

# MCR-VDC-UI-B-DC - Voltage measuring transducers



2811116

<https://www.phoenixcontact.com/us/products/2811116>

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MCR voltage measuring transducer, for direct current voltages from 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	2811116
Packing unit	1 pc
Note	Made to order (non-returnable)
Sales key	C440
Product key	CMMB21
GTIN	4017918125394
Weight per piece (including packing)	157.2 g
Weight per piece (excluding packing)	155.2 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
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### Product properties

Configuration	INTERBUS
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#### Insulation characteristics

Overvoltage category	II
Pollution degree	2

### System properties

#### Functionality

Configuration	INTERBUS
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### Electrical properties

Alignment span	$\pm 20 \%$
Alignment zero	$\pm 20 \%$
Frequency measuring range	40 Hz ... 70 Hz
Limit frequency (3 dB)	40 Hz
Test voltage input/output	1.5 kV (50 Hz, 1 min.)
Step response (10-90%)	12 ms
Maximum temperature coefficient	$< 0.015 \%/K$
Maximum transmission error	$< 1 \%$ (of final value)

#### Supply

Supply voltage range	18.5 V DC ... 30.2 V DC
Max. current consumption	$< 50 \text{ mA}$

### Input data

#### Measurement

Description of the input	$\pm 550 \text{ V input}$
Input voltage range	-550 V DC ... 550 V DC
Maximum input voltage	$\pm 660 \text{ V DC (ungrounded)}$ $\pm 100 \text{ V DC (to earth)}$
Input resistance of voltage input	550 k $\Omega$
Impulse form	DC voltage

#### Measurement

Description of the input	$\pm 370 \text{ V input}$
Input voltage range	-370 V DC ... 370 V DC

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Input resistance of voltage input	370 k $\Omega$
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## Measurement

Description of the input	$\pm 250$ V input
Input voltage range	-250 V DC ... 250 V DC
Input resistance of voltage input	250 k $\Omega$

## Measurement

Description of the input	$\pm 170$ V input
Input voltage range	-170 V DC ... 170 V DC
Input resistance of voltage input	170 k $\Omega$

## Measurement

Description of the input	$\pm 120$ V input
Input voltage range	-120 V DC ... 120 V DC
Input resistance of voltage input	120 k $\Omega$

## Measurement

Description of the input	$\pm 80$ V input
Input voltage range	-80 V DC ... 80 V DC
Input resistance of voltage input	80 k $\Omega$

## Measurement

Description of the input	$\pm 54$ V input
Input voltage range	-54 V DC ... 54 V DC
Input resistance of voltage input	54 k $\Omega$

## Measurement

Description of the input	$\pm 36$ V input
Input voltage range	-36 V DC ... 36 V DC
Input resistance of voltage input	36 k $\Omega$

## Measurement

Description of the input	$\pm 24$ V input
Input voltage range	-24 V DC ... 24 V DC
Input resistance of voltage input	24 k $\Omega$

## Output data

### Signal: Voltage output

Voltage output signal	-10 V ... 10 V
Max. voltage output signal	$\pm 15$ V
Load/output load voltage output	> 10 k $\Omega$
Ripple	< 50 mV <sub>PP</sub>

### Signal: Current output

Current output signal	-20 mA ... 20 mA
Max. current output signal	$\pm 30$ mA

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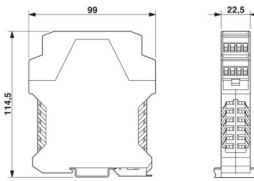
<https://www.phoenixcontact.com/us/products/2811116>

Load/output load current output	< 500 $\Omega$
Ripple	< 50 mV <sub>PP</sub>

## Connection data

Connection method	Pluggable screw connection
Connection technology	Screw connection
Stripping length	8 mm
Screw thread	M3
Conductor cross-section rigid	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross-section flexible	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross-section AWG	24 ... 14

## Dimensions

Dimensional drawing	
Width	22.5 mm
Height	99 mm
Depth	114.5 mm

## Material specifications

Color	green (RAL 6021)
Housing material	Polyamide PA non-reinforced

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 50 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C (non-condensing)

