

MACX MCR-SL-CAC-12-I-UP - Current measuring transducer



2810638

<https://www.phoenixcontact.com/us/products/2810638>

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Current measuring transducer for 5 A and 12 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

Your advantages

- Input/output can be configured via DIP switches

Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 2810638 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | C444 |
| Product key | CMMA21 |
| GTIN | 4046356510356 |
| Weight per piece (including packing) | 218.6 g |
| Weight per piece (excluding packing) | 140 g |
| Customs tariff number | 85437090 |
| Country of origin | DE |

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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

| | |
|--------------|-----------------------|
| Test voltage | 4 kV AC (50 Hz, 60 s) |
|--------------|-----------------------|

Electrical isolation Output/supply

| | |
|--------------|-----------------------|
| Test voltage | 2 kV AC (50 Hz, 60 s) |
|--------------|-----------------------|

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 ... 5 A AC (configurable) 0 A AC ... 12 A AC (configurable) |
| Voltage input signal | ≤ 300 V AC |
| Input impedance | < 50 mΩ |
| Overload capacity | 1 x I _N (continuous) |

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| | |
|----------------------------------|--------------------------|
| Surge strength | 8 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 mm ² ... 2.5 mm ² |
| Conductor cross-section flexible | 0.2 mm ² ... 2.5 mm ² |
| 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

| | |
|------------------|-----------------------------|
| 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 |

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| | |
|---|--------------------------------------|
| | -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) |

Approvals

CE

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

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 |

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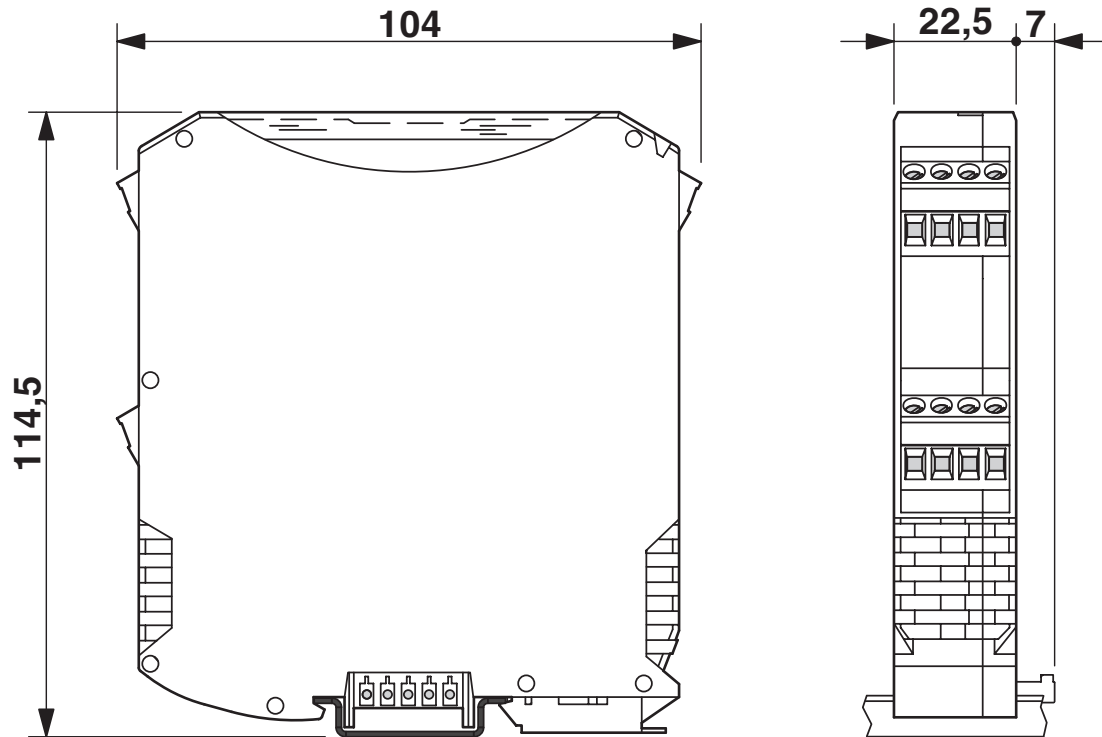


