

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

Order No.: 2865984



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 462532 |
| 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) |

Output data

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|---------------------------|---------------------------------------|
| Switching output | Relay output |
| Contact type | 2 PDT |
| Contact material | AgSnO ₂ , 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 ⁷ cycles |

Power supply

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|--------------------------|---|
| 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

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|--|---------------------|
| Conductor cross section solid min. | 0.2 mm ² |
| Conductor cross section solid max. | 2.5 mm ² |
| Conductor cross section stranded min. | 0.2 mm ² |
| Conductor cross section stranded max. | 2.5 mm ² |
| Conductor cross section AWG/kcmil min. | 24 |
| Conductor cross section AWG/kcmil max | 14 |
| Stripping length | 7 mm |
| Connection method | Screw connection |
| Tightening torque, min | 0.5 Nm |
| Tightening torque max | 0.6 Nm |

General data

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|---|----------------------------------|
| 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) |

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|--|---|
| Status display | Green LED (supply voltage, PWR) LED yellow (switching state) Red LED (line errors) |
| 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 _{rms} (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 _{rms} (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 _o | 9.6 V |
| Max. current I _o | 10.3 mA |
| Max. power P _o | 25 mW |
| Gas group | II C |
| Max. external inductivity L _o | 100 mH |
| Max. external capacity C _o | 0.5 µF |
| Gas group | II C |
| Max. external inductivity L _o | 10 mH |
| Max. external capacity C _o | 0.75 µF |

| | |
|--------------------------------------|--------------------------------|
| Gas group | II C |
| Max. external inductivity L_o | 1 mH |
| Max. external capacity C_o | 1.2 μ F |
| Gas group | II B |
| Max. external inductivity L_o | 100 mH |
| Max. external capacity C_o | 2.7 μ F |
| Gas group | II B |
| Max. external inductivity L_o | 10 mH |
| Max. external capacity C_o | 3.9 μ F |
| Gas group | II B |
| Max. external inductivity L_o | 1 mH |
| Max. external capacity C_o | 6.3 μ F |
| Safety-related maximum voltage U_m | 253 V AC/DC (Supply terminals) |

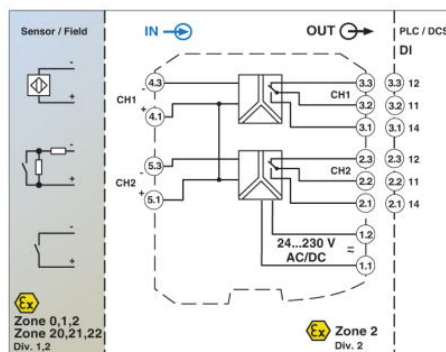
Certificates

Certification Ex: IECEx

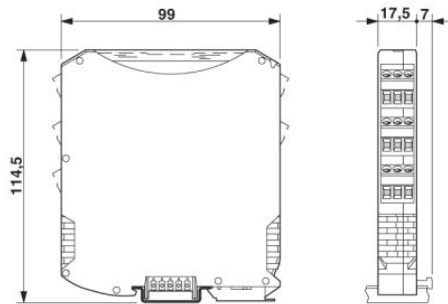
Certifications applied for: UL Listed / CUL Listed / UL-EX LIS / CUL-EX LIS

Drawings

Block diagram



Dimensioned drawing



Schematic diagram

