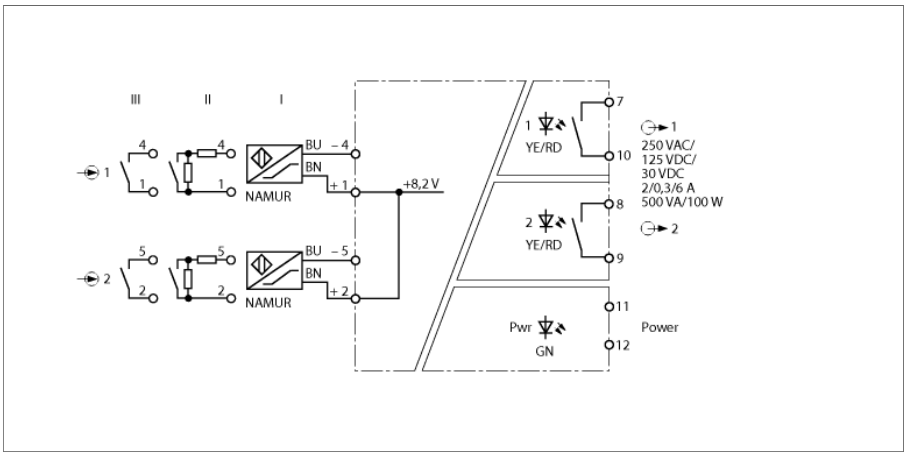
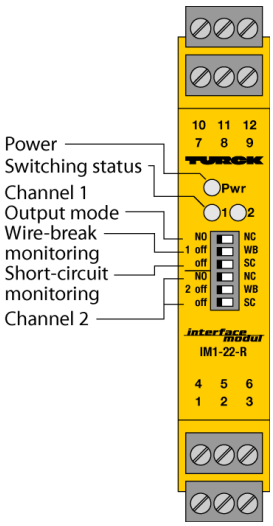
Isolating switching amplifier
2-channel
IM1-22-R





The IM1-22-R isolating switching amplifier is a 2-channel device.

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

The output circuits feature 2 relays, each with 1 NO contact.

Via six switches on the front, you can set the operating behaviour for each channel separately (work or quiescent current behavior, i.e. NO/NC) as well as switch wire-break (WB) and short-circuit monitoring (SC) on and off.

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

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

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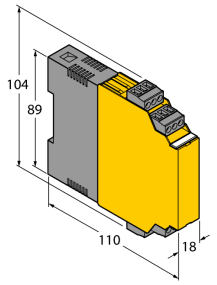
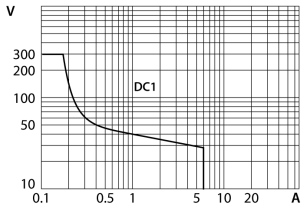
Type	IM1-22-R
ID	7541234
Nominal voltage	Universal voltage supply unit
Operating voltage	20…250 VAC
Frequency	40…70 Hz
Operating voltage U_B	20…125 VDC
Power consumption	≤ 3 W
Power dissipation, typical	≤ 0.98 W
NAMUR input	
NAMUR	EN 60947-5-6
Input circuit monitoring	on/off switchable
No-load voltage	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	
Output circuits (digital)	2 x relays (NO)
Output switching voltage relay	≤ 30 VDC / ≤ 250 VAC
Switching current per output	≤ 2 A
Switching capacity per output	≤ 500 VA/60 W
Switching frequency	≤ 10 Hz
Galvanic isolation	
Test voltage	2.5 kV RMS
Important note	If the device is used in applications to achieve functional safety according to IEC 61508, the safety manual must be used. Information in the data sheet are not valid for functional safety.
Approval	SIL 2 acc. to EXIDA FMEDA
Use in SIL safety circuits	SIL 2 acc. to IEC 61508
Displays/Operating elements	
Operational readiness	Green
Switching state	Yellow
State/ Fault	2 × yellow/red
Error indication	red
Mechanical data	
Protection class	IP20
Flammability class acc. to UL 94	V-0
Ambient temperature	-25…+70 °C
Storage temperature	-40…+80 °C
Dimensions	104 x 18 x 110 mm
Weight	156 g
Mounting instructions	DIN rail (NS35) or panel
Housing material	Plastic, Polycarbonate/ABS
Electrical connection	4 × 3-pin removable terminal blocks, reverse polarity protected, screw terminal
Terminal cross-section	1 × 2.5 mm²/2 × 1.5 mm²
Tightening torque	0.5 Nm

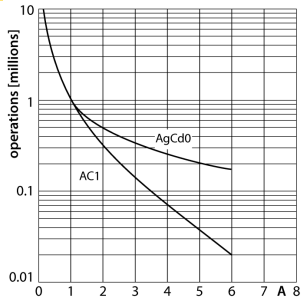
Dimensions



Output relay – Load curve



Output relay – Electrical lifetime



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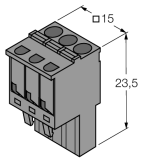
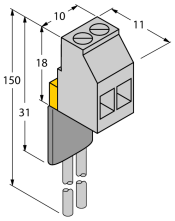
Accessories

Type code	Ident no.		Dimension drawing
IM-CC-3X2BK/2BK	7541218	Cage clamp terminals for IM modules (Ex-devices with 18 mm overall width); includes: 4 pcs. of 3-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.	

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