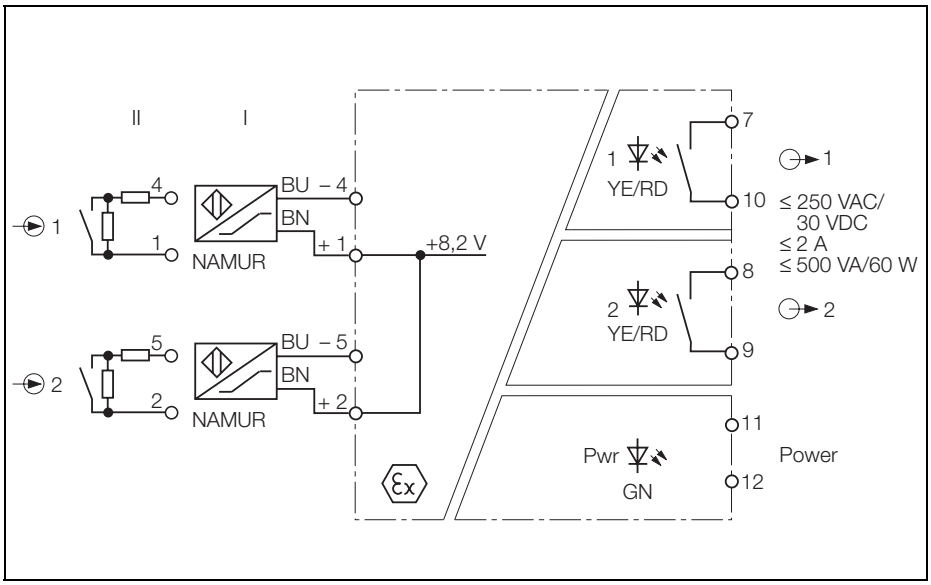
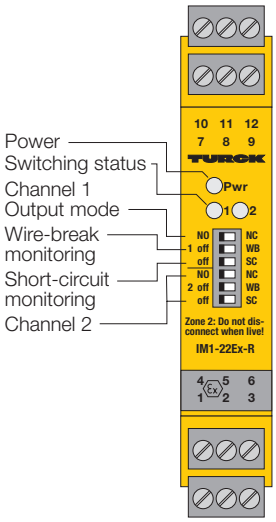
interface modul

Isolating switching amplifier
2-channel
IM1-22EX-R

TURCK
Industrial Automation





The 2-channel isolating switching amplifier IM1-22EX-R is equipped with an intrinsically safe input circuit.

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

The output circuits feature two relays, each with one normally open contact.

Six front panel switches are used to set the output mode separately for each channel (NO or NC mode), as well as to enable/ disable wire-break (WB) and short-circuit (SC) monitoring separately.

When using mechanical contacts as input devices, 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 switching status of the corresponding output 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 correspondent output relay is de-energized.

- **Intrinsically safe input circuits EEx ia**
- **For application in zone 2**
- **FM, NEPSI**
- **SIL 2**
- **Application areas [Exia] IIC/IIB und Ex nA nC [nL] IIC/IIB T4**
- **selectable output mode (N.O./N.C. mode)**
- **SIL2**
- **Galvanic isolation of input circuits, output circuits and supply voltage**
- **Removable terminal blocks**
- **Universal operating voltage (20…250VAC/ 20…125VDC)**
- **Galvanic isolation of input circuits to output circuits and supply voltage**

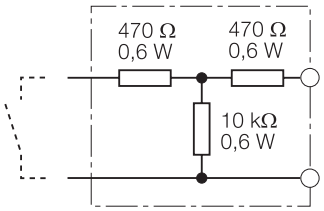
• 31.03.2009

Hans Turck GmbH & Co.KG ● D-45472 Mülheim an der Ruhr ● Witzlebenstraße 7 ● Tel. 0208 4952-0 ● Fax 0208 4952-264 ● more@turck.com ● www.turck.com

Isolating switching amplifier
2-channel
IM1-22EX-R

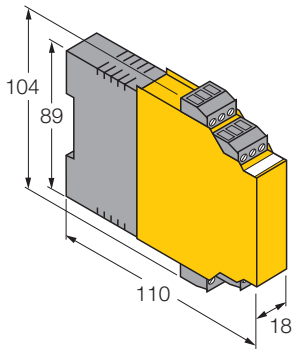
Industrielle Automation

Type	IM1-22EX-R
Ident-No.	7541231
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

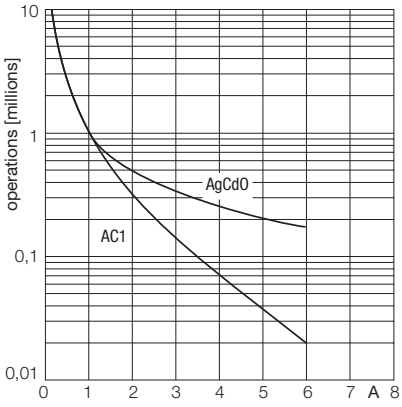


Output circuits (digital)	2 x relay (normally open)
Relay switching voltage	≤ 250 VAC/120 VDC
Switching current per output	≤ 2 A
Switching capacity per output	≤ 500 VA/60 W
Switching frequency	≤ 10 Hz
Contact quality	AgNi, 3µ Au
Test voltage	2.5 kV
Constant voltage supply	250 V

Dimensions



Output relay electrical lifetime



Isolating switching amplifier
2-channel
IM1-22EX-R

Industrielle Automation

Ex approval acc. to conformity certificate	
Ex approval acc. to conformity certificate	TÜV 04 ATEX 2553
Application area	II (1) GD
Protection type	[EEx ia] IIC
Max.output voltage U_o	≤ 9.6 V
Max. output current I_o	≤ 11 mA
Max. output power P_o	≤ 26 mW
Characteristic	Linear
External inductance/capacitance L_o/C_o	

	EEx ia IIC			EEx ia IIB		
Lo [mH]	1,0	5,0	10,0	2,0	10,0	20,0
Co [µF]	1,1	0,83	0,74	5,2	3,8	3,4

Ex approval acc. to conformity certificate	TÜV 06 ATEX 552968 X
Application area	II 3 G
Max.output voltage U_o	≤ 9.6 V
Max. output current I_o	≤ 11 mA
Max. output power P_o	≤ 26
External inductance/capacitance L_o/C_o	

	Ex nL IIC			Ex nLIIB		
Lo [mH]	1,0	5,0	10,0	1,0	5,0	10,0
Co [µF]	1,9	1,4	1,2	11	7,5	6,6

Ex approval acc. to conformity certificate	FM3019329
Ex approval acc. to conformity certificate	IECEx TUN 06.0006 X
Application area	[Ex ia] IIC/IIB , Ex nA nC [nL] //C/IIB T4
Protection type	EEx nA nC [nL] IIC/IIB T4
Ex approval acc. to conformity certificate	GYJ04436
Approval	SIL 2
Approval	
Indication	
Operational readiness	green
Switching status	yellow
Error indication	red
Mechanical Data	
Degree of protection	IP20
Ambient temperature	-25 …+ 70 °C
Housing length	104 mm
Housing width	18 mm
Housing height	110 mm
Weight	144 g
Mounting instruction	Mounting on DIN rail or mounting panel
Housing material	polycarbonate/ABS
Electrical connection	4 x 3-pole removable terminal blocks, reverse polarity protected, screw connection
Terminal cross-section	1 x 2.5 mm^2 / 2 x 1.5 mm^2