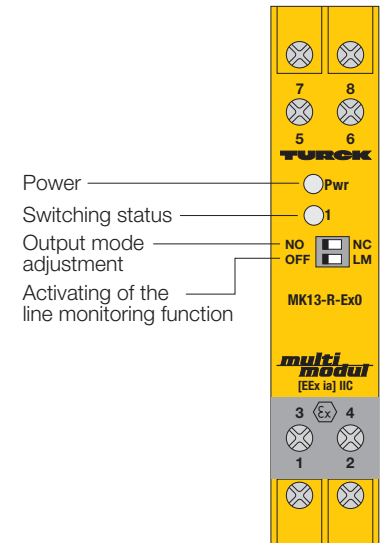
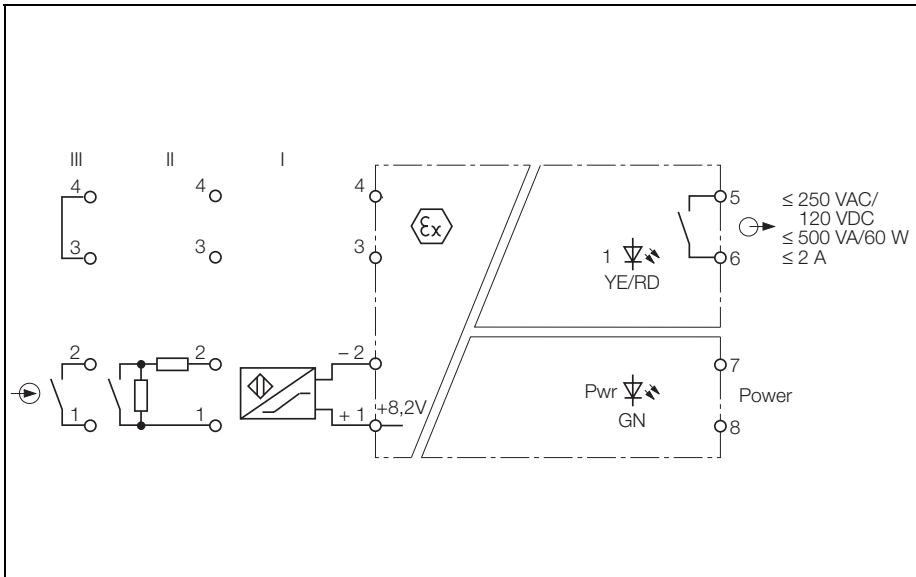


# Isolating switching amplifier 1-channel MK13-R-EX0



The 1-channel isolating switching amplifier MK13-R-EX0 is equipped with an intrinsically safe input circuit.

The device can be connected to sensors according to EN 60947-5-6 (NAMUR), variable resistors or potential-free contacts.

The output circuit features one relay with one NO contact.

Switches located at the front are used to adjust the output performance (pnp/npn i.e. NC/NO mode). The input circuit is monitored according to wire-break and short circuit. Monitoring is disabled with a switch at the front or with the bridged terminals 3 and

4.

When using mechanical contacts as the input device, wire-break and short-circuit monitoring must be disabled or shunt resistors must be connected to the contacts (II) (see connection diagram).

The green LED indicates operational readiness. The output switching status is indicated yellow by the two color LED. In the event of input circuit errors the dual color LED changes to red, provided the input circuit monitoring function is activated. Thereupon the output relay is de-energized.

- Intrinsically safe input circuits EEx ia
- Application area according to ATEX : II (1) GD
- selectable output mode (N.O./N.C. mode)
- Selectable line monitoring for wire-break/short-circuit (ON/OFF mode)
- SIL 2
- Universal operating voltage (20...250VAC/ 20...125VDC)
- Galvanic isolation of input circuits to output circuits and supply voltage

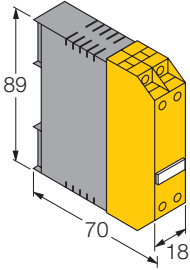
# Isolating switching amplifier

## 1-channel

### MK13-R-EX0

Type	MK13-R-EX0																					
Ident-No.	7542123																					
Nominal voltage	Universal voltage supply unit																					
Operational voltage range:	20 ... 250 VAC																					
Frequency	≥ 40 ... ≤ 70 Hz																					
Operational voltage range:	20 ... 125 VDC																					
Power consumption	≤ 3 W																					
NAMUR	EN-60947-5-6																					
No-load voltage	8.2 VDC																					
Short-circuit current	8.2 mA																					
Input resistance	1 kΩ																					
Output resistance	≤ 50 Ω																					
Switch-on threshold:	1.55 mA																					
Switch-off threshold:	1.75 mA																					
Wire breakage threshold	≤ 0.1 mA																					
Short-circuit threshold	≥ 6 mA																					
Output circuits (digital)	1 x relay (NO)																					
Relay switching voltage	≤ 250 VAC/120 VDC																					
Switching current per output	≤ 2 A																					
Switching capacity per output	≤ 500 VA/120 W																					
Switching frequency	≤ 10 Hz																					
Contact quality	AgNi, 3μ Au																					
Test voltage	2.5 kV																					
Constant voltage supply	250 V																					
Ex approval acc. to conformity certificate	placeholder																					
Ex approval acc. to conformity certificate	TÜV 04 ATEX 2621																					
Application area	II (1) GD																					
Protection type	[EEx ia] IIC																					
Max.output voltage U <sub>o</sub>	≤ 9.6 V																					
Max. output current I <sub>o</sub>	≤ 11 mA																					
Max. output power P <sub>o</sub>	≤ 26 mW																					
Characteristic	Linear																					
External inductance/capacitance L <sub>o</sub> /C <sub>o</sub>																						
	<table><tr><td></td><td colspan="3">EEx ia IIC</td><td colspan="3">EEx ia IIB</td></tr><tr><td>Lo [mH]</td><td>1,0</td><td>5,0</td><td>10,0</td><td>2,0</td><td>10,0</td><td>20,0</td></tr><tr><td>Co [nF]</td><td>1800</td><td>1300</td><td>1200</td><td>8600</td><td>6200</td><td>5500</td></tr></table>		EEx ia IIC			EEx ia IIB			Lo [mH]	1,0	5,0	10,0	2,0	10,0	20,0	Co [nF]	1800	1300	1200	8600	6200	5500
	EEx ia IIC			EEx ia IIB																		
Lo [mH]	1,0	5,0	10,0	2,0	10,0	20,0																
Co [nF]	1800	1300	1200	8600	6200	5500																
Approval	SIL 2																					
Approval																						
Indication	placeholder																					
Operational readiness	green																					
Switching status	yellow																					
Error indication	red																					

#### Dimensions



# Isolating switching amplifier

## 1-channel

### MK13-R-EX0



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#### Mechanical Data

Degree of protection	IP20
Ambient temperature	-25 ...+ 70 °C
Housing length	89 mm
Housing width	18 mm
Housing height	70 mm
Weight	108 g
Mounting instruction	Mounting on DIN rail or mounting panel
Housing material	polycarbonate/ABS
Electrical connection	4 x 2-pole flat terminals with self-lifting pressure plates
Terminal cross-section	1 x 2.5 mm <sup>2</sup> / 2 x 1.5 mm <sup>2</sup>