

# MCR-S-1-5-UI-SW-DCI-NC - Current transducers



2814731

<https://www.phoenixcontact.com/in/products/2814731>

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MCR current transducer, programmable and configurable, for measuring direct, alternating and distorted currents, with relay and transistor output, input current 0 ... 0.2 A to 0 ... 11 A, unconfigured

## Your advantages

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

## Commercial Data

Item number	2814731
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	CK4
Product Key	CK4A33
Catalog Page	Page 230 (C-5-2019)
GTIN	4017918169282
Weight per Piece (including packing)	203.9 g
Weight per Piece (excluding packing)	149.08 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

Product type	Current transducer
Insulation characteristics	
Overvoltage category	III
Pollution degree	2

### Electrical properties

Total error	$\leq 1.5\%$ (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	$< 50\text{ mA}$ (without load)

### Input data

#### Measurement

Number of inputs	3
Configurable/programmable	Yes, unconfigured
Input current range	0 A AC/DC ... 11 A AC/DC (Permitted continuous overload: 120%)
Current measuring range	0 A AC/DC ... 1 A AC/DC 0 A AC/DC ... 5 A AC/DC 0 A AC/DC ... 10 A AC/DC
Setting range for min. input current	0 mA AC/DC ... 200 mA AC/DC
Setting range for max. input current	0 A AC/DC ... 11 A AC/DC 1 $\mu$ A (1 A)

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LSB: Current	2 $\mu$ A (2 A)
	5 $\mu$ A (5 A)
	10 $\mu$ A (10 A)
	50 $\mu$ A (50 A)
	100 $\mu$ A (100 A)
Overload capacity	$2 \times I_N$ (continuous)
Surge strength	$20 \times I_N$ (1 s)
Frequency measuring range	15 Hz ... 400 Hz
Curve type	AC, DC or distorted currents
Operate threshold	2 % (of measuring range nominal value 1/5/10 A)

## Output data

### Switching: Relay

Contact 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	Yellow LED

### 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

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	20 mA ... 0 mA
	20 mA ... 4 mA
Load/output load voltage output	> 10 k $\Omega$
Load/output load current output	< 500 $\Omega$

## 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

## Signaling

Status display	Green LED
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## Dimensions

### Item dimensions

Width	22.5 mm
Height	99 mm
Depth	114.5 mm

## Material specifications

Housing material	Polyamide PA non-reinforced
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## 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

Low Voltage Directive	Conformance with Low Voltage Directive
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Noise immunity	EN 61000-6-2
Electromagnetic compatibility	Conformance with EMC directive
Noise emission	EN 61000-6-4

