# MACX MCR-SL-CAC- 5-I-UP - Current measuring transducer

2810625

https://www.phoenixcontact.com/us/products/2810625

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Current measuring transducer for 1 A and 5 A AC, the output signal 0...20 mA or 4...20 mA, can be configured using a DIP switch with an operating mode indication through an LED

## Product description

The MACX MCR-SL-CAC-5-I(-UP) current measuring transducers convert sinusoidal alternating currents of 1 A or 5 A into standard analog signals 0...20 mA or 4...20 mA. The DIP switches, which can be accessed on the upper side of the housing, can be used to configure the input and output current.
The MACX MCR-SL-CAC-5-I current transducer contains a supply voltage range of 19.2 V DC to 30 V DC.
The MACX MCR-SL-CAC-5-I current transducer contains a long range version with a supply voltage range of 19.2 V AC/DC to 253 V AC/DC.

## Your advantages

- Input/output can be configured via DIP switches

## Commercial data

| | |
|---|---|
| Item number | 2810625 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | C444 |
| Product key | CMMA21 |
| GTIN | 4046356153782 |
| Weight per piece (including packing) | 218.2 g |
| Weight per piece (excluding packing) | 181.6 g |
| Customs tariff number | 85437090 |
| Country of origin | DE |

## Technical data

### Notes

Utilization restriction

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

### Product properties

| | |
|---|---|
| Product type | Current measuring transducer |

Insulation characteristics

| | |
|---|---|
| Overvoltage category | III |
| Pollution degree | 2 |

### Electrical properties

| | |
|---|---|
| Maximum power dissipation for nominal condition | < 0.9 W (24 V DC) |
| | < 3.4 W (230 V AC) |
| Protective circuit | Surge protection; 35 V suppressor diode |
| Step response (10-90%) | ≤ 300 ms |
| | 200 ms |
| Maximum temperature coefficient | < 0.02 %/K |
| Temperature coefficient, typical | < 0.015 %/K |
| Maximum transmission error | ≤ 0.5 % (of nominal range value under nominal conditions) |
| Reverse polarity protection | yes |
| Rated insulation voltage | 300 V AC (to earth) |

Electrical isolation Input/output IEC/EN 61010-1

| | |
|---|---|
| Standards/regulations | IEC/EN 61010-1 |
| Rated insulation voltage | 300 V AC |
| Test voltage | 4 kV AC (50 Hz, 60 s) |
| Insulation | Reinforced insulation |

Electrical isolation Output/supply IEC/EN 61010-1

| | |
|---|---|
| Standards/regulations | IEC/EN 61010-1 |
| Rated insulation voltage | 300 V AC |
| Test voltage | 2 kV AC (50 Hz, 60 s) |
| Insulation | Reinforced insulation |

Supply

| | |
|---|---|
| Supply voltage range | 19.2 V AC/DC ... 253 V AC/DC |
| Max. current consumption | < 33 mA (24 V DC) |
| Power consumption | < 0.8 W (24 V DC) |

### Input data

Measurement

| | |
|---|---|
| Configurable/programmable | Via DIP switches |
| Input current range | 0 A AC ... 1 A AC (configurable) |
| | 0 A AC ... 5 A AC (configurable) |
| Voltage input signal | ≤ 300 V AC |
| Input impedance | < 50 mΩ |
| Overload capacity | 2 x $I_{N\ (}$continuous) |
| Surge strength | 20 x $I_N$ (1 s) |
| Nominal frequency $f_N$ | 50 Hz |
| Frequency measuring range | 45 Hz ... 65 Hz |
| Curve type | Sine |

## Output data

Signal: Current

| | |
|---|---|
| Configurable/programmable | Via DIP switches |
| Open-circuit voltage | 15 V |
| Current output signal | 0 mA ... 20 mA (configurable) |
| | 4 mA ... 20 mA (configurable) |
| Max. current output signal | 25 mA |
| Load/output load current output | < 500 Ω (20 mA) |
| Ripple | < 10 $mV_{PP}$ (500 Ω / 20 mA) |
| Status display | LED red (error), LED green (ready) |