## Approvals

### CE

Certificate	CE-compliant
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### UL, USA/Canada

Identification	cULus
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## EMC data

Electromagnetic compatibility	Conformance with EMC directive
Noise immunity	EN 61000-6-2

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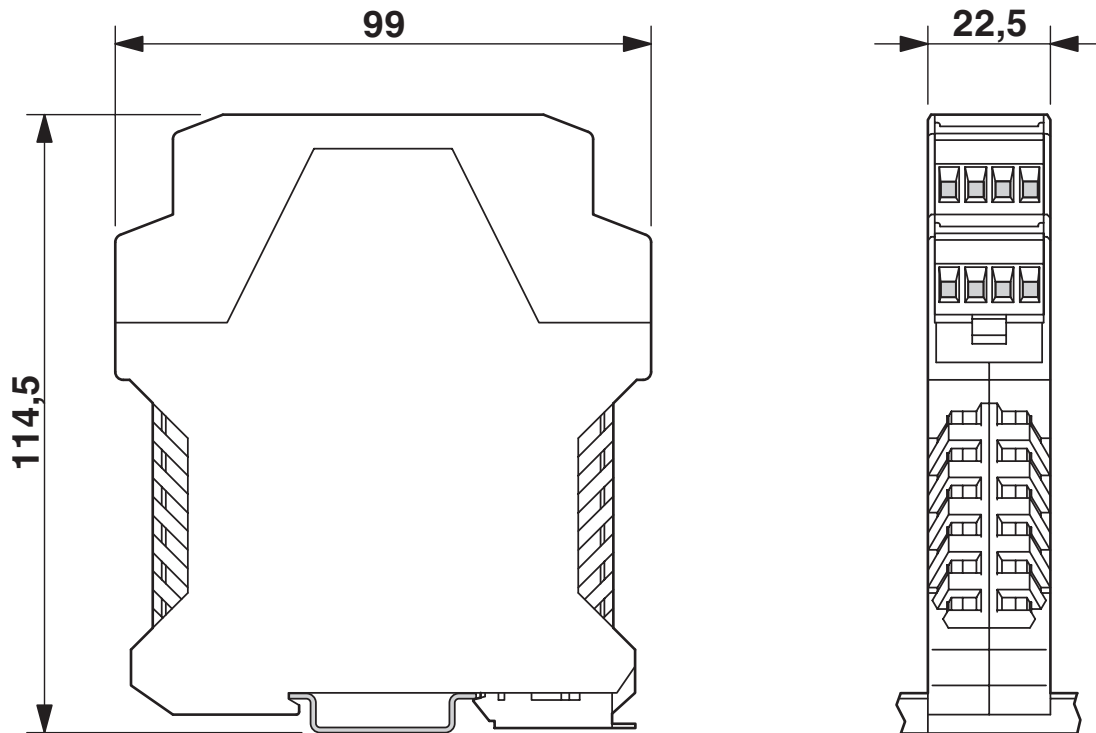
## Noise emission

