

# MCR-S10-50-UI-SW-DCI-NC - Current measuring transducer



2814744

<https://www.phoenixcontact.com/us/products/2814744>

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MCR current measuring transducer, programmable and configurable, for measuring direct, alternating and distorted currents, with relay and transistor output, input current 0...10 to 0...50 A, unconfigured

## Your advantages

- 3-way isolation
- True r.m.s. value measurement
- Device can be set via DIP switches or MCR/PI-CONF-WIN configuration software

## Commercial data

Item number	2814744
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	C444
Product key	CMMA34
GTIN	4017918169299
Weight per piece (including packing)	188.8 g
Weight per piece (excluding packing)	135.68 g
Customs tariff number	85437090
Country of origin	DE

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## Technical data

### Product properties

Product type	Current measuring transducer
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### Insulation characteristics

Overvoltage category	III
Pollution degree	2

### Electrical properties

Total error	≤ 1.5 % (Temperature range)
Maximum power dissipation for nominal condition	2.2 W
Measuring category	III
Test voltage output/power supply	500 V AC (50 Hz, 60 s)
Test voltage input/output	4 kV AC (50 Hz, 60 s)
Test voltage input/power supply	4 kV AC (50 Hz, 60 s)
Protective circuit	Surge protection; 33 V suppressor diode
Step response (10-90%)	330 ms (AC) 40 ms (DC)
Temperature coefficient, typical	< 0.025 %/K
Maximum transmission error	< 0.5 % (of nominal range value under nominal conditions)
Rated insulation voltage	300 V AC (to earth)

### Supply

Supply voltage range	20 V DC ... 30 V DC
Max. current consumption	< 50 mA (without load)

### Input data

#### Measurement

Configurable/programmable	Yes, unconfigured
Input current range	0 A AC/DC ... 55 A AC/DC (Permitted continuous overload: 120%)
Measuring range	0 A AC/DC ... 50 A AC/DC
Setting range for min. input current	0 A AC/DC ... 9.5 A AC/DC
Setting range for max. input current	0 A AC/DC ... 55 A AC/DC
LSB: Current	1 µA (1 A) 2 µA (2 A) 5 µA (5 A) 10 µA (10 A) 50 µA (50 A) 100 µA (100 A)
Overload capacity	Depending on through connected conductor
Surge strength	Depending on through connected conductor
Frequency measuring range	15 Hz ... 400 Hz

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Curve type	AC, DC or distorted currents
Operate threshold	0.8 % (of measuring range nominal value 50 A)

## Output data

### Switching: Relay

Contact switching type	1 changeover contact
Contact material	AgSnO, hard gold-plated
Maximum switching voltage	30 V AC
	36 V DC
	250 V AC
Limiting continuous current	50 mA (for gold layer, 30 V AC/ 36 V DC)
	2 A (in case of a destroyed gold layer, 250 V AC)

### Switching: Transistor

Continuous load current	80 mA (Not short-circuit proof)
Output voltage range	19 V ... 29 V (supply voltage - 1 V)
Setting range of the threshold value	1 % ... 110 %
Setting range of the response delay	0.1 s ... 20 s
Status display	LED (yellow)

### Signal: Voltage/current

Configurable/programmable	Yes, unconfigured
Voltage output signal	0 V ... 5 V
	1 V ... 5 V
	0 V ... 10 V
	2 V ... 10 V
	-5 V ... 5 V
	-10 V ... 10 V
	10 V ... 0 V
	10 V ... 2 V
	10 V ... -10 V
	5 V ... 0 V
	5 V ... 1 V
5 V ... -5 V	
Current output signal	0 mA ... 20 mA
	4 mA ... 20 mA
	20 mA ... 0 mA
	20 mA ... 4 mA
Load/output load voltage output	> 10 kΩ
Load/output load current output	< 500 Ω

## Connection data

Connection method	Screw connection
Stripping length	8 mm
Screw thread	M3

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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
Connection method	Through connection

## Signaling

Status display	LED (green)
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## Dimensions

### Item dimensions

Width	22.5 mm
Height	99 mm
Depth	114.5 mm

### Circular conductor

Diameter	10.5 mm
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## 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)	-20 °C ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	< 2000 m
Permissible humidity (operation)	10 % ... 95 % (non-condensing)

## Approvals

### CE

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

Identification	Class I, Zone 2, AEx nA nC IIC T4, Ex nA nC IIC T4 Gc X Class I, Div. 2, Groups A, B, C and D or Non-Hazardous Locations Only
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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

### Noise emission

Standards/regulations	EN 61000-6-4
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## Standards and regulations

Standards/regulations	IEC 61010-2-030
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## Mounting

