

# MACX MCR-VAC - Voltage measuring transducers



2906239

<https://www.phoenixcontact.com/us/products/2906239>

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MACX MCR voltage transducer, for AC voltages from 0 V ... 20 V AC to 0 ... 660 V AC, output signal: 0 V ... 10 V/0(4) ... 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	2906239
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	C445
Product key	CMMB11
GTIN	4055626051000
Weight per piece (including packing)	156.6 g
Weight per piece (excluding packing)	211 g
Customs tariff number	85437090
Country of origin	DE

## Technical data

### Product properties

Product type	Voltage transducer
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### Electrical properties

Alignment span	± 20 %
Alignment zero	± 20 %
Protective circuit	Surge protection; 33 V suppressor diode
Step response (10-90%)	< 180 ms
Maximum temperature coefficient	< 0.015 %/K
Maximum transmission error	< 1 % (from a measuring range final value, 15 Hz ... 65 Hz)
	< 1.3 % (from a measuring range final value, 65 Hz ... 405 Hz)

### Electrical isolation

Pollution degree	2
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### 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	< 45 mA

## Input data

### Measurement

Configurable/programmable	Yes
Input voltage range	0 V AC ... 550 V AC
Maximum input voltage	+ 660 V AC
Frequency range	15 Hz ... 405 Hz
Input resistance of voltage input	5500 kΩ
Impulse form	AC voltage

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## Measurement

Input voltage range	0 V AC ... 370 V AC
Input resistance of voltage input	3700 k $\Omega$

## Measurement

Input voltage range	0 V AC ... 250 V AC
Input resistance of voltage input	2500 k $\Omega$

## Measurement

Input voltage range	0 V AC ... 170 V AC
Input resistance of voltage input	1700 k $\Omega$

## Measurement

Input voltage range	0 V AC ... 120 V AC
Input resistance of voltage input	1200 k $\Omega$

## Measurement

Input voltage range	0 V AC ... 80 V AC
Input resistance of voltage input	800 k $\Omega$

## Measurement

Input voltage range	0 V AC ... 54 V AC
Input resistance of voltage input	800 k $\Omega$

## Measurement

Input voltage range	0 V AC ... 36 V AC
Input resistance of voltage input	800 k $\Omega$

## Measurement

Input voltage range	0 V AC ... 24 V AC
Input resistance of voltage input	240 k $\Omega$

## Output data

### Signal: Voltage

Voltage output signal	0 V ... 10 V
	2 V ... 10 V
Max. voltage output signal	$\leq$ 11 V
Load/output load voltage output	$>$ 10 k $\Omega$
Ripple	50 mV

### Signal: Current

Current output signal	0 mA ... 20 mA
	4 mA ... 20 mA
Max. current output signal	$\leq$ 22 mA
Load/output load current output	$<$ 500 $\Omega$
Max. capacitive load	$<$ 1000 pF
Max. inductive load	$<$ 1 mH

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## Connection data

Connection method	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

Width	22.5 mm
Height	113 mm
Depth	114 mm

## Material specifications

Color	gray (RAL 7042)
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## 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
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### UL, USA/Canada

Identification	UL 61010 Listed
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## 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
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## Mounting

Mounting type	DIN rail mounting
Assembly note	can be aligned with spacing = 10 mm

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Mounting position

any

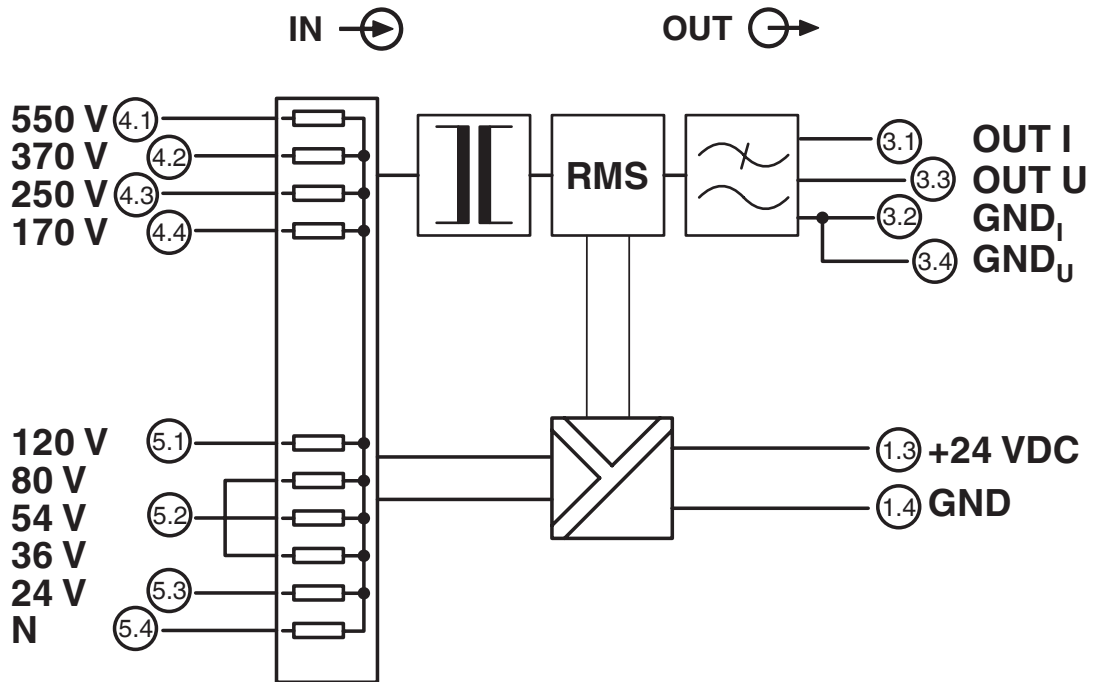
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## Drawings

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

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	6aea0446-e6e3-4321-a23f-333cd1eddf81

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