# MINI MCR-2-I-I-ILP-PT - Input isolator

2901995

https://www.phoenixcontact.com/us/products/2901995

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CRA-READY



1-channel input loop-powered 2-way isolator with 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

Single-channel input-loop-powered 2-way isolator with 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 9.6 V DC ... 30 V DC. The device is powered via the current loop of the sensor. Input signal = output signal: 0(4) mA ... 20 mA. The measuring transducer supports NFC communication.

## Commercial data

| | |
|---|---|
| Item number | 2901995 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | C404 |
| Product key | DK1121 |
| GTIN | 4046356649261 |
| Weight per piece (including packing) | 62 g |
| Weight per piece (excluding packing) | 52.2 g |
| Customs tariff number | 85437090 |
| Country of origin | DE |

# Technical data

## Notes

Note on application

| | |
|---|---|
| Note on application | As things stand now, we are preparing the product so that, as of December 11, 2027, it will comply with the requirements of the EU Cyber Resilience Act (CRA) based on the information currently available regarding the CRA. |

Utilization restriction

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

## Product properties

| | |
|---|---|
| Product type | Signal conditioner |
| Product family | MINI Analog Pro |
| No. of channels | 1 |

## Electrical properties

| | |
|---|---|
| Electrical isolation | 2-way isolation |
| Electrical isolation between input and output | yes |
| Limit frequency (3 dB) | 100 Hz |
| Signal transmission behavior | In = Out |
| Maximum temperature coefficient | ≤ 0.002 %/K (of measured value / 100 Ω load) |
| Maximum transmission error | ≤ 0.1 % (of final value) |
| Additional error, load-dependent | < 0.075 % (of measured value / 100 Ω load) |

Electrical isolation

| | |
|---|---|
| Overvoltage category | II |
| Pollution degree | 2 |

Electrical isolation Input/output IEC/EN 61010-1

| | |
|---|---|
| Standards/regulations | IEC/EN 61010-1 |
| Rated insulation voltage | 300 $V_{rms}$ |
| Test voltage | 3 kV AC (50 Hz, 60 s) |
| Insulation | Reinforced insulation |

Supply

| | |
|---|---|
| Supply voltage range | 9.6 V DC ... 30 V DC (loop-powered, no external supply necessary) |
| Power consumption | 600 mW |

## Input data

Signal: Current

| | |
|---|---|
| Number of inputs | 1 |
| Configurable/programmable | no |

| | |
|---|---|
| Current input signal | 0 mA ... 20 mA |
| | 4 mA ... 20 mA |
| Response current | ~ 200 µA (-15°C ... +70°C) |
| | ~ 350 µA (-40°C ... -15°C) |
| Input voltage limitation | 30 V |
| Voltage dissipation | 3.1 V (I = 20 mA) |

## Output data

Signal: Current

| | |
|---|---|
| Number of outputs | 1 |
| Configurable/programmable | no |
| Current output signal | 0 mA ... 20 mA |
| | 4 mA ... 20 mA |
| Load/output load current output | < 600 Ω (at I = 20 mA output signal) |

## Connection data

| | |
|---|---|
| Connection method | Push-in connection |
| Stripping length | 10 mm |
| Conductor cross-section rigid | 0.2 mm² ... 2.5 mm² (with ferrule) |
| | 0.14 mm² ... 2.5 mm² (without ferrule) |
| Conductor cross-section flexible | 0.14 mm² ... 2.5 mm² |
| Conductor cross-section AWG | 24 ... 12 (flexible) |

## Ex data

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

## Dimensions

| | |
|---|---|
| Width | 6.2 mm |
| Height | 109.81 mm |
| Depth | 119.2 mm |

## Material specifications

| | |
|---|---|
| Color | gray (RAL 7042) |
| Housing material | PBT |
| Fire protection for rail vehicles (DIN EN 45545-2) R22 | HL 1 - HL 2 |
| Fire protection for rail vehicles (DIN EN 45545-2) R23 | HL 1 - HL 2 |
| Fire protection for rail vehicles (DIN EN 45545-2) R24 | HL 1 - HL 2 |

## Environmental and real-life conditions

Ambient conditions

| | |
|---|---|
| Degree of protection | IP20 (not assessed by UL) |
| Ambient temperature (operation) | -40 °C ... 70 °C |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |

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

## Approvals

CE

| | |
|---|---|
| Certificate | CE-compliant |

ATEX

| | |
|---|---|
| Identification | Ⓔx II 3 G Ex ec IIC T4 Gc |
| Certificate | BVS 19 ATEX E 079 X |

IECEx

| | |
|---|---|
| Identification | Ex ec IIC T4 Gc |
| Certificate | IECEx BVS 19.0068X |

CCC / China-Ex

| | |
|---|---|
| Identification | Ex ec IIC T4 Gc |

UL, USA/Canada

| | |
|---|---|
| Identification | UL 508 Listed |
| | Class I, Div. 2, Groups A, B, C, D T6 |
| | Class I, Zone 2, Group IIC T6 |

EAC Ex

| | |
|---|---|
| Identification | EAC Ex Ex ec IIC T4 Gc |
| Certificate | BY/112 02.01 TP012 103.01 00079 |

