# MINI MCR-2-UI-REL-PT-C - Limit value switch

2909887

https://www.phoenixcontact.com/us/products/2909887

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 documentation. Our general terms of use for downloads are valid.

CRA-READY



Universally configurable threshold value switch with changeover contact relay output and plug-in connection technology for switching analog limit values. Configurable via DIP switch or software. Push-in connection technology, order configuration.

## Product description

Universally configurable threshold value switch with changeover contact relay output and plug-in connection technology for switching analog limit values. On the input side, current signals between 0 mA ... 24 mA and voltage signals between 0 V ... 12 V can be processed. A relay with changeover contact is available on the output side. It is then possible to switch loads up to 250 V / 6 A AC and 30 V / 4 A DC. You can configure the device using one of the free software solutions. Default settings can also easily be made directly on the device via DIP switches (see configuration table). The measuring transducer supports fault monitoring and NFC communication.

## Commercial data

| | |
|---|---|
| Item number | 2909887 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Note | Made to order (non-returnable) |
| Sales key | C490 |
| Product key | DK1127 |
| Weight per piece (including packing) | 122.5 g |
| Weight per piece (excluding packing) | 111.9 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 | Limit value switch |
| Product family | MINI Analog Pro |
| No. of channels | 1 |
| Configuration | DIP switches |
| | Software |
| | App |

## System properties

### Functionality

| | |
|---|---|
| Configuration | DIP switches |
| | Software |
| | App |

## Electrical properties

| | |
|---|---|
| Electrical isolation | 3-way isolation |
| Electrical isolation between input and output | yes |
| Switching point accuracy | < 0.1 % |
| Step response (0–99%) | 140 ms (can be set via software) |
| Maximum temperature coefficient | 0.01 %/K |
| Maximum transmission error | 0.1 % (of final value) |

### Electrical isolation

| | |
|---|---|
| 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 | 300 $V_{rms}$ |
| Test voltage | 3 kV AC (50 Hz, 60 s) |
| Insulation | Reinforced insulation |

### Supply

| | |
|---|---|
| Nominal supply voltage | 24 V DC |
| Supply voltage range | 9.6 V DC ... 30 V DC (The DIN rail connector (ME 6,2 TBUS-2 1,5/5-ST-3,81 GN, item no. 2869728) can be used to bridge the supply voltage. It can be snapped onto a 35 mm DIN rail in accordance with EN 60715) |
| Typical current consumption | 40 mA (12 V DC) |
| | 20 mA (24 V DC) |
| Power consumption (I output) | ≤ 0.5 W |

## Input data

Signal: Voltage/current

| | |
|---|---|
| Configurable/programmable | Yes |
| Voltage input signal | 0 V ... 10 V (via DIP switch) |
| | 0 V ... 12 V (can be set via software) |
| Max. voltage input signal | 12 V |
| Current input signal | 0 mA ... 20 mA (via DIP switch) |
| | 0 mA ... 24 mA (can be set via software) |
| Max. current input signal | 24 mA |
| Input resistance of voltage input | > 120 kΩ |
| Input resistance current input | 50 Ω (+0.7 V for test diode) |
| Specification of the switching point | Can be set via software or in steps via DIP switches |

## Output data

Switching: Relay

| | |
|---|---|
| Contact switching type | 1 changeover contact |
| Contact material | $AgSnO_2$, hard gold-plated |
| Maximum switching voltage | 250 V AC |
| | 30 V DC |
| | 240 V AC (UL) |
| Limiting continuous current | 6 A AC |
| | 4 A DC |
| Min. switching current | 100 mA (12 V DC) |
| Max. switching current | 6 A AC (250 V AC) |
| | 4 A DC (30 V DC) |
| Mechanical service life | $2x\ 10^7$ cycles |
| Setting range of the response delay | 0 s ... 10 s (can be set freely via software) |
| Internal hysteresis | can be set freely via software |

## 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 |

## Interfaces

Data: IFS interface

| | |
|---|---|
| Connection method | Micro USB type B |

## Signaling

| | |
|---|---|
| Status display | Green LED (supply voltage) |
| | Yellow LED (switching output) |
| Error indication | Red LED |

## 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 3G Ex ec ic nC IIC T4 Gc |
| Certificate | BVS 18 ATEX E 071 X |

IECEx

| | |
|---|---|
| Identification | Ex ec ic nC IIC T4 Gc |
| Certificate | IECEx BVS 18.0060X |

UL, USA/Canada

| | |
|---|---|
| Identification | UL 508 Listed |
| | Class I, Div. 2, Groups A, B, C, D T4A |
| | Class I, Zone 2, Group IIC T4A |

