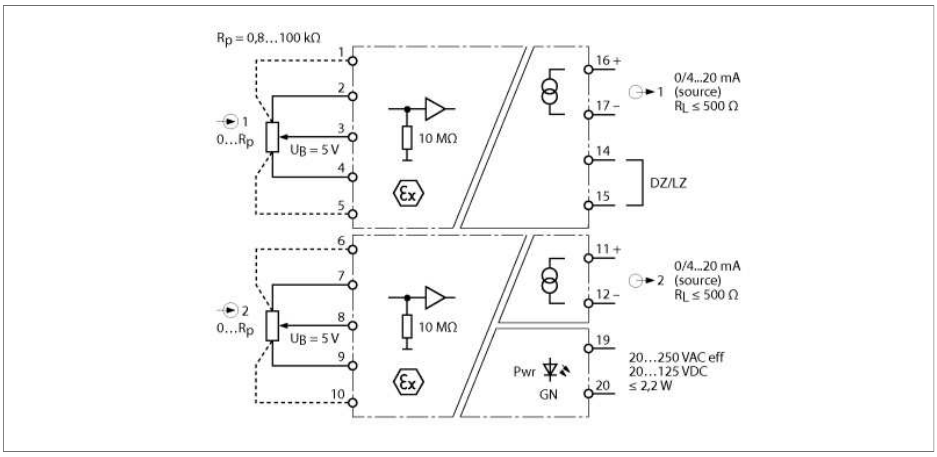
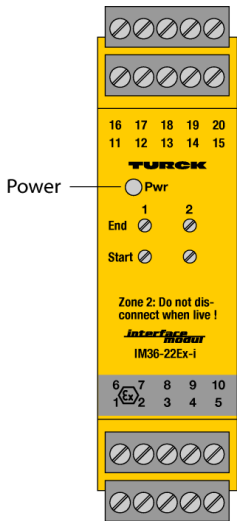
interface modul

Potentiometer amplifier
2-channel
IM36-22EX-I

TURCK
Industrial Automation





The 2-channel potentiometer amplifier IM36-22EX-I separates signals from 3-wire or 5-wire potentiometers and transfers these as standard 0/4…20 mA analog signals from the Ex area to the non-Ex area. Live-zero operation is activated for both channels through bridging terminals 14 and 15. The resistance value of the wiper contact is collected and processed linearly in a range between 0 Ω and the potentiometer's end value (see fig.).

A potentiometer is defined by its nominal resistance. Any potentiometer can be connected, provided the nominal resistance is 800 … 100000 Ω. Common potentiometers featuring a nominal resistance of 1 kΩ or 10 kΩ can be used. The admissible line resistance is maximally 50 Ω with a potentiometer resistance of 800 Ω.

The incremental potentiometer's start and end point can be adjusted separately for each channel. This is necessary to protect the incremental potentiometer from damage which can be caused by critical rotating angles smaller than 5% and greater than 95% of the absolute rotational torque.

- **Intrinsically safe input circuits Ex ia**
- **Application area acc. to ATEX: II (1) G; II (1) D; II 3 G**
- **Transfer of potentiometer signals from the explosion hazardous area**
- **Potentiometer, nominal resistance: 0.8…100 kΩ**
- **Output circuit: 0/4…20 mA**
- **Removable terminal blocks**
- **Complete galvanic separation**

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Potentiometer amplifier
2-channel
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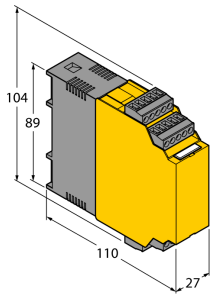

Type code	IM36-22EX-I
Ident no.	7509528
Operating voltage	20…250 VAC
Frequency	40…70 Hz
Operating voltage range	20…125 VDC
Power consumption	≤ 2.2 W
Input circuits	potentiometer
Cable resistance	≤ 50 Ω
Voltage on resistor	5 VDC
Nominal resistance	0.8…100 kΩ
Output current	0/4...20 mA
Rise time (10-90%)	≤ 35 ms
Dropout time (90…10%)	≤ 40 ms
Galvanic separation	
Test voltage	2.5 kV
Ex approval acc. to conformity certificate	TÜV 12 ATEX 093477
Application area	II (1) G, II (1) D
Protection type	[Ex ia Ga] IIC; [Ex ia Da] IIIC
Max.output voltage U_o	≤ 14.1 V
Max. output current I_o	≤ 40.6 mA
Max. output power P_o	≤ 143 mW
Characteristic	linear
Internal inductance/capacitance L_i/C_i	Li = 87 µH; Ci = 15 nF

External inductance/capacitance L_o/C_o

Ex ia	IIC			IIB		
Lo [mH]	1	5	10	1	5	10
Co [nF]	425	285	235	2400	1700	1500

Ex approval acc. to conformity certificate	TÜV 12 ATEX 093479X
Application area	II 3 G
Protection class for belonging equipment	Ex nA nC [ic Gc] IIC T4 Gc
Max.output voltage U_o	≤ 14.1 V
Max. output current I_o	≤ 40.6 mA
Max. output power P_o	≤ 143 mW
Characteristic	linear
Internal inductance/capacitance L_i/C_i	Li = 87 µH; Ci = 15 nF

External inductance/capacitance L_o/C_o

Ex ic	IIC			IIB		
Lo [mH]	1	5	10	1	5	10
Co [nF]	735	515	445	4300	3000	2700

Indication	
Operational readiness	green
Protection class	IP20
Ambient temperature	-25…+70 °C
Storage temperature	-40…+80°C
Dimensions	104x 27x 110 mm
Weight	200 g
Mounting instruction	For mounting on DIN rail or mounting panel
Housing material	Polycarbonate/ABS
Electrical connection	4 x 5-pole removable terminal blocks, reverse polarity protected, screw connection
Terminal cross-section	1 x 2.5 mm^2 / 2 x 1.5 mm^2
Tightening torque	0.5 Nm

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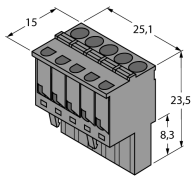
Accessories

Type code	Ident no.	Description	Dimension drawing
IM-CC-5X2BU/2BK	7504031	Cage clamp terminals for IM modules (Ex devices; width 27 mm): 2 blue/2 black, 5-pin	

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