## Connection data

| | |
|---|---|
| Connection method | Screw connection |
| Stripping length | 8 mm |
| Screw thread | M3 |
| Conductor cross-section rigid | 0.2 mm² ... 2.5 mm² |
| Conductor cross-section flexible | 0.2 mm² ... 2.5 mm² |
| Conductor cross-section AWG | 24 ... 14 |
| Tightening torque | 0.5 Nm ... 0.6 Nm |

## Interfaces

Data communication (bypass)

| | |
|---|---|
| Limit frequency (3 dB) | approx. 3 Hz |

## Dimensions

Item dimensions

| | |
|---|---|
| Width | 22.5 mm |
| Height | 104 mm |
| Depth | 114.5 mm |

## Material specifications

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|---|---|
| Color | gray (RAL 7042) |

| | |
|---|---|
| Housing material | Polyamide PA non-reinforced |

## Environmental and real-life conditions

Ambient conditions

| | |
|---|---|
| Degree of protection | IP20 |
| Ambient temperature (operation) | -20 °C ... 65 °C |
| | -4 °F ... 149 °F |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C (-40 °F ... 185 °F) |
| Altitude | ≤ 2000 m |
| Permissible humidity (operation) | 10 % ... 95 % (non-condensing) |
| Vibration (operation) | 5 Hz ... 18.20 Hz, amplitude ±0.75 mm (IEC 60068-2-6) |
| | 18.20 Hz ... 150 Hz, 1g |

## Approvals

CE

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

UL, USA/Canada

| | |
|---|---|
| Identification | UL 508 Recognized |

## 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 |

Electrostatic discharge

| | |
|---|---|
| Standards/regulations | EN 61000-4-2 |

Electromagnetic HF field

| | |
|---|---|
| Standards/regulations | EN 61000-4-3 |

Electromagnetic HF field

| | |
|---|---|
| Comments | Criterion A |

Fast transients (burst)

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

Fast transients (burst)

| | |
|---|---|
| Comments | Criterion B |

Surge current load (surge)

| | |
|---|---|
| Standards/regulations | EN 61000-4-5 |

Surge current load (surge)

| | |
|---|---|
| Comments | Criterion B |

Conducted interference

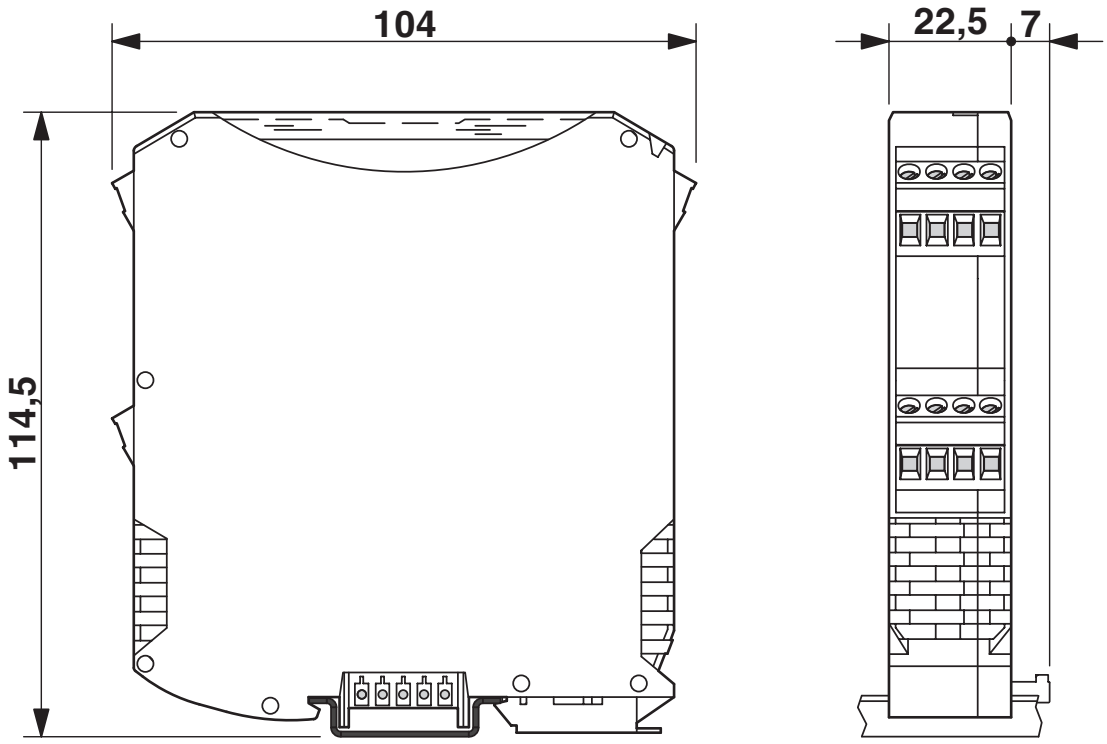
| | |
|---|---|
| Standards/regulations | EN 61000-4-6 |

