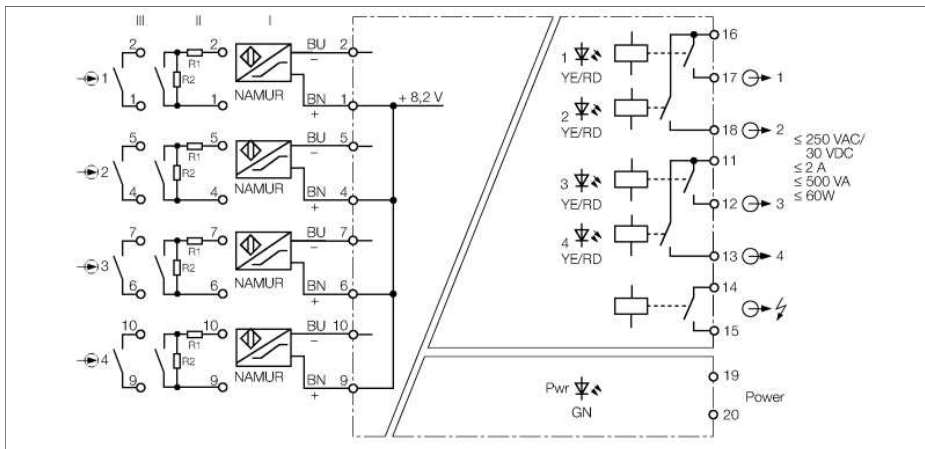


**Isolating switching amplifier
4-channel
IM1-451-R**



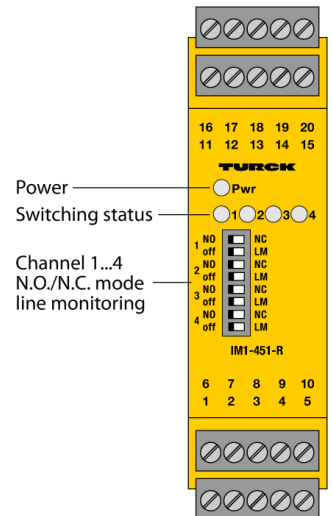
Sensors according to EN 60947-5-6 (NAMUR) or potential-free contactors can be connected to the 4-channel isolating transducer IM1-451-R.

The output circuits each feature a relay with NO contact. The device also features a common alarm output.

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

When using mechanical contacts, the wire-break and short-circuit monitoring must be switched off or the contact must be connected to resistors (II) (see circuit 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 monitoring function of the input circuit is activated. Thereupon the output and the alarm relay are de-energized.

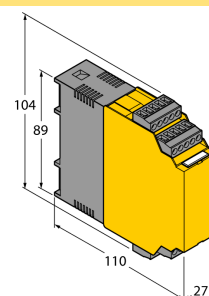


- **Five relay outputs (NO)**
- **Adjustable signal flow direction (NO/NC)**
- **Input circuit monitoring of wire-break/short-circuit (ON/OFF switchable)**
- **Common alarm output**
- **Removable terminal blocks**
- **Complete galvanic separation**

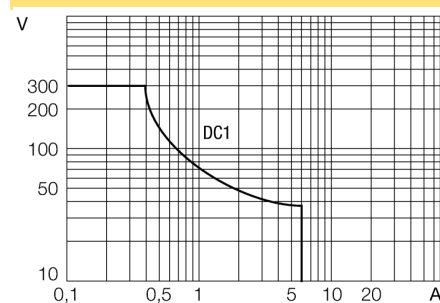
Isolating switching amplifier 4-channel IM1-451-R

Type code	IM1-451-R
Ident no.	7541190
Nominal voltage	Universal voltage supply unit
Operating voltage	20...250 VAC
Frequency	40...70 Hz
Operating voltage range	20...250 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
Cable 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)	5 x relays (NO)
Relay switching voltage	≤ 250 VAC/120 VDC
Switching current per output	≤ 2 A
Switching capacity per output	≤ 750 VA/60 W
Switching frequency	≤ 10 Hz
Contact quality	AgNi, 3μ Au
Galvanic separation	
Test voltage	2.5 kV
Rated voltage	250 V
MTTF	150 years acc. to SN 29500 (Ed. 99) 40 °C
Indication	
Operational readiness	green
Switching state	yellow
Error indication	red
Mechanical Data	
Protection class	IP20
Ambient temperature	-25...+70 °C
Storage temperature	-40...+80 °C
Relative humidity	≤ 95%
Dimensions	104x 27x 110 mm
Weight	213 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

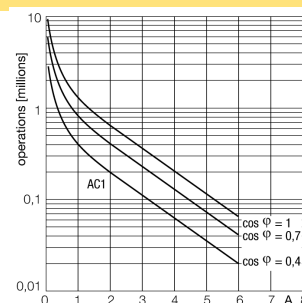
Dimensions



Load curve



Output relay electrical lifetime



Isolating switching amplifier
4-channel
IM1-451-R

Accessories

Type code	Ident no.	Description	Dimension drawing
IM-CC-5X2BK/2BK	7541219	Cage clamps for IM modules (non-Ex devices, width 27 mm): 4 black, 5-pin, included in delivery	