

ECM-UC-10A-UI-REL - Current measuring transducer



1698164

<https://www.phoenixcontact.com/us/products/1698164>

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Current measuring transducers for measuring AC, DC, and distorted currents. Configuration via USB-C interface via the web server (without 24 V DC). Four current measuring ranges: 0 A ... 0.1 A to 0 A ... 12.5 A. Relay output, Standard configuration, Push-in connection

Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 1698164 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | C444 |
| Product key | CMMA33 |
| GTIN | 4067923262850 |
| Weight per piece (including packing) | 170 g |
| Weight per piece (excluding packing) | 113.5 g |
| Customs tariff number | 85043129 |
| Country of origin | DE |

Technical data

Product properties

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

Insulation characteristics

| | |
|----------------------|--|
| Insulation | Safe isolation in accordance with IEC/EN 61010-1 |
| Overvoltage category | III (300 V) |
| Pollution degree | 2 |

Electrical properties

| | |
|---------------------------------|---|
| Step response (10-90%) | 200 ms (AC/DC) |
| | 20 ms (DC) |
| Maximum temperature coefficient | < 0.02 %/K |
| Maximum transmission error | 0.5 % (of nominal range value under nominal conditions) |
| Rated insulation voltage | 300 V AC (to earth) |

Electrical isolation IEC 61010-2-030

| | |
|-----------------------|-----------------|
| Standards/regulations | IEC 61010-2-030 |
| Measuring category | III (300 V) |

Electrical isolation Input/output

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

Electrical isolation Input/power supply

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

Electrical isolation Output/supply

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

Supply

| | |
|------------------------------|-------------------------------------|
| Nominal supply voltage range | 12 V DC ... 24 V DC -20 % ... +25 % |
| Supply voltage range | 9.6 V DC ... 30 V DC |
| Power consumption | ≤ 2.3 W (30 V DC) |

Input data

Signal: digital

| | |
|----------------------|--------------------|
| Voltage input signal | 0 V DC ... 30 V DC |
| Current input signal | 2 mA ... 15 mA |

Measurement

| | |
|---------------------|---------------------------|
| Input current range | 0 A AC ... 10 A AC |
| | -10 A DC ... 10 A DC |
| Measuring range | 0 A AC/DC ... 0.1 A AC/DC |
| | 0 A AC/DC ... 1 A AC/DC |
| | 0 A AC/DC ... 5 A AC/DC |

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| | |
|--------------------------------------|---|
| | 0 A AC/DC ... 10 A AC/DC |
| Setting range for min. input current | 0 A AC/DC ... 100 mA AC/DC |
| Setting range for max. input current | 0 A AC/DC ... 12.5 A AC/DC (DIN/EN 61010-1) |
| | 0 A AC/DC ... 10 A AC/DC (UL 61010-1) |
| | -12.5 A DC ... 12.5 A DC (DIN/EN 61010-1) |
| | -10 A DC ... 10 A DC (UL 61010-1) |
| Overload capacity | 2 x I _N |
| Surge strength | 10 x I _N |
| Frequency measuring range | 0 Hz ... 100 Hz |
| | 0 Hz ... 200 Hz |
| | 0 Hz ... 500 Hz |
| | 0 Hz ... 1000 Hz |
| Curve type | AC, DC or distorted currents |

Output data

Switching: Relay

| | |
|-----------------------------|-----------------------------|
| Contact switching type | 1 changeover contact |
| Contact material | AgNi |
| Minimum switching voltage | 12 V (10 mA) |
| Maximum switching voltage | 250 V AC |
| | 48 V DC |
| Limiting continuous current | 6 A AC (250 V AC, 50/60 Hz) |
| | 1 A DC (48 V DC) |

Signal: Voltage/current

| | |
|---------------------------------|----------------|
| Voltage output signal | 0 V ... 10 V |
| | 0 V ... 5 V |
| | 1 V ... 5 V |
| | 2 V ... 10 V |
| | -10 V ... 10 V |
| | -5 V ... 5 V |
| | 10 V ... -10 V |
| | 5 V ... -5 V |
| | 10 V ... 0 V |
| 5 V ... 0 V | |
| Current output signal | 0 mA ... 20 mA |
| | 4 mA ... 20 mA |
| | 20 mA ... 0 mA |
| | 20 mA ... 4 mA |
| Load/output load voltage output | > 10 kΩ |
| Load/output load current output | < 500 Ω |

Signal: digital

| | |
|----------------------------|---------|
| Max. voltage output signal | 24 V DC |
|----------------------------|---------|

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| | |
|----------------------------|----------|
| Max. current output signal | ≤ 100 mA |
|----------------------------|----------|

Connection data

| | |
|----------------------------------|---|
| Connection method | Push-in connection |
| Stripping length | 10 mm |
| 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 ... 13 |

Interfaces

WBM

| | |
|-------------|---------------------------------------|
| Designation | WBM: Default address, USB-C interface |
| IP address | 192.168.128.1 |

Dimensions

Item dimensions

| | |
|--|--|
| Width | 22.6 mm |
| Height | 106.7 mm |
| Depth | 113.8 mm |
| Depth (Device depth (DIN rail mounting)) | 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 | V0 (Housing) |
| Housing material | PA 6.6-FR |

Environmental and real-life conditions

Ambient conditions

| | |
|---|---------------------------------------|
| Degree of protection | IP20 |
| Ambient temperature (operation) | -40 °C ... 60 °C -40 °F ... 140 °F |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |
| Altitude | ≤ 4000 m |
| Permissible humidity (operation) | ≤ 95 % (non-condensing) |

Approvals

CE

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

UL, USA/Canada

| | |
|----------------|--------------------------------|
| Identification | Ind. Cont. Eq. E238705-E196811 |
|----------------|--------------------------------|

EMC data

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| | |
|-------------------------------|--|
| Electromagnetic compatibility | Conformance with EMC directive |
| Low Voltage Directive | Conformance with Low Voltage Directive |
| Noise immunity | EN 61000-6-2 |

Noise emission

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

Standards and regulations

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|-----------------------|-------------------------|
| Standards/regulations | IEC 61010-1 |
| Standards/regulations | IEC/EN 61131-2 (type 3) |
| Standards/regulations | IEC/EN 61131-2 (type 3) |

Mounting

| | |
|-------------------|------------------------|
| Mounting position | vertical or horizontal |
|-------------------|------------------------|

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Approvals

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cULus Listed

Approval ID: E238705



cULus Listed

Approval ID: E196811



cULus Listed

Approval ID: E196811

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Classifications

ECLASS

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

ETIM

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|-----------|----------|
| 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) |
| | 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol(CAS: 79-94-7) |

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