## Standards and regulations

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

Mounting type	DIN rail mounting
Mounting position	any

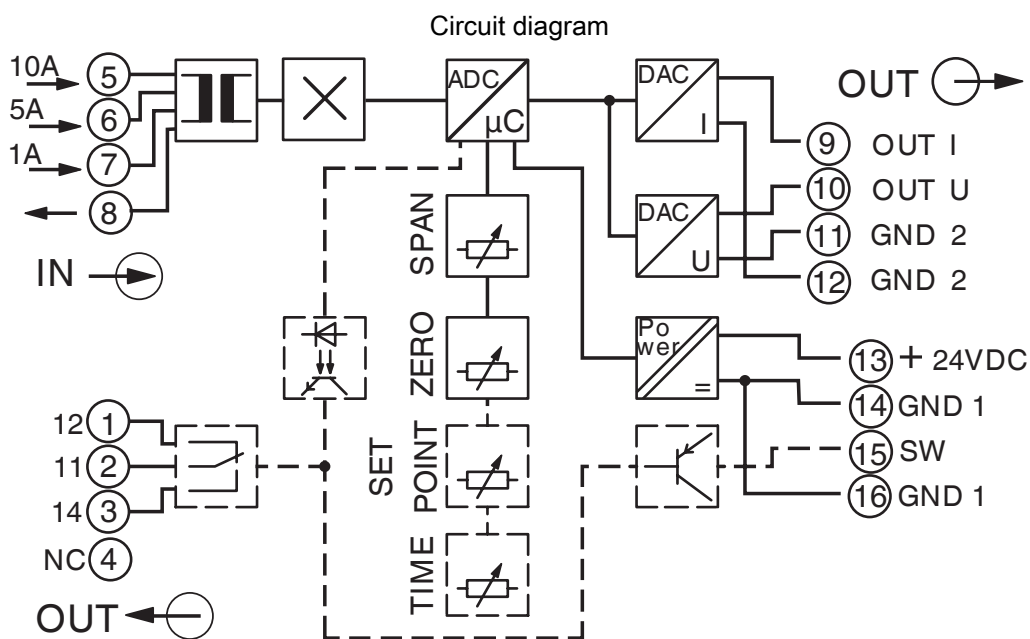
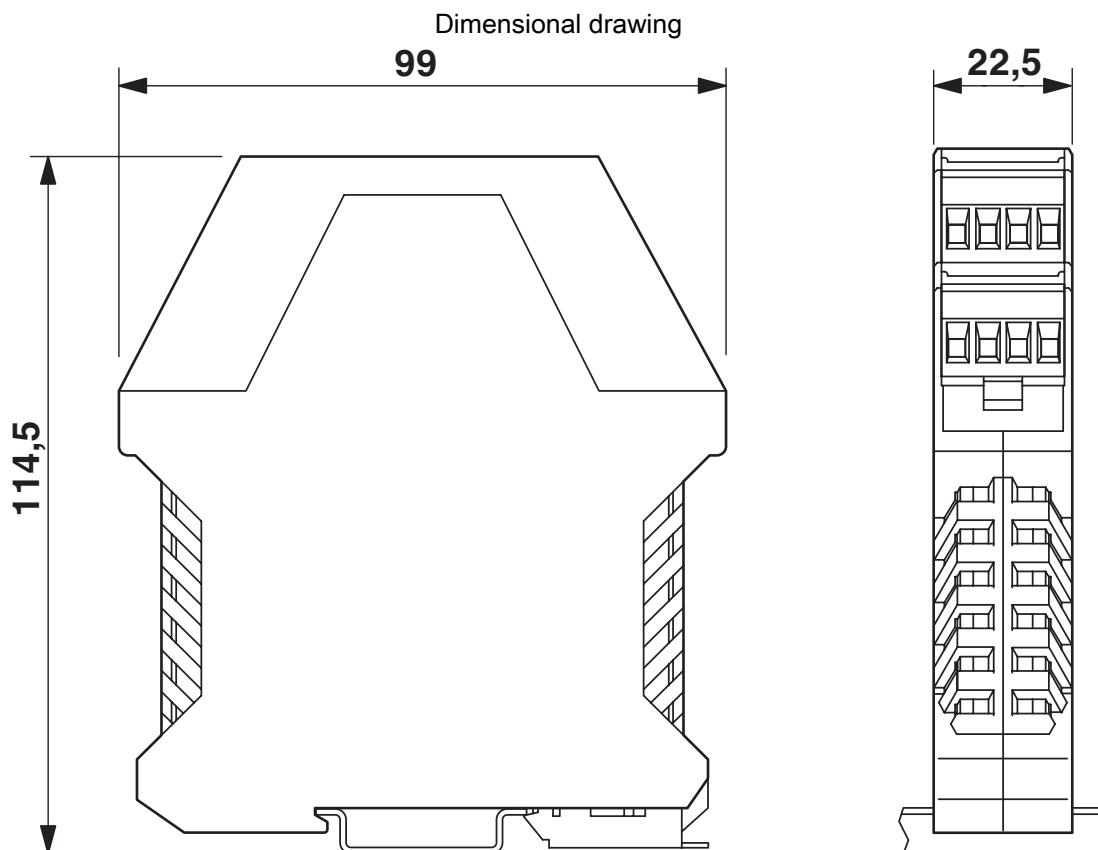
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## Drawings