Shipbuilding approval

| | |
|---|---|
| Certificate | DNV GL TAA000021E Rev. 1 |

EAC Ex

| | |
|---|---|
| Identification | Ex ec ic nC IIC T4 Gc |
| Certificate | BY/112 02.01 TP012 103.01 00081 |

Shipbuilding data

| | |
|---|---|
| Temperature | B |
| Humidity | B |
| Vibration | A |
| EMC | A |
| Enclosure | Required protection according to the Rules shall be provided upon installation on board |

## 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 | 3-way isolation |

GB Standard

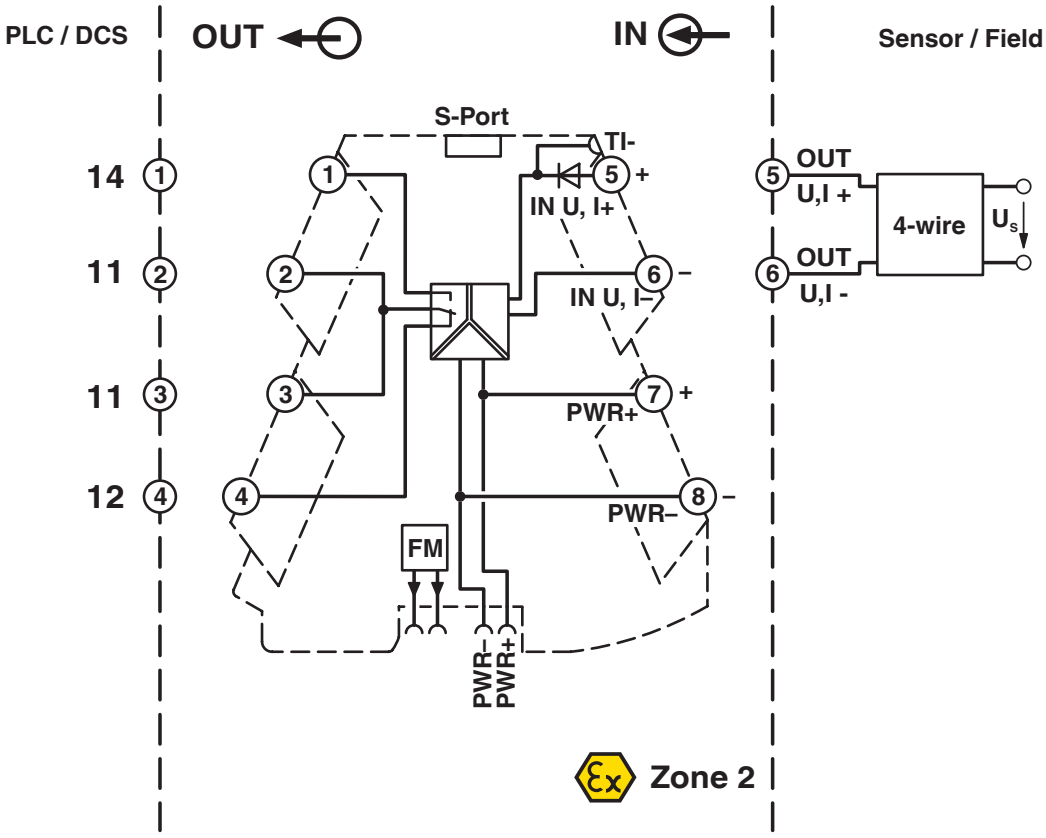
| | |
|---|---|
| Standards/regulations | GB/T 3836.1 |
| | GB/T 3836.3 |
| | GB/T 3836.4 |
| | GB/T 3836.8 |

## Mounting

| | |
|---|---|
| Mounting type | DIN rail mounting |
| Assembly note | The DIN rail connector can be used for bridging the supply voltage. It can be snapped onto a 35 mm EN 60715 DIN rail. |
| Mounting position | any |

## Drawings

Block diagram



## Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2909887

**UL Listed**
Approval ID: E238705

**cUL Listed**
Approval ID: E238705

**DNV**
Approval ID: TAA000021E

**IECEx**
Approval ID: IECEx BVS 18.0060X

**cUL Listed**
Approval ID: E196811

**UL Listed**
Approval ID: E196811

**ATEX**
Approval ID: BVS 18 ATEX E 071 X

**CCC**
Approval ID: 2022122304115965

## 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) |

Phoenix Contact 2026 © - all rights reserved
https://www.phoenixcontact.com

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