# MACX MCR-SL-2I-2I-HV-ILP-SP - Input isolator

2907707

https://www.phoenixcontact.com/us/products/2907707

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Two-channel input loop-powered 2-way isolator with increased cut-off voltage and plug-in connection technology for the electrical isolation of analog signals. Input signal = output signal: 0(4) mA ... 20 mA. Push-in connection technology.

## Product description

Two-channel input-loop-powered 2-way isolator with increased cut-off voltage and plug-in connection technology for the electrical isolation and filtering of analog signals. The input-loop-powered isolator allows operation with active sensor technology with a supply voltage of 6 V DC to 30 V DC. The device is powered via the current loop of the sensor. Input signal = output signal: 0(4) mA to 20 mA. With Push-in connection.

## Commercial data

| | |
|---|---|
| Item number | 2907707 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | C402 |
| Product key | DK1113 |
| GTIN | 4055626219271 |
| Weight per piece (including packing) | 163.2 g |
| Weight per piece (excluding packing) | 128.4 g |
| Customs tariff number | 85437090 |
| Country of origin | DE |

# Technical data

## Product properties

| | |
|---|---|
| Product type | Signal conditioner |
| Product family | MACX Analog |
| No. of channels | 2 |

## Electrical properties

| | |
|---|---|
| Electrical isolation | 2-way isolation |
| Electrical isolation between input and output | yes |
| Signal transmission behavior | In = Out |
| Maximum temperature coefficient | ≤ 0.002 %/K (of measured value / 100 Ω load) |
| Transmission error, typical | 0.08 % (of final value) |

Electrical isolation

| | |
|---|---|
| Test voltage | 5 kV AC (50 Hz, 60 s) |
| Overvoltage category | II |
| Pollution degree | 2 |

Electrical isolation Input/output/power supply IEC/EN 61010-1

| | |
|---|---|
| Standards/regulations | IEC/EN 61010-1 |
| Rated insulation voltage | 600 $V_{rms}$ |
| Insulation | Safe isolation |

Supply

| | |
|---|---|
| Supply voltage range | loop-powered, no external supply necessary |

## Input data

Signal: Current

| | |
|---|---|
| Number of inputs | 2 |
| Configurable/programmable | no |
| Max. voltage input signal | < 30.5 V |
| Current input signal | 0 mA ... 20 mA |
| | 4 mA ... 20 mA |
| Input voltage limitation | 30.5 V |
| Voltage dissipation | 2.9 V (I = 20 mA) |
| Step response (10-90%) | 5 ms (500 Ω load) |
| Additional error, load-dependent | 0.022 % (of measured value / 100 Ω load) |
| Response current | ~ 50 µA |

## Output data

Signal: Current

| | |
|---|---|
| Number of outputs | 2 |
| Configurable/programmable | no |

| | |
|---|---|
| Max. voltage output signal | 27.5 V |
| Current output signal | 0 mA ... 20 mA |
| | 4 mA ... 20 mA |
| Load/output load current output | ≤ 1375 Ω (I = 20 mA) |
| Residual ripple | < 10 $mV_{rms}$ (500 Ω load) |

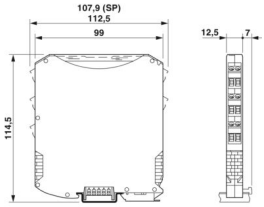
## Connection data

| | |
|---|---|
| Connection method | Push-in connection |
| Stripping length | 10 mm |
| Conductor cross-section rigid | 0.2 mm² ... 2.5 mm² |
| Conductor cross-section flexible | 0.2 mm² ... 2.5 mm² |
| Conductor cross-section flexible (2 conductors with same cross section) | 0.25 mm² ... 0.34 mm² (TWIN ferrule without plastic sleeve) |
| | 0.5 mm² ... 1.5 mm² (TWIN ferrule with plastic sleeve) |
| Conductor cross-section AWG | 24 ... 14 |
| | 24 ... 22 (TWIN ferrule without plastic sleeve) |
| | 20 ... 16 (TWIN ferrule with plastic sleeve) |

## Ex data

| | |
|---|---|
| Ex installation (EPL) | Gc |
| | Div. 2 |

## Dimensions

| | |
|---|---|
| Dimensional drawing |   |
| Width | 12.5 mm |
| Height | 107.9 mm |
| Depth | 113.7 mm |
| Depth NS 35/7,5 | 114.5 mm (Snapped onto DIN rail NS 35/7,5 in accordance with EN 60715) |