Standards/regulations

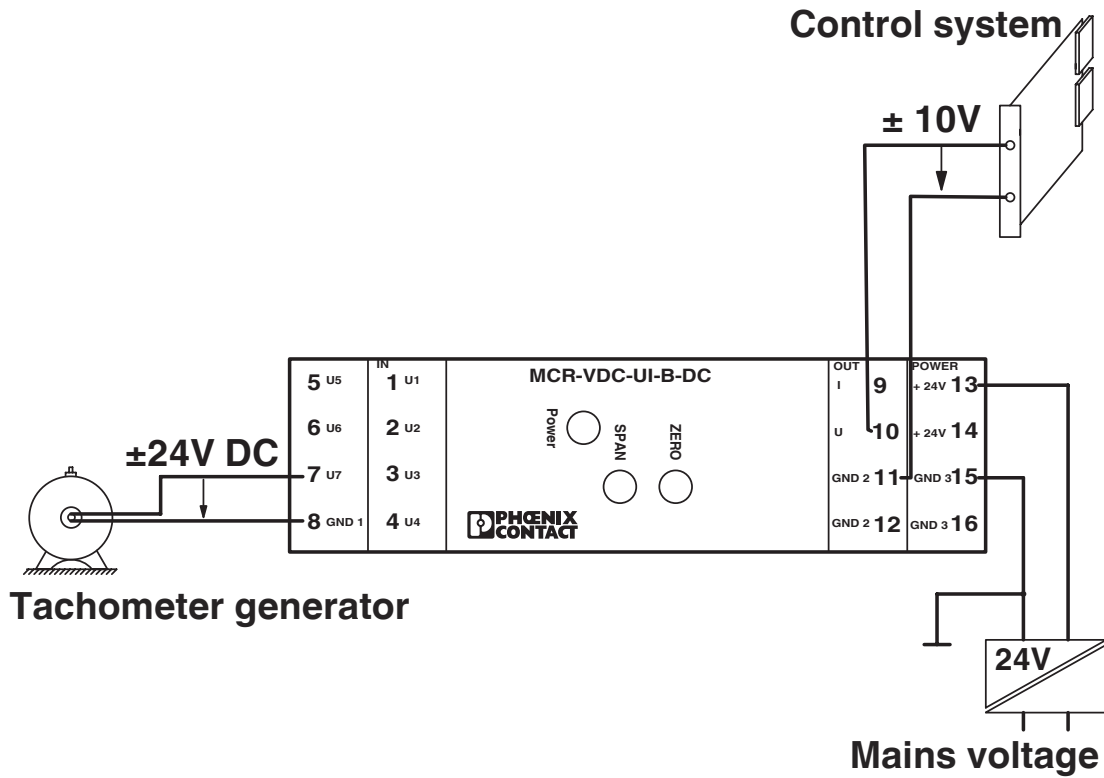
EN 61000-6-4

## Drawings

Dimensional drawing

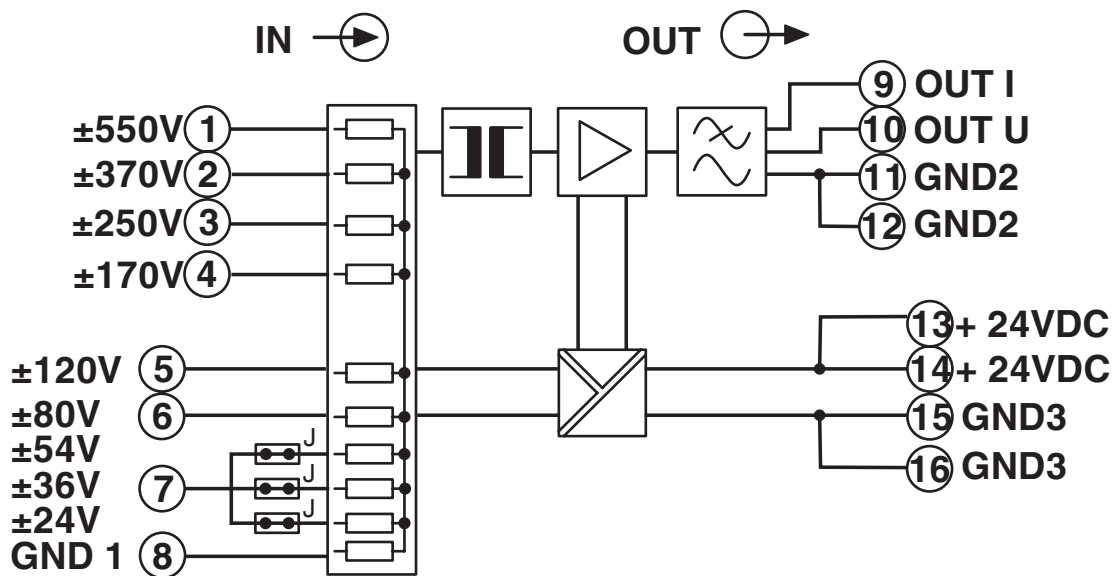


Application drawing



Voltage measurement in case of ungrounded circuits

Circuit diagram



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## Environmental product compliance

### 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.)	No substance above 0.1 wt%
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