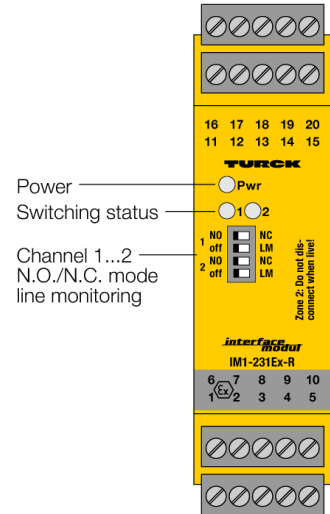
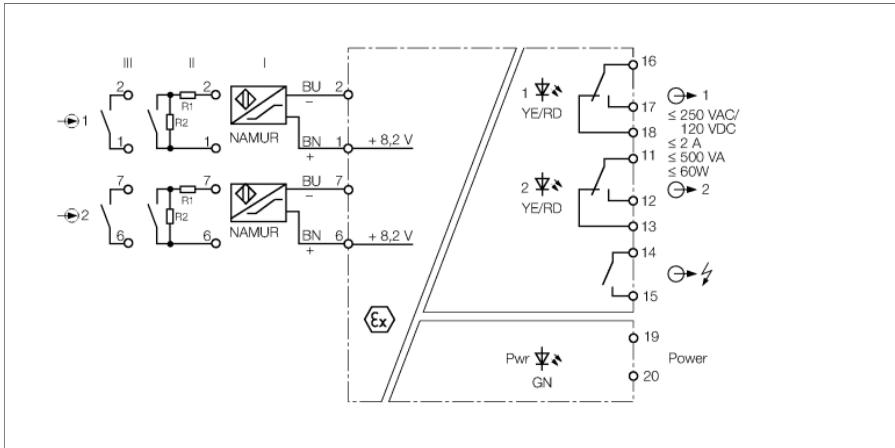


**Isolating switching amplifier
2-channel
IM1-231EX-R**



The 2-channel IM1-231EX-R isolating switching amplifier is equipped with intrinsically safe input circuits.

Sensors according to EN 60947-5-6 (NAMUR) or potential-free contact transmitters can be connected to the device.

The output circuits each feature a relay with a changeover contact. In addition, the device features a common alarm output.

Via four switches on the front, the output mode (work or quiescent current behavior, i.e. NO/NC) can be switched on and off separately for each channel as well as wire-break (WB) and short-circuit monitoring (SC).

When using mechanical contacts, wire-break and short-circuit monitoring must be switched off or the contacts must be wired to resistors (II) (see circuit diagram).

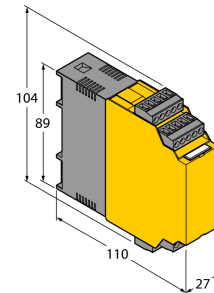
The Pwr LED lights green to indicate operational readiness. The 2-color LED 1 lights yellow to indicate the switching status of the output. In the event of an input circuit error, the 2-color LED turns red, with the input circuit monitoring switched on. Thereupon the output and the alarm relay drop out.

- 2 relay outputs (changeover)
- Output mode adjustable (NO/NC mode)
- Input circuits monitored for wire-break/short-circuit (ON/OFF switchable)
- Common alarm output
- Complete galvanic isolation
- Input reverse-polarity protected

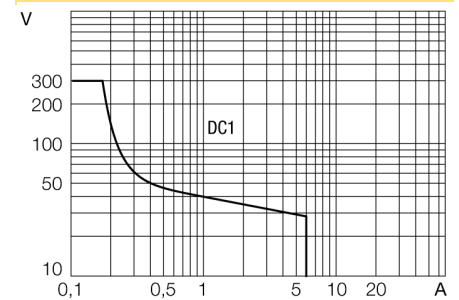
Isolating switching amplifier
2-channel
IM1-231EX-R

Type designation	IM1-231EX-R
Ident no.	7541239
Nominal voltage	Universal voltage supply unit
Operating voltage	20...250 VAC
Frequency	40...70 Hz
Operating voltage range	20...125 VDC
Power consumption	≤ 3 W
NAMUR input	
NAMUR	EN 60947-5-6
Input circuit monitoring	on/off switchable
No-load voltage	8.2 VDC
Short-circuit current	8.2 mA
Input resistance	1 kΩ
Cable resistance	≤ 50 Ω
Switch-on threshold	1.75 mA
Switch-off threshold	1.55 mA
Wire breakage threshold	≤ 0.06 mA
Short-circuit threshold	≥ 6.4 mA
Output circuits (digital)	
Output switching voltage relay	2 x relays (change-over)
Switching current per output	≤ 30 VDC / ≤ 250 VAC
Switching capacity per output	≤ 2 A
Switching capacity per output	≤ 500 VA/60 W
Switching frequency	≤ 10 Hz
Contact quality	AgNi, 3μ Au
Galvanic isolation	
Test voltage	2.5 kV
Important note	
Ex approval acc. to conformity certificate	For Ex-applications the values specified in the corresponding Ex certificates (ATEX, IECEx, UL, etc.) apply.
Application area	TÜV 04 ATEX 2604
Ignition protection category	II (1) G, II (1) D
Ex approval acc. to conformity certificate	[Ex ia Ga] IIC ; [Ex ia Da] IIIC
Application area	TÜV 06 ATEX 552967 X
Ignition protection type	II 3 G
Characteristic	Ex nA nC [ic Gc] IIC T4 linear
Indication	
Operational readiness	green
Switching state	Yellow
Error indication	red
Mechanical Data	
Protection class	IP20
Flammability class acc. to UL 94	V-0
Ambient temperature (min.)	-25 °C
Ambient temperature (max.)	70 °C
Storage temperature	-40...+80 °C
Relative humidity	≤ 95 %
Dimensions	104 x 27 x 110 mm
Weight	212 g
Mounting instructions	DIN rail (NS35) or panel
Housing material	Polycarbonate/ABS
Electrical connection	4 × 5-pin removable terminal blocks, reverse polarity protected, screw terminal
Terminal cross-section	1 x 2.5 mm ² / 2 x 1.5 mm ²
Tightening torque	0.5 Nm

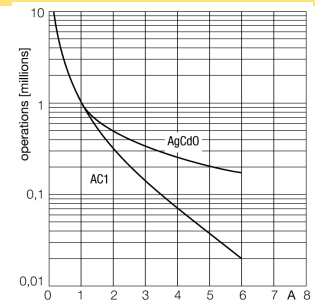
Dimensions



Output relay – Load curve

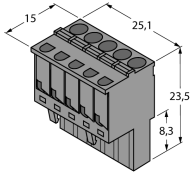


Output relay – Electrical lifetime



**Isolating switching amplifier
2-channel
IM1-231EX-R**

Accessories

Type code	Ident no.	Description	Dimension drawing
IM-CC-5X2BU/2BK	7504031	Cage clamp terminals for IM modules (Ex-devices with 27 mm overall width); includes: 2 pcs. 5-pin blue terminals and 2 pcs. 5-pin black terminals.	
WM1 WIDER-STANDSMODUL	0912101	The resistor module WM1 meets the requirements for line monitoring between a mechanical contact and a TURCK signal processor. The input circuit of the signal processor is designed for sensors acc. to EN60947-5-6 (NAMUR) and equipped with a wire-break and short-circuit monitoring function.	