## Material specifications

| | |
|---|---|
| Color | gray (RAL 7042) |
| Flammability rating according to UL 94 (Housing) | V0 (Housing) |
| Housing material | PA 6.6-FR |

## Environmental and real-life conditions

Ambient conditions

| | |
|---|---|
| Degree of protection | IP20 (not assessed by UL) |
| Ambient temperature (operation) | -40 °C ... 85 °C |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |

| | |
|---|---|
| Altitude | ≤ 2000 m |
| Permissible humidity (operation) | 5 % ... 95 % (non-condensing) |

## Approvals

CE

| | |
|---|---|
| Certificate | CE-compliant |
| Note | and EN 61326-1 |

ATEX

| | |
|---|---|
| Identification | Ⓔx II 3 G Ex nA IIC T4 Gc X |
| Certificate | PxCIF15ATEX2905278X |

UL, USA/Canada

| | |
|---|---|
| Identification | UL 61010 Listed |
| | Class I, Div. 2, Groups A, B, C, D T4 |
| | Class I, Zone 2, Group IIC T4 |

Safety Integrity Level (SIL, IEC 61508)

| | |
|---|---|
| Identification | 3 |
| Certificate | 968/FSP 1200.01/21 |

## EMC data

| | |
|---|---|
| Electromagnetic compatibility | Conformance with EMC directive |
| Noise immunity | EN 61326-1 |

Noise emission

| | |
|---|---|
| Standards/regulations | EN 61000-6-4 |

## Standards and regulations

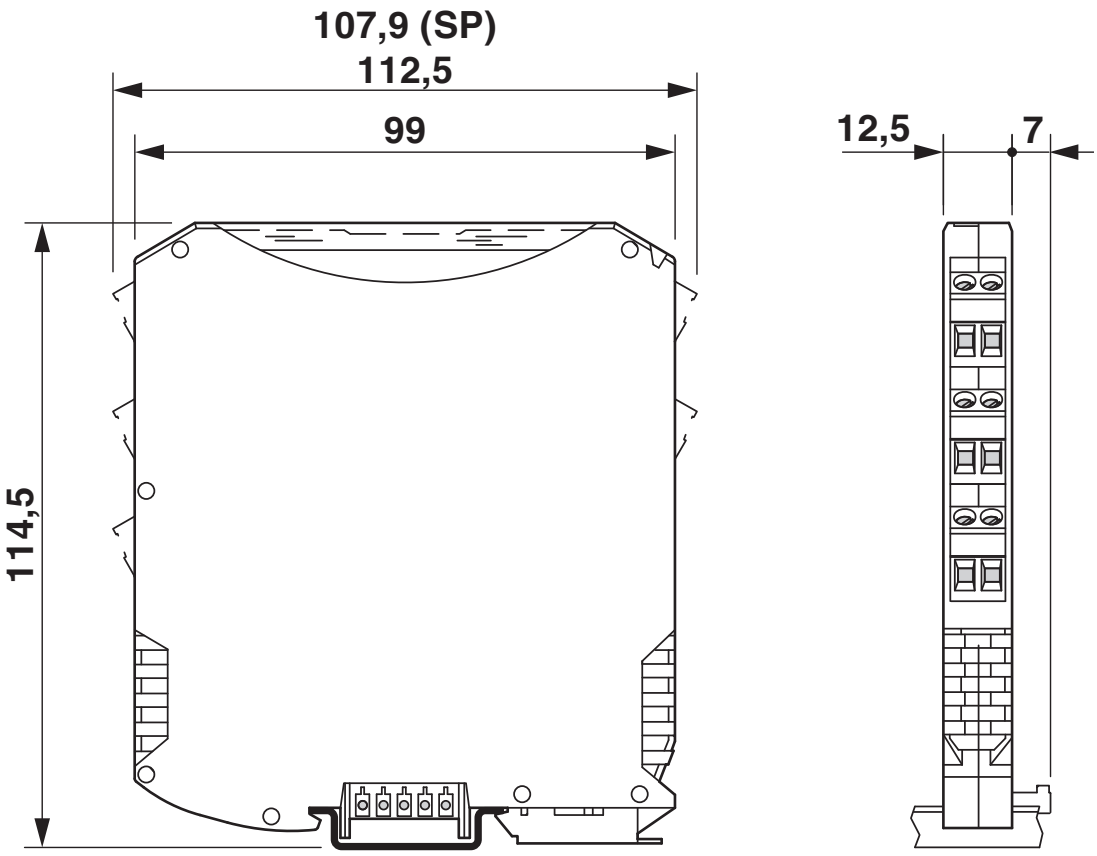
| | |
|---|---|
| Electrical isolation | 2-way isolation |
| Standards/regulations | EN/IEC 60079-0 |
| | EN/IEC 60079-7 |