## EMC data

| | |
|---|---|
| Electromagnetic compatibility | Conformance with EMC directive |
| Noise immunity | EN 61000-6-2 |
| Note | When being exposed to interference, there may be minimal deviations. |

Noise emission

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

## Standards and regulations

| | |
|---|---|
| Electrical isolation | 2-way isolation |

GB Standard

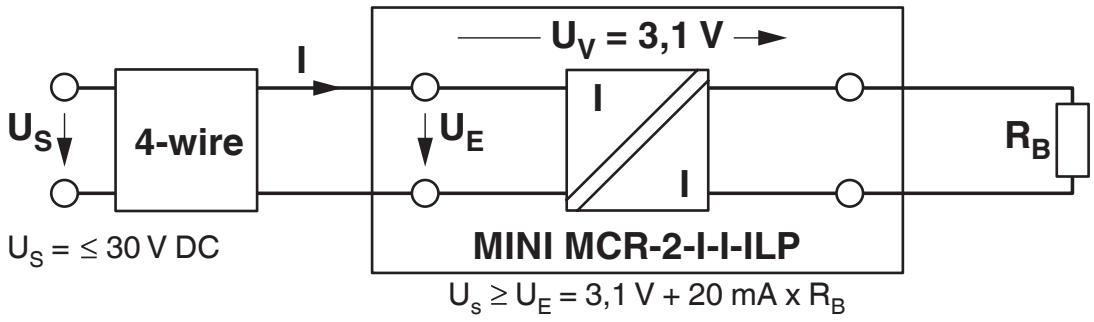
| | |
|---|---|
| Standards/regulations | GB/T 3836.1 |
| | GB/T 3836.3 |

## Mounting

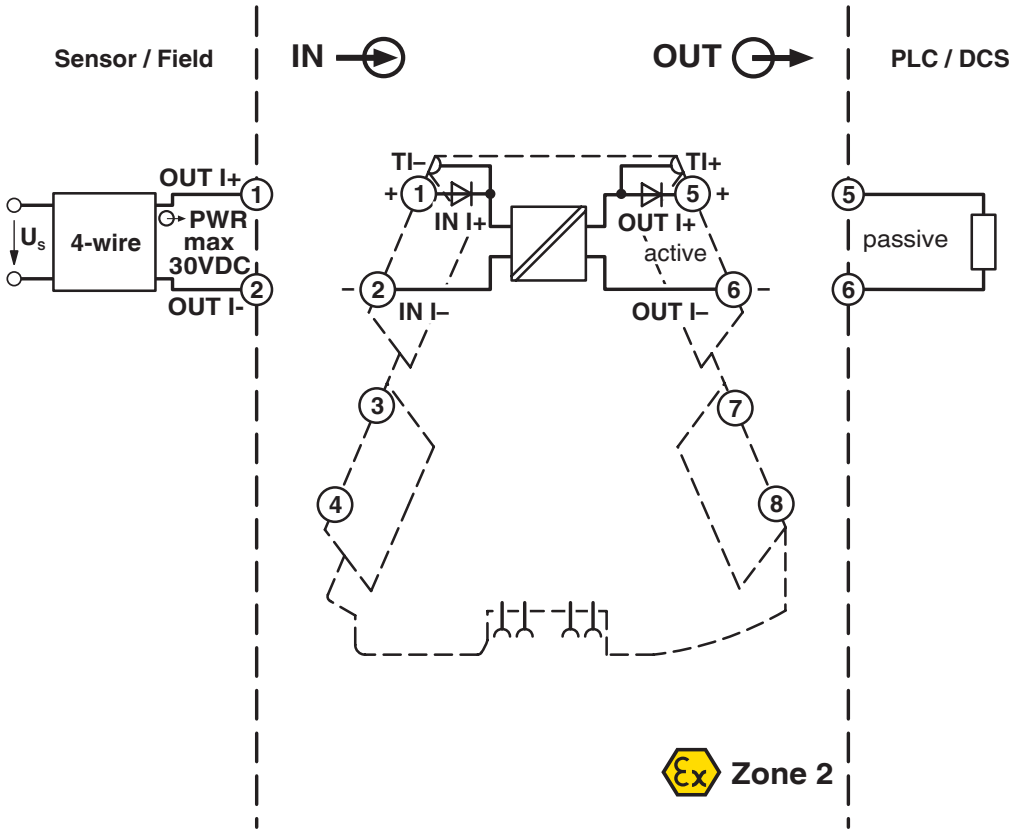
| | |
|---|---|
| Mounting type | DIN rail mounting |
| Mounting position | any |

## Drawings

Application drawing




Block diagram



## Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2901995

**UL Listed**
Approval ID: E238705

**cUL Listed**
Approval ID: E238705

**IECEx**
Approval ID: IECEx BVS 19.0068X

**cUL Listed**
Approval ID: FILE E 196811

**UL Listed**
Approval ID: E196811

**ATEX**
Approval ID: BVS 19 ATEX E 079 X

**CCC**
Approval ID: 2021122310114155

## Classifications

### ECLASS

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

### ETIM

| | |
|---|---|
| ETIM 10.0 | EC002653 |

### UNSPSC

| | |
|---|---|
| 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 | 5ef8f069-1153-417a-b066-2c1d8720c22b |

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