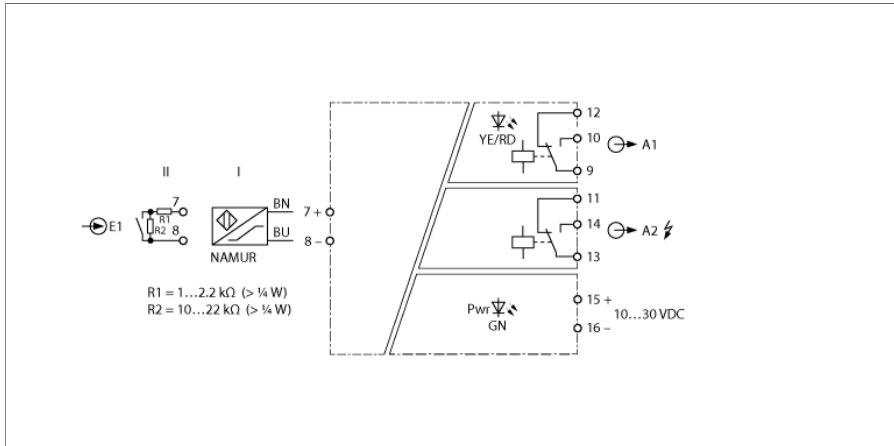


Isolating switching amplifier 1-channel IM12-DI03-1S-2R-S/24VDC



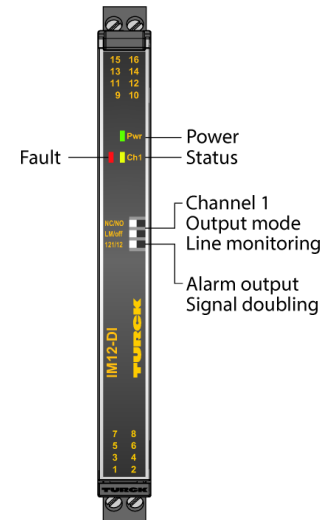
Sensors according to EN 60947-5-6 (NAMUR) or potential-free contacts can be connected to the IMX12-DI03-1S-2R-S/24VDC isolating switching amplifier. The device can be installed in zone 2. The device can be switched between 1-channel operation with signal doubling or 1-channel operation with alarm message output using DIP switches. The output circuits are equipped with two changeover relays. The device complies with the requirements of the NE21.

The devices feature DIP switches on the front. This allows to select between the output mode, the input circuit monitoring, as well as toggle between signal duplication and 1-channel operation. When using mechanical contacts, either line monitoring must be switched off or the contact must be wired with resistors (see wiring diagram).

The Pwr LED lights green to indicate operational readiness. An error in the input circuit leads to a flashing red LED according to NE44. Thereupon the relay of the belonging output circuit drops out.

The device can be used in safety circuits up to SIL2 (high and low demand according to IEC 61508).

The device is equipped with removable screw terminals.



- Relay output (changeover contact)
- Alarm output (changeover contact)
- Switchable between: Alarm output or signal doubling
- Output mode adjustable (open-circuit/closed current mode)
- Input circuits monitored for wire break/short circuit (ON/OFF switchable)
- Complete galvanic isolation
- Input reverse-polarity protected
- Removable screw terminals
- ATEX use in Zone 2, cUL
- SIL 2

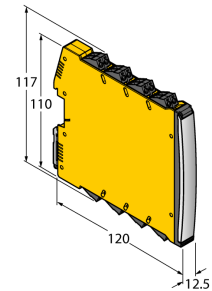
Isolating switching amplifier

1-channel

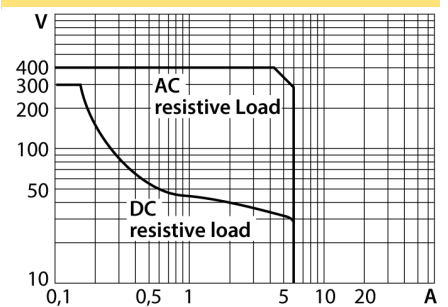
IM12-DI03-1S-2R-S/24VDC

Type	IM12-DI03-1S-2R-S/24VDC
ID	7580028
Nominal voltage	24 VDC
Operating voltage	10...30 VDC
Power dissipation, typical	≤ 1.03 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)	1 x relay (change-over)
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
Contact quality	AgNi, 0.3μ Au
Galvanic isolation	
Test voltage	2.5 kV RMS
Input 1 to output 1	375 V peak value acc. to EN 60079-11
Input 1 to supply	375 V peak value acc. to EN 60079-11
Output 1 to supply	300 V RMS acc. to EN 50178 and EN 61010-1
Output 2 to supply	300 V RMS acc. to EN 50178 and EN 61010-1
Important note	For Ex-applications the values specified in the corresponding Ex certificates (ATEX, IECEx, UL, etc.) apply.
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.
Use in SIL safety circuits	SIL 2 acc. to IEC 61508
Displays/Operating elements	
Switching state	Yellow
Error indication	red

Dimensions



Output relay – Load curve



Isolating switching amplifier

1-channel

IM12-DI03-1S-2R-S/24VDC

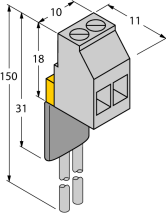
Mechanical data

Protection class	IP20
Flammability class acc. to UL 94	V-0
Ambient temperature	-25...+70 °C
Storage temperature	-40...+80 °C
Dimensions	120 x 12.5 x 117 mm
Weight	163 g
Mounting instructions	DIN rail (NS35)
Housing material	Polycarbonate/ABS
Electrical connection	Removable screw terminals, 2-pin
Terminal cross-section	0.2...2.5 mm² (AWG: 24...14)
Tightening torque	0.5 Nm
Tightening torque	4.43 LBS-Inch
Environmental conditions	

Operating altitude	Up to 2000 m above sea level
Pollution degree	II
Surge category	II (EN 61010-1)
Standards used	
Voltage resistance and insulation	
	EN 50178
	EN 61010-1
	EN 50155
	GL VI-7-2
Shock	
	EN 61373 class B
	EN 50155
	GL VI-7-2
	EN 60068-2-6
	EN 60068-2-27
Temperature	
	EN 60068-2-1 Ad
	EN 50155
	GL VI-7-2
	EN 60068-2-2 Bd
	EN 60068-2-1
Humidity	
	EN 60068-2-38
EMC	
	EN 50155
	GL VI-7-2
	NE21
	EN 61326-1
	EN 61326-3-1
	EN 61000-4-2
	EN 61000-4-3
	EN 61000-4-4
	EN 61000-4-5
	EN 61000-4-6
	EN 61000-4-11
	EN 61000-4-29
	EN 55011
	EN 55016
	EN 50121-3-2
	EN 61000-6-2

Isolating switching amplifier
1-channel
IM12-DI03-1S-2R-S/24VDC

Accessories

Type code	Ident-No.		Dimension drawing
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.	
IMX12-SC-2X-4BK	7580940	Screw terminals for IM(X)12 modules; included in delivery: 4 pcs. of 2-pin black terminals	
IMX12-CC-2X-4BK	7580942	Spring terminals for IM(X)12 modules; included in delivery: 4 pcs. black terminals, 2-pin	