring value and the programmed unit are shown in the display. The integrated transmitter supply offers direct connection of loop powered sensors. Simple programming, up to 2 alarm outputs (SPDT) and an optional available fully isolated free programmable analog output 0/4..20mA; 0/2..10 V DC meets the demand for different applications.

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 or 125 V DC
 (terminals 11 and 13)

Power consumption : max. 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

Inputs

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

Approval : TÜV 08 ATEX 554329

Input : 0/4..20 mA; 0/2..10 V DC

Ri : current 10 Ω ,
 voltage 10 k Ω

Fault detection : break of wire in the measuring circuit
 (terminals 45, 46 and 47)

Accuracy : < 0.1 %, ± 1 Digit

Temperature coefficient : 0.01 %/K

Safety data

Max. no load voltage U_0 : 18.9 V

Max. short circuit curr. I_0 : 92.5 mA

Max. output power P_0 : 580 mW

Resistance R : 272 Ω

Characteristics : trapezoidal

Internal inductivity : 4 μ H

Internal capacity : 1.2 nF

Transmitter supply : approx. 16 V DC max. 20 mA
 (terminal 48)

Explosion protection

Max. ext. inductivity : 2.3 mH 0.1 mH 5 mH

Max. ext. capacity : 0.12 μ F 0.22 μ F 0.76 μ F

At connecting of externally supplied active intrinsically safe circuits the rules for the interconnection of intrinsically safe circuits have to be observed.

Max. values U_i : 30 V

I_i : 52 mA

P_i : 980 mW

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 automatically

(burden dependent)

Accuracy : 0.2 %; TK 0.01 %/K

for connection at electrical equipments with supply voltage of max. 230V (terminals 17 and 18)

Fault function : break of wire in the measuring circuit:

→ analog output 0 mA,

< 3.6 mA or > 21.5 mA

→ alarm contact(s)

min. or max. programmable

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

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

Weight : approx. 450 g

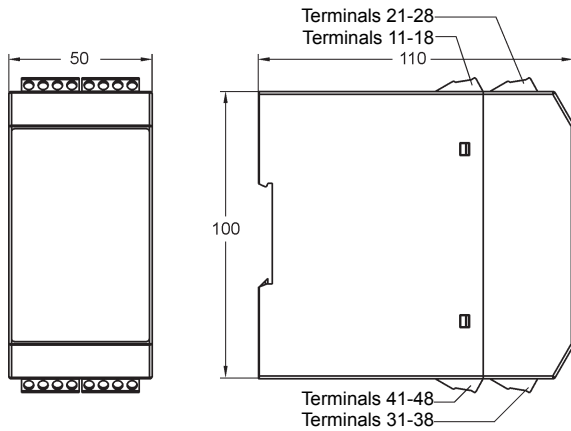
Connection : screw terminals 0.14..2.5 mm²
 (AWG 26..14)

Protection class : case IP30, terminals IP20, BGV A3

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Product Information

Dimensions



Ordering code

MR50Ex - 1. - 2. - 3. - 4. - 5. - 6.

1. Input	
1	standard signals 0/4..20 mA, 0/2..10 V DC, transmitter supply approx. 16 V DC, max. 20 mA, inputs intrinsically safe
2. Alarm output A1, A2	
2R	2 relay SPDT
3. Alarm output A3, A4	
00	not available
4. Analog output	
00	not installed
AO	0/4..20 mA, 0/2..10 V DC
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

Connection diagram