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Drawings

Dimensional drawing



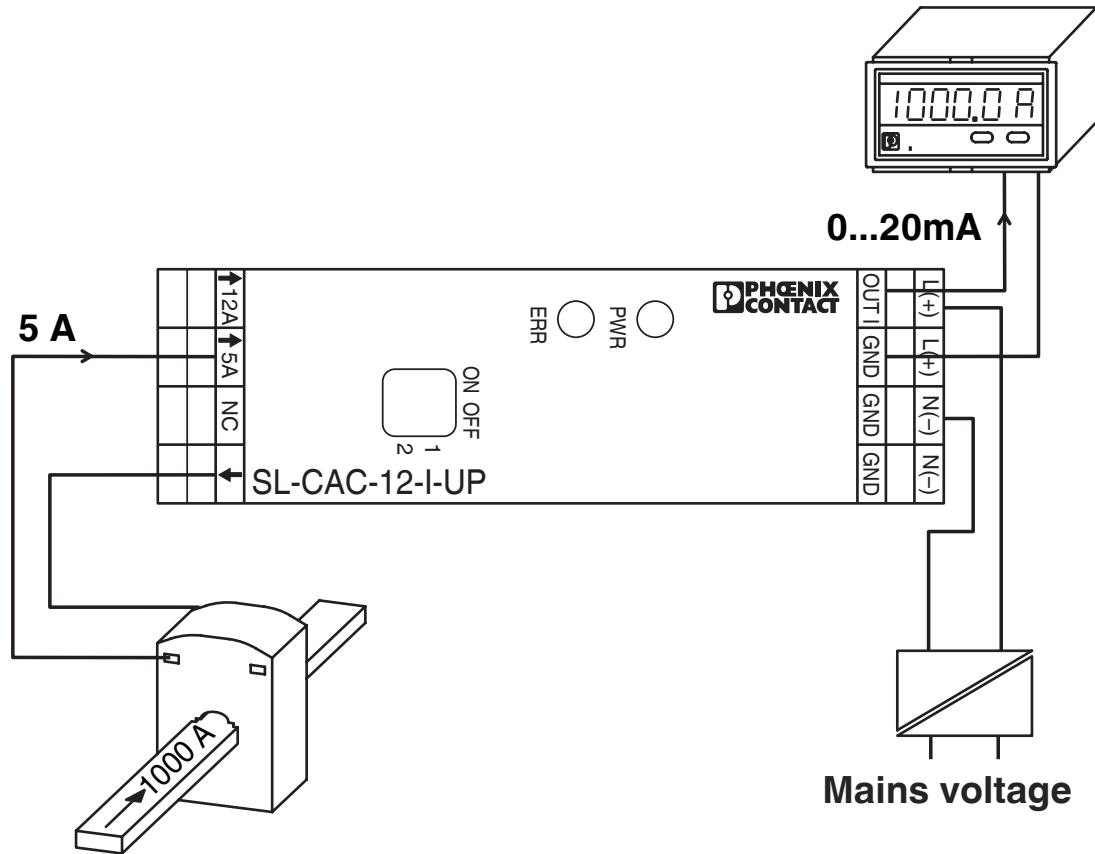
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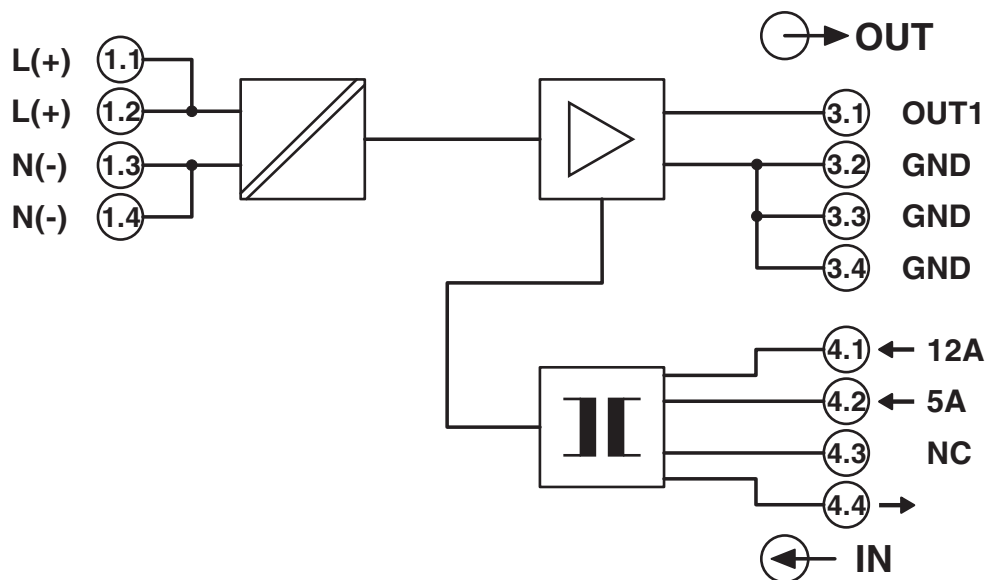
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Application drawing



Current measurement

Circuit diagram



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Classifications

ECLASS

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

ETIM

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

UNSPSC

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

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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 | 1bf10248-ee20-421c-8937-809477c16e6a |

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