# Voltage measuring transducers - MCR-VAC-UI-O-DC - 2811103

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MCR voltage measuring transducer, for alternating current voltages from 0..20 V AC to 0..440 V AC, output signal 0..10 V/0(4)..20 mA

## Product Features

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


## Key Commercial Data

| | |
|---|---|
| Packing unit | 1 pc |
| GTIN | 4 017918 125400 |
| Weight per Piece (excluding packing) | 192.6 g |
| Custom tariff number | 85437090 |
| Country of origin | Germany |

## Technical data

### Note

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

### Dimensions

| | |
|---|---|
| Width | 22.5 mm |
| Height | 99 mm |

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## Technical data

### Dimensions

| | |
|---|---|
| Depth | 114.5 mm |

### Ambient conditions

| | |
|---|---|
| Ambient temperature (operation) | -25 °C ... 60 °C |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C (non-condensing) |
| Degree of protection | IP20 |

### Input data

| | |
|---|---|
| Input voltage range | 0 V ... 370 V AC |
| Input resistance | 370 kΩ |
| Input voltage range | 0 V ... 250 V AC |
| Input resistance | 250 kΩ |
| Input voltage range | 0 V ... 170 V AC |
| Input resistance | 170 kΩ |
| Input voltage range | 0 V ... 120 V AC |
| Input resistance | 120 kΩ |
| Input voltage range | 0 V ... 80 V AC |
| Input resistance | 80 kΩ |
| Input voltage range | 0 V ... 54 V AC |
| Input resistance | 54 kΩ |
| Input voltage range | 0 V ... 36 V AC |
| Input resistance | 36 kΩ |
| Input voltage range | 0 V ... 24 V AC |
| Input resistance | 24 kΩ |
| Nom. voltage | 440 V (ungrounded) |
| | 250 V (to earth) |

### Output data

| | |
|---|---|
| Output name | Voltage output |
| Voltage output signal | 0 V ... 10 V |
| Max. output voltage | 15 V |
| Load/output load voltage output | > 10 kΩ |
| Output name | Current output |
| Current output signal | 0 mA ... 20 mA |
| | 4 mA ... 20 mA |
| Max. output current | 30 mA |
| Load/output load current output | < 500 Ω |

### Power supply

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## Technical data

### Power supply

| | |
|---|---|
| Supply voltage range | 18.5 V DC ... 30.2 V DC |
| Max. current consumption | < 45 mA |

### Connection data

| | |
|---|---|
| Connection method | Pluggable screw connection |
| Conductor cross section solid min. | 0.2 mm² |
| Conductor cross section solid max. | 2.5 mm² |
| Conductor cross section AWG min. | 24 |
| Conductor cross section AWG max. | 14 |
| Conductor cross section flexible min. | 0.2 mm² |
| Conductor cross section flexible max. | 2.5 mm² |
| Stripping length | 8 mm |
| Screw thread | M3 |
| Connection method | Screw connection |

### General

| | |
|---|---|
| Maximum transmission error | < 1.5 % (of final value) |
| Temperature coefficient, typical | 0.02 %/K (50/60 Hz) |
| Frequency measuring range | 45 Hz ... 400 Hz |
| Alignment zero | ± 20 % |
| Alignment span | ± 20 % |
| Step response (10-90%) | 250 ms |
| Overvoltage category | III |
| Degree of pollution | 2 |
| Rated insulation voltage | 300 V DC |
| Test voltage input/output | 3.3 kV (50 Hz, 1 min.) |
| Test voltage input/power supply | 3.3 kV (50 Hz, 1 min.) |
| Test voltage output/power supply | 1 kV (50 Hz, 1 min.) |
| Electromagnetic compatibility | Conformance with EMC Directive 2004/108/EC |
| Noise emission | EN 61000-6-4 |
| Noise immunity | EN 61000-6-2 |
| Color | green |
| Housing material | Polyamide PA non-reinforced |
| Conformance | CE-compliant |
| UL, USA / Canada | cULus |

### Standards and Regulations

| | |
|---|---|
| Electromagnetic compatibility | Conformance with EMC Directive 2004/108/EC |
| Noise emission | EN 61000-6-4 |

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## Technical data

### Standards and Regulations

| | |
|---|---|
| Noise immunity | EN 61000-6-2 |
| Connection in acc. with standard | CUL |
| Conformance | CE-compliant |
| UL, USA / Canada | cULus |

## Classifications

### eCl@ss

| | |
|---|---|
| eCl@ss 4.0 | 27200303 |
| eCl@ss 4.1 | 27200303 |
| eCl@ss 5.0 | 27200303 |
| eCl@ss 5.1 | 27200303 |
| eCl@ss 6.0 | 27200303 |
| eCl@ss 7.0 | 27142316 |
| eCl@ss 8.0 | 27210125 |

### ETIM

| | |
|---|---|
| ETIM 2.0 | EC001438 |
| ETIM 3.0 | EC001438 |
| ETIM 4.0 | EC001438 |
| ETIM 5.0 | EC002477 |

### UNSPSC

| | |
|---|---|
| UNSPSC 6.01 | 30211504 |
| UNSPSC 7.0901 | 39121006 |
| UNSPSC 11 | 39121006 |
| UNSPSC 12.01 | 39121006 |
| UNSPSC 13.2 | 39121006 |

## Approvals

### Approvals

Approvals

UL Recognized / cUL Recognized / EAC / cULus Recognized

Ex Approvals

# Voltage measuring transducers - MCR-VAC-UI-O-DC - 2811103

## Approvals

Approvals submitted

### Approval details

UL Recognized

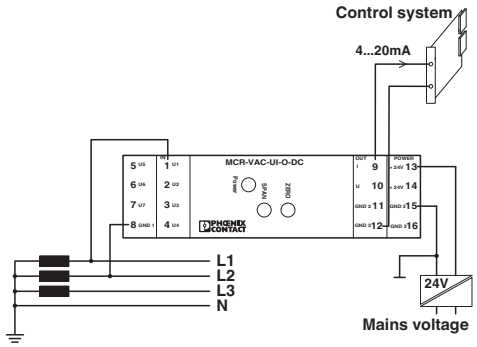
cUL Recognized

EAC

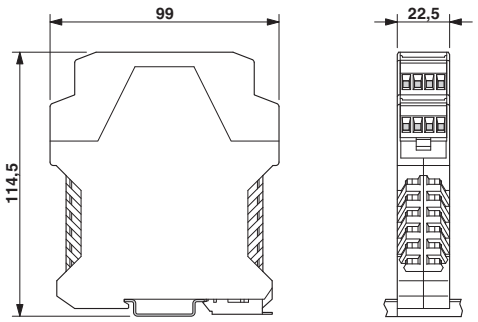
cULus Recognized

## Drawings

Application drawing




Dimensional drawing




Voltage measurement in case of grounded circuits

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Circuit diagram