

# Isolation amplifier - MACX MCR-SL-2NAM-R-UP - 2865052

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://download.phoenixcontact.com>)



2-channel NAMUR isolation amplifier with wide-range power supply for proximity sensors and switches. In terms of signal output, for each channel there is a relay with a changeover contact available. Line fault detection (LFD), 3-way isolation, screw connection, SIL 2

## Product Features

- Installation in zone 2, protection type "n" (EN 60079-15) permitted
- Up to SIL 2 according to EN 61508
- Line fault detection (LFD), can be activated/deactivated, error indicated by red flashing LED with de-excitation of output relay
- 3-way electrical isolation
- LED indicators for supply voltage, switching state, and malfunction according to NAMUR NE 44
- 2-channel
- Wide-range power supply of 19.2 ... 253 V AC/DC
- Direction of operation can be selected (operating or closed circuit current behavior)
- Relay signal output (PDT)
- Input for NAMUR proximity sensors (EN 60947-5-6), floating contacts or contacts with resistance circuit



## Key commercial data

package_quantity	1
GTIN	4046356491761

## Technical data

Note:

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
-------------------------	---

## Dimensions

Width	17.5 mm
Height	99 mm
Depth	114.5 mm

## Ambient conditions

Ambient temperature (operation)	-20 °C ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Maximum altitude	≤ 2000 m

# Isolation amplifier - MACX MCR-SL-2NAM-R-UP - 2865052

## Technical data

### Ambient conditions

<b>Permissible humidity (operation)</b>	10 % ... 95 % (no condensation)
---	---------------------------------

### Input data

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

### Output data

<b>Switching output</b>	Relay output
<b>Contact type</b>	1 PDT per channel
<b>Contact material</b>	AgSnO <sub>2</sub> , hard gold-plated
<b>Maximum switching voltage</b>	250 V AC (2 A, 60 Hz)
<b>Maximum switching voltage</b>	120 V DC (0.2 A)
<b>Maximum switching voltage</b>	30 V DC (2 A)
<b>Maximum switching capacity</b>	500 VA
<b>Mechanical service life</b>	10 <sup>7</sup> cycles

### Power supply

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

### Connection data

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

### General

<b>No. of channels</b>	2
<b>Step response (10-90%)</b>	typ. 6 ms (N/O contact: OFF/ON)
<b>Step response (10-90%)</b>	typ. 6 ms (N/O contact: ON/OFF)
<b>Step response (10-90%)</b>	typ. 4 ms (N/C contact: ON/OFF)
<b>Step response (10-90%)</b>	typ. 10 ms (N/C contact: OFF/ON)
<b>Status display</b>	Green LED (supply voltage, PWR)
<b>Status display</b>	LED yellow (switching state)
<b>Status display</b>	Red LED (line errors)
<b>Inflammability class according to UL 94</b>	V0

# Isolation amplifier - MACX MCR-SL-2NAM-R-UP - 2865052

## Technical data

### General

<b>Pollution degree</b>	2
<b>Surge voltage category</b>	III
<b>Housing material</b>	PA 66-FR
<b>Color</b>	green
<b>Name</b>	Input/power supply
<b>Electrical isolation</b>	300 V <sub>rms</sub> (Rated insulation voltage (surge voltage category II; pollution degree 2, safe isolation as per EN 61010-1))
<b>Electrical isolation</b>	2.5 kV (50 Hz, 1 min., test voltage)
<b>Name</b>	Output 1/output 2/input, power supply
<b>Electrical isolation</b>	300 V <sub>rms</sub> (Rated insulation voltage (surge voltage category III; pollution degree 2, safe isolation as per EN 61010-1))
<b>Electrical isolation</b>	2.5 kV (50 Hz, 1 min., test voltage)
<b>Conformance</b>	CE-compliant, additionally EN 61326
<b>ATEX</b>	# II 3 G Ex nA nC IIC T4 Gc X

## classifications

### eCl@ss

<b>eCl@ss 4.0</b>	27210121
<b>eCl@ss 4.1</b>	27210121
<b>eCl@ss 5.0</b>	27210121
<b>eCl@ss 5.1</b>	27210121
<b>eCl@ss 6.0</b>	27210121
<b>eCl@ss 7.0</b>	27210121
<b>eCl@ss 8.0</b>	27210121

### ETIM

<b>ETIM 2.0</b>	EC001430
<b>ETIM 3.0</b>	EC001599
<b>ETIM 4.0</b>	EC002653
<b>ETIM 5.0</b>	EC002653

### UNSPSC

<b>UNSPSC 6.01</b>	30211506
<b>UNSPSC 7.0901</b>	39121008
<b>UNSPSC 11</b>	39121008
<b>UNSPSC 12.01</b>	39121008
<b>UNSPSC 13.2</b>	39121008

## approvals

---

ATEX / Functional Safety /

---

# Isolation amplifier - MACX MCR-SL-2NAM-R-UP - 2865052

approvals

Approval details



Functional Safety

Drawings

Block diagram