Mounting type	DIN rail mounting
Mounting position	any

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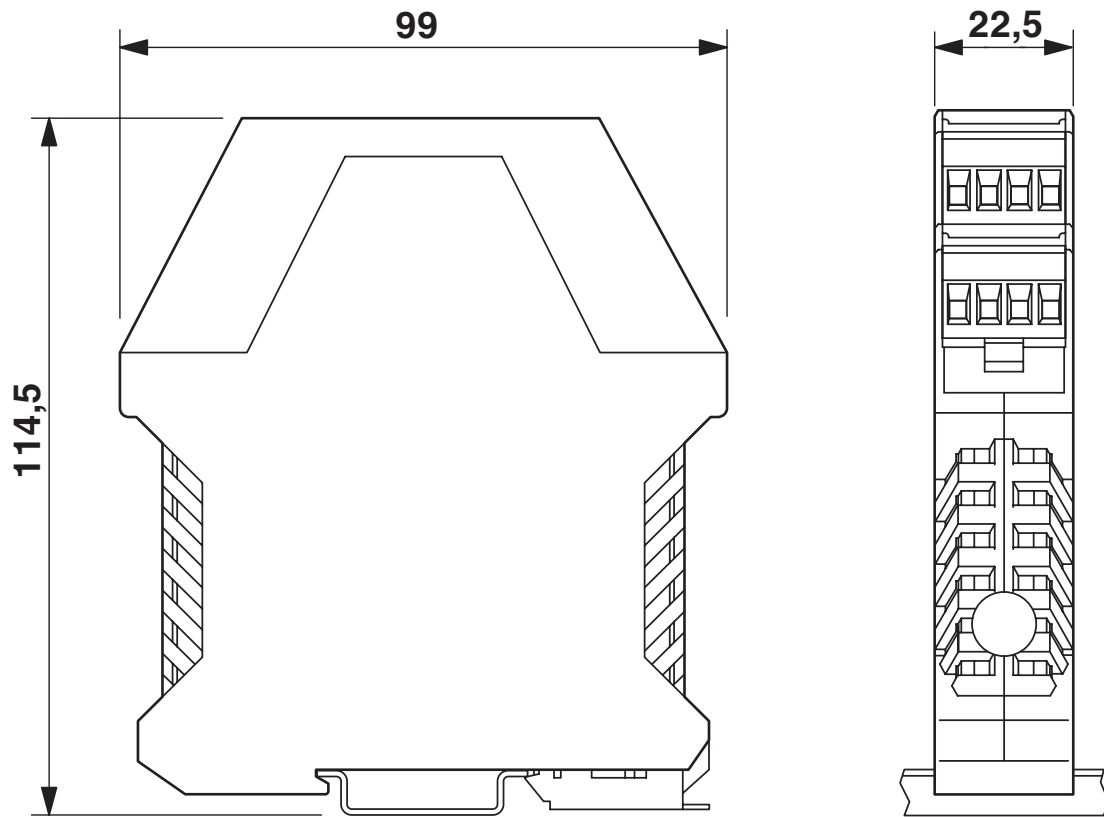


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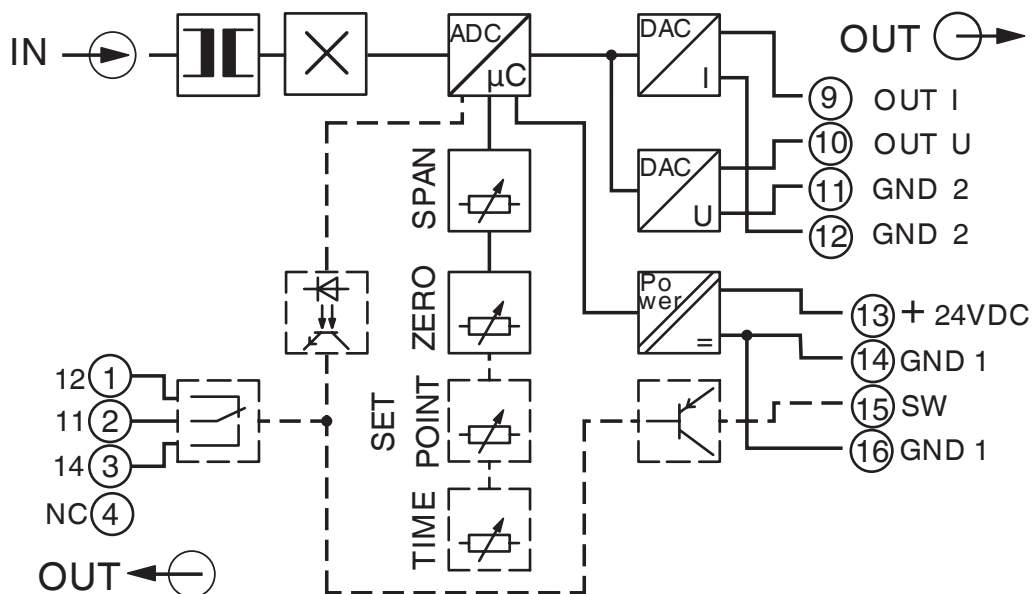
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## Drawings

Dimensional drawing



Circuit diagram



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## Classifications

### ECLASS

ECLASS-13.0

27210123

### ETIM

ETIM 9.0

EC002475

### UNSPSC

UNSPSC 21.0

39121000

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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(c), 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.)	Hexahydromethylphthalic anhydride(CAS: n/a)
	Lead(CAS: 7439-92-1)
SCIP	454568cb-f6a4-4c9f-92e8-72a2f2374a8e

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