

# 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	CK4B11
Catalog page	Page 238 (C-5-2019)
GTIN	4055626051000
Weight per piece (including packing)	232.9 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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### Insulation characteristics

Pollution degree	2
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### Electrical properties

Alignment span	± 20 %
Alignment zero	± 20 %
Frequency measuring range	45 Hz ... 405 Hz
Electrical isolation	IEC 61010-2-30 (Measuring category II (1000 V)Measuring category III (600 V)Measuring category IV (300 V)) IEC 61010-1 (Overvoltage category III at 300 VOvervoltage category IV at 150 V)
Test voltage	5.3 kV AC (50 Hz, 60 s) 2.2 kV AC (50 Hz, 60 s)
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, 45 ... 65 Hz) < 1.3 % (from a measuring range final value, 65 ... 405 Hz)

### 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
Input resistance of voltage input	5500 kΩ
Maximum input voltage	+ 660 V AC
Impulse form	AC voltage

#### Measurement

Input voltage range	0 V AC ... 370 V AC
Input resistance of voltage input	3700 kΩ

#### Measurement

Input voltage range	0 V AC ... 250 V AC
Input resistance of voltage input	2500 kΩ

#### Measurement

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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

## 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

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## Dimensions

Width	22.5 mm
Height	113 mm
Depth	114 mm

## 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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### UKCA

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

Identification	UL 61010 Listed
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## EMC data

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.
Electromagnetic compatibility	Conformance with EMC directive
Noise emission	EN 61000-6-4

### Conducted interference

Frequency range	45 Hz ... 405 Hz
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## Standards and regulations

Standards/regulations	IEC 61010-1
	IEC 61010-2-030

## Mounting

Mounting type	DIN rail mounting
Assembly instructions	Can be aligned with spacing = 10 mm
Mounting position	any

# MACX MCR-VAC - Voltage measuring transducers

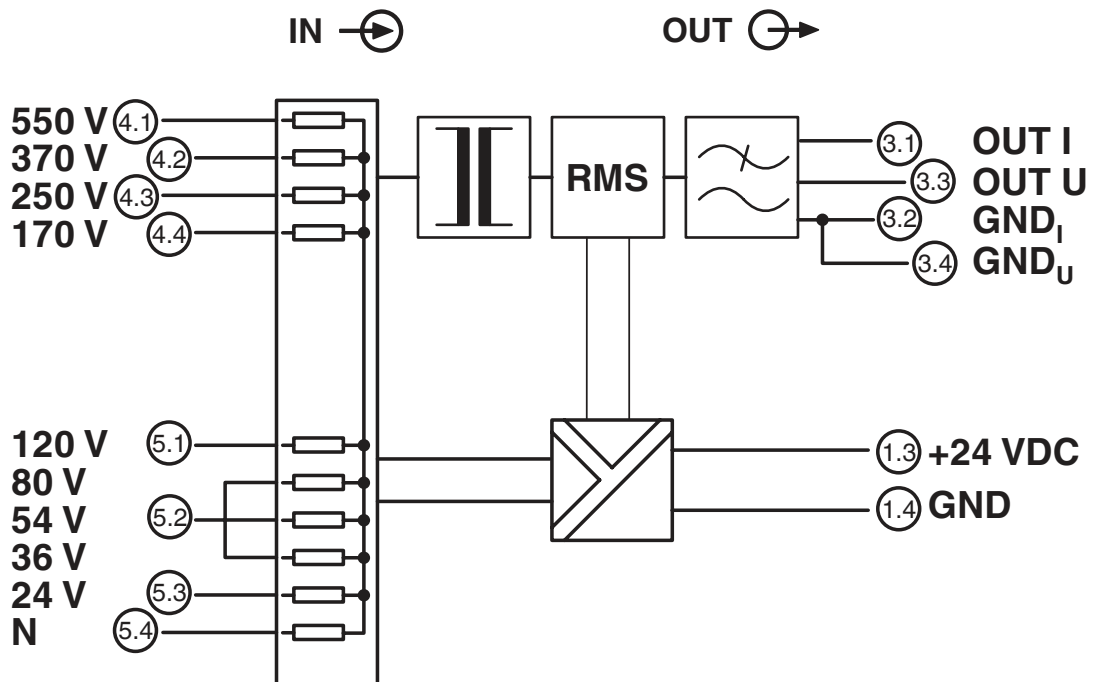


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## Drawings

Block diagram



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## Approvals

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**EAC**

Approval ID: RU\*DE.\*08.B.01852-19



**UL Listed**

Approval ID: FILE E 330267



**cUL Listed**

Approval ID: FILE E 330267

**cULus Listed**

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## Classifications

### ECLASS

ECLASS-11.0	27210125
ECLASS-13.0	27210125
ECLASS-12.0	27210125

### ETIM

ETIM 8.0	EC002477
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### UNSPSC

UNSPSC 21.0	39121000
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## Environmental product compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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