

# MACX MCR-EX-SL-2NAM-R-UP-SP


Order No.: 2924249

The illustration shows the versions with screw connection



2-channel Ex-i NAMUR isolation amplifier with wide-range power supply for proximity sensors and switches. Every channel has a relay with PDT contact as a signal output. Line fault detection (LFD), 3-way isolation, SIL 2.



Commercial data	
EAN	4  046356 463683
Pack	1
Customs tariff	85437090
Product key	09722
Country of Origin	DE
Catalog page information	Page 447 (IF-2011)

#### Product notes

WEEE/RoHS-compliant since:  
18/01/2010



Please note that the data given here has been taken from the online catalog. For comprehensive information and data, please refer to the user documentation at <http://www.download.phoenixcontact.com>. The General Terms and Conditions of Use apply to Internet downloads.

## Technical data

Input data	
Non-load voltage	8 V DC $\pm$ 10 %
Switching points (attenuated)	< 1.2 mA (blocking)
Switching points (unattenuated)	> 2.1 mA (conductive)

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**Output data**

Switching output	Relay output
Contact type	2 PDT
Contact material	AgSnO <sub>2</sub> , hard gold-plated
Maximum switching voltage	250 V AC (2 A, 60 Hz)
	120 V DC (0.2 A)
	30 V DC (2 A)
Max. switching power	500 VA
Mechanical service life	10 <sup>7</sup> cycles

**Power supply**

Supply voltage range	24 V DC ... 230 V AC/DC (-20% ... +10%, 50 ... 60 Hz)
Max. current consumption	< 80 mA
Power consumption	max. 1.3 W

**Connection data**

Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	1.5 mm <sup>2</sup>
Conductor cross section stranded min.	0.2 mm <sup>2</sup>
Conductor cross section stranded max.	1.5 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	16
Stripping length	8 mm
Connection method	Spring-cage conn.

**General data**

Ambient temperature (operation)	-20 °C ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Maximum altitude	2000 m (Above sea level)
Permissible humidity (operation)	10 % ... 95 % (no condensation)
Step response (10-90%)	Typ. 6 ms (N/O contact: OFF/ON)
	Typ. 6 ms (N/O contact: ON/OFF)
	Typ. 4 ms (N/C contact: ON/OFF)
	Typ. 10 ms (N/C contact: OFF/ON)
Status display	Green LED (supply voltage, PWR)
	LED yellow (switching state)
	Red LED (line errors)

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Width	17.5 mm
Height	99 mm
Depth	114.5 mm
Inflammability class according to UL 94	V0
Pollution degree	2
Surge voltage category	III
Housing material	PA 66-FR
Degree of protection	IP20
Color	green
Electrical isolation input / output	375 V (Peak value in accordance with EN 60079-11)
Electrical isolation input / supply	375 V (Peak value in accordance with EN 60079-11)
Electrical isolation input / supply / T connector	300 V <sub>rms</sub> (Rated insulation voltage, surge voltage category II; pollution degree 2, safe isolation as per EN 61010, EN 50178)
Electrical isolation of output 1/output 2/input, power supply, T connector	300 V <sub>rms</sub> (Rated insulation voltage, surge voltage category III; pollution degree 2, safe isolation as per EN 61010, EN 50178)
Conformance	CE-compliant, additionally EN 61326
ATEX	Ex II (1) G [Ex ia] IIC Ex II (1) D [Ex iaD] Ex II 3(1)G Ex nAC [ia] IIC T4 X
IECEX	[Ex ia] IIC; [Ex iaD]; Ex nAC [ia] IIC T4 X
UL, USA / Canada	UL applied for
Functional safety (SIL)	SIL 2 according to EN 61508

#### Safety data

Max. voltage U <sub>o</sub>	9.6 V
Max. current I <sub>o</sub>	10.3 mA
Max. power P <sub>o</sub>	25 mW
Gas group	II C
Max. external inductivity L <sub>o</sub>	100 mH
Max. external capacity C <sub>o</sub>	0.5 µF
Gas group	II C
Max. external inductivity L <sub>o</sub>	10 mH
Max. external capacity C <sub>o</sub>	0.75 µF
Gas group	II C
Max. external inductivity L <sub>o</sub>	1 mH
Max. external capacity C <sub>o</sub>	1.2 µF

Gas group	II B
Max. external inductivity $L_o$	100 mH
Max. external capacity $C_o$	2.7 $\mu$ F
Gas group	II B
Max. external inductivity $L_o$	10 mH
Max. external capacity $C_o$	3.9 $\mu$ F
Gas group	II B
Max. external inductivity $L_o$	1 mH
Max. external capacity $C_o$	6.3 $\mu$ F
Safety-related maximum voltage $U_m$	253 V AC/DC (Supply terminals)

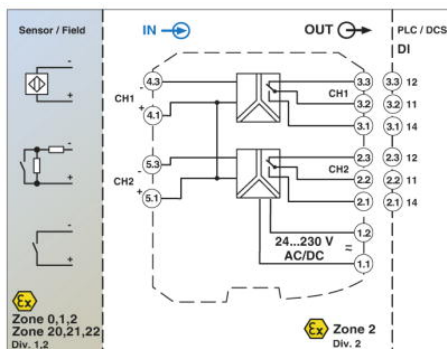
### Certificates

Certification Ex: IECEX

Certifications applied for: UL Listed / CUL Listed / UL-EX LIS / CUL-EX LIS

### Drawings

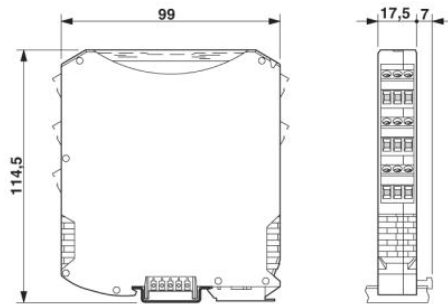
Block diagram



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### Dimensioned drawing

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### Schematic diagram

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