

MACX MCR-VDC-PT - Voltage measuring transducers



2906243

<https://www.phoenixcontact.com/us/products/2906243>

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MACX MCR voltage transducers for DC voltages of 0... (+/-) 20 V DC to 0.. (+/-) 660 V DC, output signal (+/-) 10 V/ (+/-)20 mA

Your advantages

- Adjustable voltage ranges
- Bidirectional output signals
- 3-way isolation
- ZERO/SPAN adjustment $\pm 20\%$
- Tool-free parameterization of measured values
- Teach-in configuration of the measured value range

Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 2906243 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | C445 |
| Product key | CMMB21 |
| GTIN | 4055626050935 |
| Weight per piece (including packing) | 151.9 g |
| Weight per piece (excluding packing) | 206.8 g |
| Customs tariff number | 85437090 |
| Country of origin | DE |

Technical data

Product properties

| | |
|--------------|--------------------|
| Product type | Voltage transducer |
|--------------|--------------------|

Electrical properties

| | |
|---|---|
| Alignment span | ± 20 % |
| Alignment zero | ± 20 % |
| Maximum power dissipation for nominal condition | 1.2 W |
| Protective circuit | Surge protection; 33 V suppressor diode |
| Step response (10-90%) | < 16 ms |
| Maximum temperature coefficient | < 0.015 %/K |
| Maximum transmission error | < 1 % (of measuring range end value) |

Electrical isolation

| | |
|------------------|---|
| Pollution degree | 2 |
|------------------|---|

Electrical isolation Measuring circuit to supply circuit and output IEC 61010-2-030

| | |
|-----------------------|-------------------------|
| Standards/regulations | IEC 61010-2-030 |
| Test voltage | 5.3 kV AC (50 Hz, 60 s) |
| Measuring category | II (1000 V) |
| | III (600 V) |
| | IV (300 V) |
| Insulation | Reinforced insulation |

Electrical isolation Supply circuit to output circuit IEC 61010-1

| | |
|-----------------------|-------------------------|
| Standards/regulations | IEC 61010-1 |
| Test voltage | 2.2 kV AC (50 Hz, 60 s) |
| Overvoltage category | III (300 V) |
| | IV (150 V) |
| Insulation | Basic insulation |

Supply

| | |
|--------------------------|---------------------------|
| Nominal supply voltage | 24 V DC (-20 % ... +25 %) |
| Supply voltage range | 19.2 V DC ... 30 V DC |
| Max. current consumption | < 60 mA |

Input data

Measurement

| | |
|-----------------------------------|------------------------|
| Configurable/programmable | Yes |
| Input voltage range | -550 V DC ... 550 V DC |
| Maximum input voltage | ± 660 V DC |
| Input resistance of voltage input | 5500 kΩ |
| Impulse form | DC voltage |

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Measurement

| | |
|-----------------------------------|------------------------|
| Input voltage range | -370 V DC ... 370 V DC |
| Input resistance of voltage input | 3700 kΩ |

Measurement

| | |
|-----------------------------------|------------------------|
| Input voltage range | -250 V DC ... 250 V DC |
| Input resistance of voltage input | 2500 kΩ |

Measurement

| | |
|-----------------------------------|------------------------|
| Input voltage range | -170 V DC ... 170 V DC |
| Input resistance of voltage input | 1700 kΩ |

Measurement

| | |
|-----------------------------------|------------------------|
| Input voltage range | -120 V DC ... 120 V DC |
| Input resistance of voltage input | 1200 kΩ |

Measurement

| | |
|-----------------------------------|----------------------|
| Input voltage range | -80 V DC ... 80 V DC |
| Input resistance of voltage input | 800 kΩ |

Measurement

| | |
|-----------------------------------|----------------------|
| Input voltage range | -54 V DC ... 54 V DC |
| Input resistance of voltage input | 800 kΩ |

Measurement

| | |
|-----------------------------------|----------------------|
| Input voltage range | -36 V DC ... 36 V DC |
| Input resistance of voltage input | 800 kΩ |

Measurement

| | |
|-----------------------------------|----------------------|
| Input voltage range | -24 V DC ... 24 V DC |
| Input resistance of voltage input | 240 kΩ |

Output data

Signal: Voltage

| | |
|---------------------------------|----------------|
| Voltage output signal | -10 V ... 10 V |
| | 2 V ... 10 V |
| Max. voltage output signal | ≤ 11 V |
| Load/output load voltage output | > 10 kΩ |
| Ripple | 50 mV |

