

2814731
<https://www.phoenixcontact.com/us/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	C444
Product key	CMMA33
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

MCR-S-1-5-UI-SW-DCI-NC - Current measuring transducer



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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 measuring transducer
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

Number of inputs	3
Configurable/programmable	Yes, unconfigured
Input current range	0 A AC/DC ... 11 A AC/DC (Permitted continuous overload: 120%)
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 µA (1 A)

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LSB: Current	2 μ A (2 A)
	5 μ A (5 A)
	10 μ A (10 A)
	50 μ A (50 A)
	100 μ A (100 A)
Overload capacity	2 x I_N (continuous)
Surge strength	20 x 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 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

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	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
Conductor cross section rigid	0.2 mm² ... 2.5 mm²
Conductor cross section flexible	0.2 mm² ... 2.5 mm²
Conductor cross section AWG	24 ... 14

Signaling

Status display	LED (green)
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Dimensions

Item dimensions

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)	-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

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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

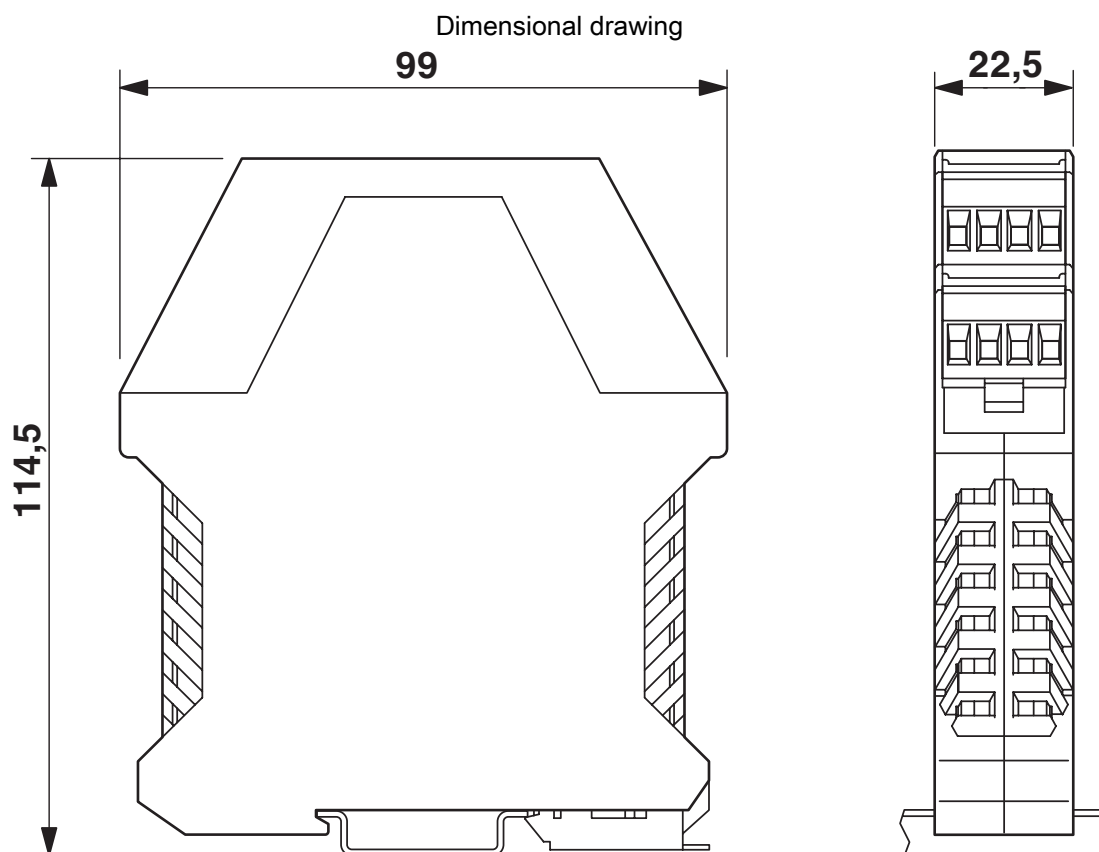
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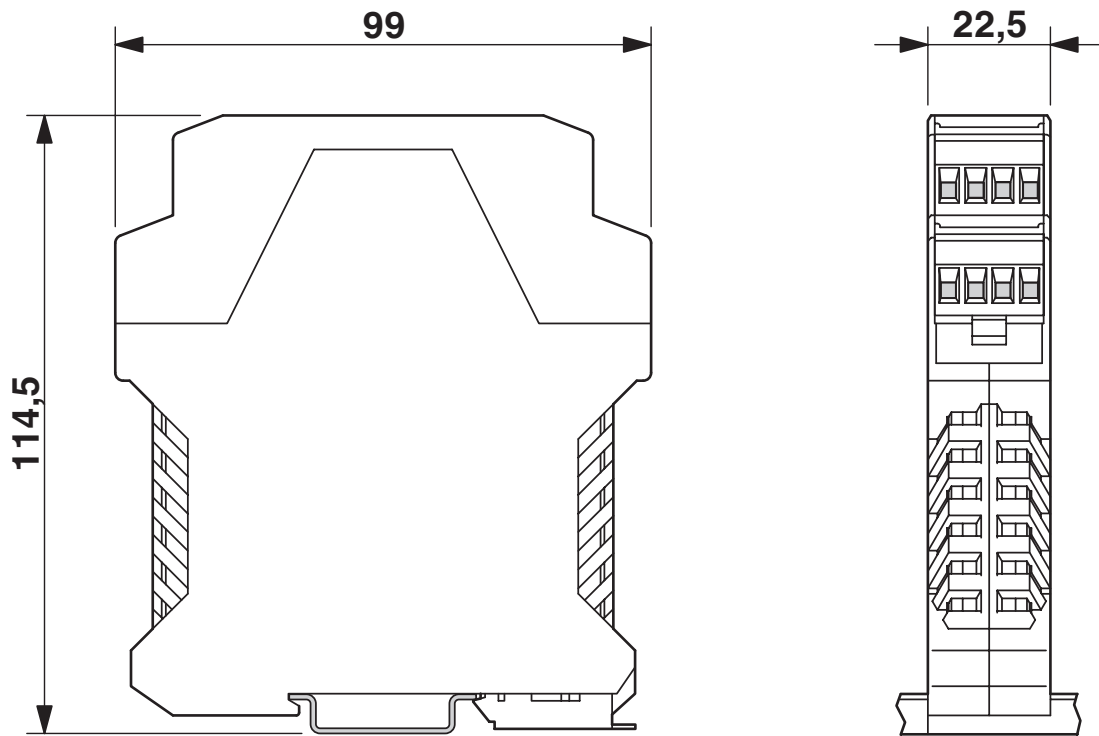
Drawings