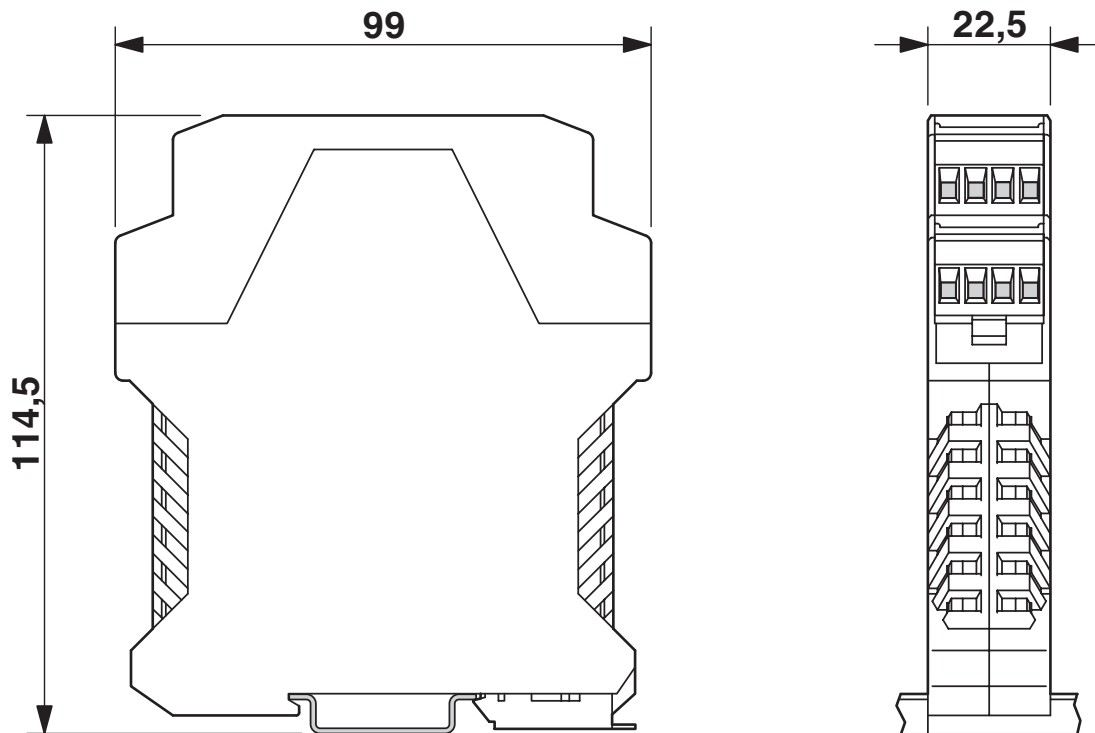
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Dimensional drawing



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## Approvals



**cUL Recognized**

Approval ID: FILE E 238705



**UL Recognized**

Approval ID: FILE E 238705



**EAC**

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



**cUL Listed**

Approval ID: FILE E 199827



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## Classifications

### ECLASS

ECLASS-11.0	27210123
ECLASS-12.0	27210123
ECLASS-13.0	27210123

### ETIM

ETIM 8.0	EC002475
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### UNSPSC

UNSPSC 21.0	39121000
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## Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
	Hexahydromethylphthalic anhydride
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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## Accessories

### MCR-TTL-RS232-E - Adapter cable

2814388

<https://www.phoenixcontact.com/in/products/2814388>

Software adapter cable (Stereo jack connector/D-SUB 25-pos.), 1.2 m length, for programming MCR-T-..., MCR-S-... and MCR-f-... modules



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### CM-KBL-RS232/USB - Cable

2881078

<https://www.phoenixcontact.com/in/products/2881078>

Connecting cable D-9-SUB to USB, with adapter D-9-SUB to D-25-SUB.



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