Signal: Current

| | |
|---------------------------------|------------------|
| Current output signal | -20 mA ... 20 mA |
| | 4 mA ... 20 mA |
| Max. current output signal | ≤ 22 mA |
| Load/output load current output | < 500 Ω |
| Max. capacitive load | < 1000 pF |
| Max. inductive load | < 1 mH |

Connection data

| | |
|----------------------------------|---|
| Connection method | Push-in connection |
| Stripping length | 8 mm |
| Conductor cross-section rigid | 0.2 mm ² ... 1.5 mm ² |
| Conductor cross-section flexible | 0.2 mm ² ... 1.5 mm ² |
| Conductor cross-section AWG | 24 ... 16 |

Dimensions

| | |
|--------|---------|
| Width | 22.5 mm |
| Height | 118 mm |
| Depth | 114 mm |

Material specifications

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

Environmental and real-life conditions

Ambient conditions

| | |
|---|-----------------------------------|
| Degree of protection | IP20 |
| Ambient temperature (operation) | -25 °C ... 60 °C |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C (non-condensing) |
| Altitude | ≤ 2000 m |
| Permissible humidity (operation) | 10 % ... 95 % (non-condensing) |

Approvals

CE

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

UL, USA/Canada

| | |
|----------------|-----------------|
| Identification | UL 61010 Listed |
|----------------|-----------------|

EMC data

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

Noise emission

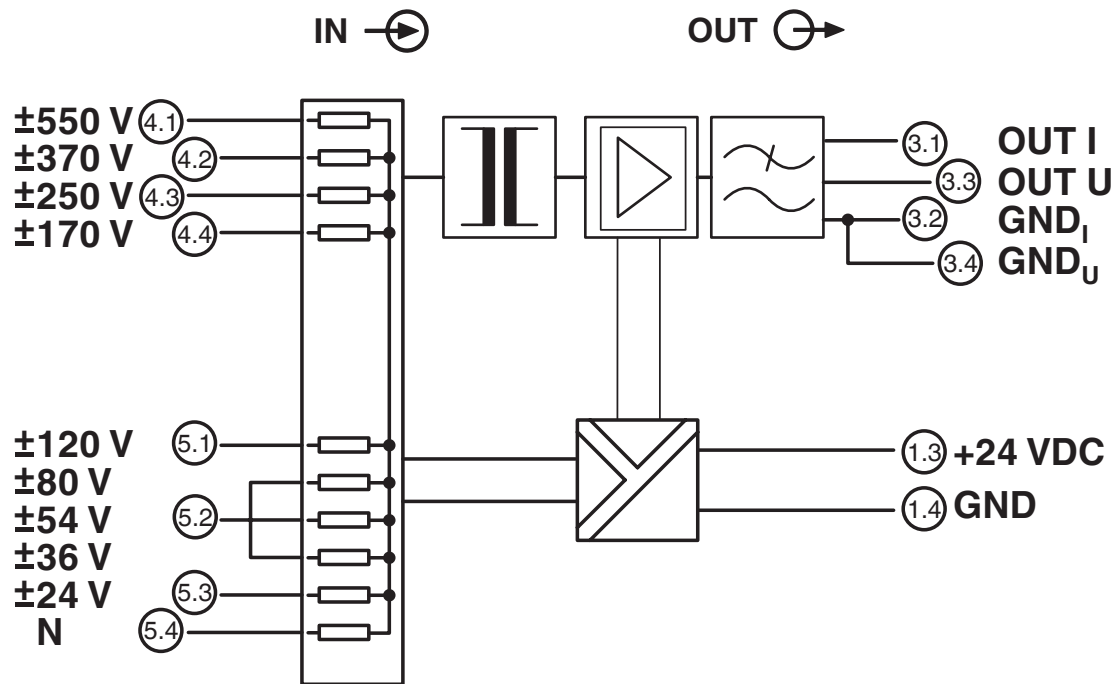
| | |
|-----------------------|--------------|
| Standards/regulations | EN 61000-6-4 |
|-----------------------|--------------|

Mounting

| | |
|-------------------|-------------------------------------|
| Mounting type | DIN rail mounting |
| Assembly note | can be aligned with spacing = 10 mm |
| Mounting position | any |

Drawings

Block diagram



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Approvals

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UL Listed

Approval ID: E330267



cUL Listed

Approval ID: FILE E 330267

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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-13.0 | 27210125 |
| ECLASS-15.0 | 27210125 |

ETIM

| | |
|-----------|----------|
| ETIM 10.0 | EC002477 |
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UNSPSC

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|-------------|----------|
| 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) |
| SCIP | 34c3d415-8ee5-47a9-8ac7-1969ebee4ef5 |

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