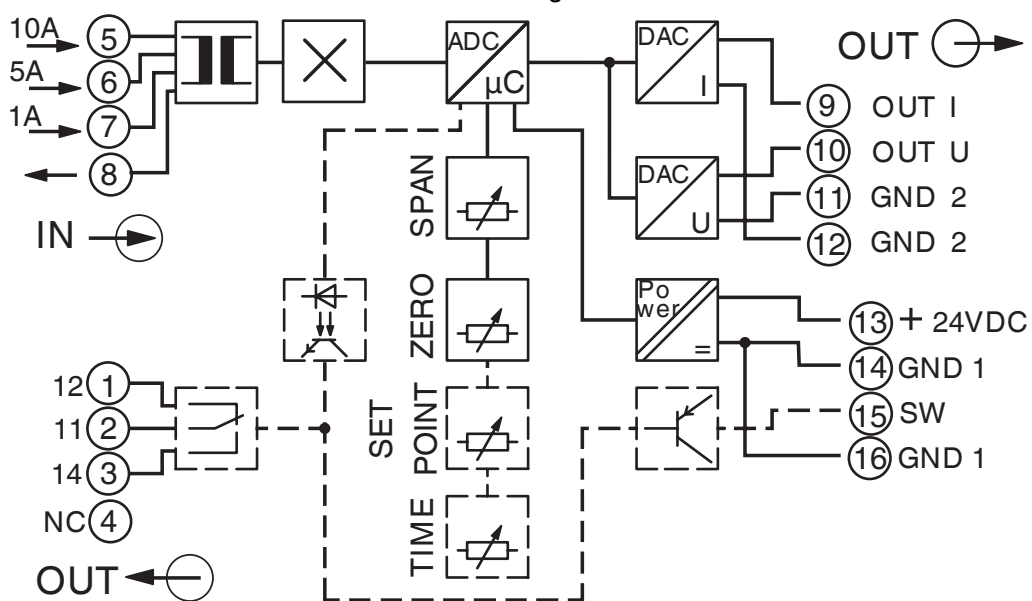
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Dimensional drawing



Circuit diagram



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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2814731>

	cUL Recognized Approval ID: E238705
	UL Recognized Approval ID: E238705
	EAC Approval ID: RU*DE.*08.B.01852-19
	cUL Listed Approval ID: FILE E 199827
	UL Listed Approval ID: FILE E 199827

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Classifications

ECLASS

ECLASS-13.0	27210123
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ETIM

ETIM 9.0	EC002475
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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	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)
	2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol(CAS: 79-94-7)
SCIP	559130c9-efe2-4ff8-9e29-a228cb04a43f

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