## Mounting

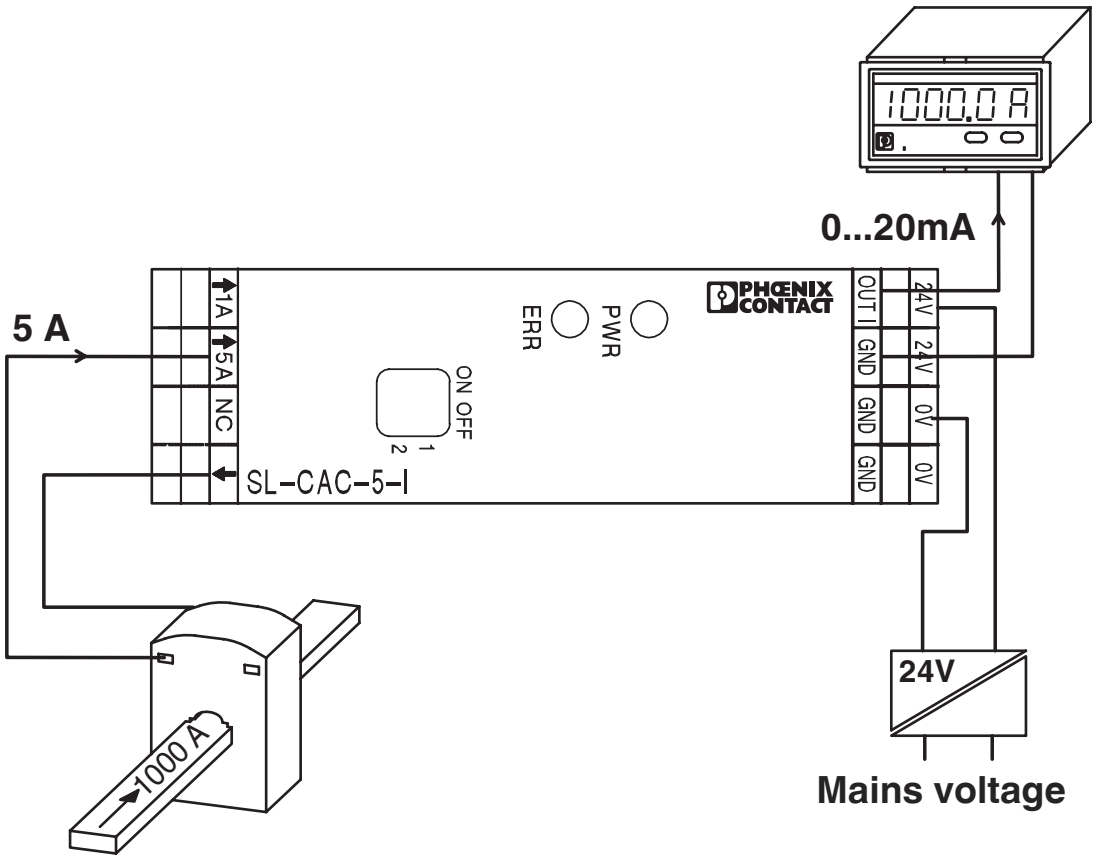
| | |
|---|---|
| Mounting type | DIN rail mounting |
| Mounting position | any |

## Drawings

Dimensional drawing



Application drawing




Current measurement

## Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2810625

**cUL Recognized**
Approval ID: E238705

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## Classifications

### ECLASS

| | |
|---|---|
| ECLASS-13.0 | 27210123 |
| ECLASS-15.0 | 27210123 |

### ETIM

| | |
|---|---|
| ETIM 10.0 | EC002475 |

### 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) |
| | 6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol(CAS: 119-47-1) |
| SCIP | c9f74c8d-84c2-4ed8-a1e4-ba93c26a3078 |


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