## Mounting

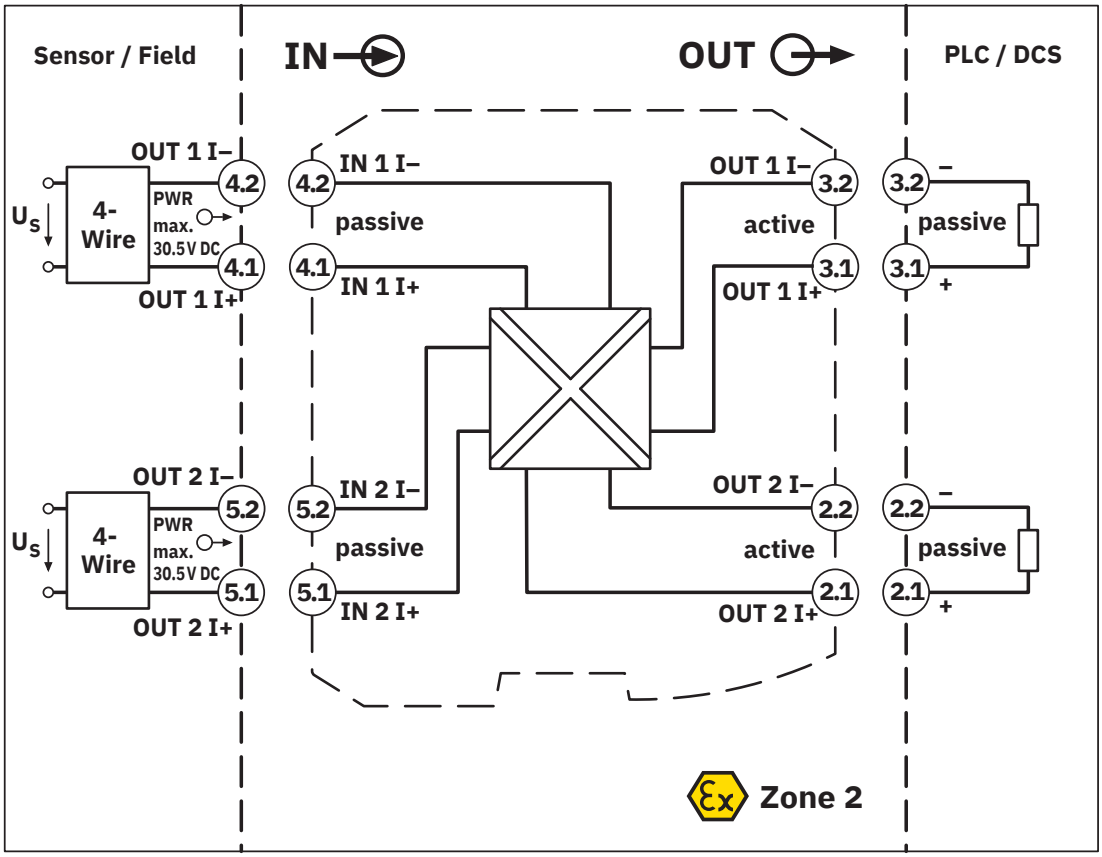
| | |
|---|---|
| Mounting type | DIN rail mounting |

## Drawings

Dimensional drawing



Block diagram



## Classifications

### ECLASS

| | |
|---|---|
| ECLASS-13.0 | 27210120 |
| ECLASS-15.0 | 27210120 |

### ETIM

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|---|---|
| ETIM 9.0 | EC002653 |

### UNSPSC

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|---|---|
| UNSPSC 21.0 | 39121000 |

## Environmental product compliance

EU RoHS

| | |
|---|---|
| Fulfills EU RoHS substance requirements | Yes |
| Exemption | 7(a), 7(c)-I |

China RoHS

| | |
|---|---|
| Environment friendly use period (EFUP) | EFUP-50 |
| | An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required. |

EU REACH SVHC

| | |
|---|---|
| REACH candidate substance (CAS No.) | Lead(CAS: 7439-92-1) |
| SCIP | cdad0109-3fc5-4549-b6fe-1a65fd178134 |

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Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com