

Current transducers - MACX MCR-SL-CAC-12-I-UP



2810638

<https://www.phoenixcontact.com/pc/products/2810638>

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Current measuring transducer for 5 A and 12 A AC, the output signal 0...20 mA or 4...20 mA, can be configured using a DIP switch with an operating mode indication through an LED

Your advantages

- Input/output can be configured via DIP switches

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Commercial Data

Item number	2810638
Packing unit	1 pc
Minimum order quantity	1 pc
Product Key	CK4A21
Catalog Page	Page 234 (C-5-2019)
GTIN	4046356510356
Weight per Piece (including packing)	195.6 g
Weight per Piece (excluding packing)	140 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

Maximum power dissipation for nominal condition	< 0.9 W (24 V DC) < 3.4 W (230 V AC)
Protective circuit	Surge protection; 35 V suppressor diode
Step response (10-90%)	≤ 300 ms 200 ms
Maximum temperature coefficient	< 0.02 %/K
Temperature coefficient, typical	< 0.015 %/K
Maximum transmission error	≤ 0.5 % (of nominal range value under nominal conditions)
Reverse polarity protection	yes

Electrical isolation Input/output

Test voltage	4 kV AC (50 Hz, 60 s)
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Electrical isolation Output/supply

Test voltage	2 kV AC (50 Hz, 60 s)
Rated insulation voltage	300 V AC (to earth)

Supply

Supply voltage range	19.2 V AC/DC ... 253 V AC/DC
Max. current consumption	< 33 mA (24 V DC)
Power consumption	< 0.8 W (24 V DC)

Input data

Measurement

Configurable/programmable	Via DIP switches
Input current range	0 A AC ... 5 A AC (configurable) 0 A AC ... 12 A AC (configurable)
Voltage input signal	≤ 300 V AC
Input impedance	< 50 mΩ
Overload capacity	1 x I _N (continuous)

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Surge strength	8 x I _N (1 s)
Nominal frequency f _N	50 Hz
Frequency measuring range	45 Hz ... 65 Hz
Connection method	Screw terminal block
Curve type	Sine

Output data

Signal: Current

Output name	Current output
Configurable/programmable	Via DIP switches
Non-load voltage	15 V
Current output signal	0 mA ... 20 mA (configurable) 4 mA ... 20 mA (configurable)
Max. current output signal	25 mA
Load/output load current output	< 500 Ω (20 mA)
Ripple	< 10 mV _{PP} (500 Ω / 20 mA)
Status display	LED red (error), LED green (ready)

Connection data

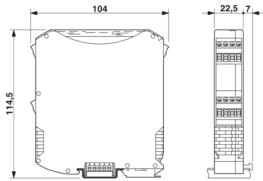
Connection method	Screw connection
Stripping length	8 mm
Screw thread	M3
Conductor cross section solid	0.2 mm ² ... 2.5 mm ²
Conductor cross section flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross section AWG	24 ... 14

Interfaces

Data communication (bypass)

Limit frequency (3 dB)	approx. 3 Hz
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Dimensions

Dimensional drawing	
Width	22.5 mm
Height	104 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 ... 65 °C -4 °F ... 149 °F
Ambient temperature (storage/transport)	-40 °C ... 85 °C (-40 °F ... 185 °F)
Altitude	≤ 2000 m
Permissible humidity (operation)	10 % ... 95 % (non-condensing)

Approval data

CE

Certificate	CE-compliant
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CE

Identification	<input type="checkbox"/> II 3 G Ex nA IIC T4 Gc X
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CE

Identification	<input type="checkbox"/> II 3 G Ex nA IIC T4 Gc
Certificate	PxCIF21UKEX2810638X

CE

Identification	<input type="checkbox"/> 2Ex nA IIC T4 Gc
Certificate	BY/112 02.01 TP012 103.01 00078

EMC data

Electromagnetic compatibility	Conformance with EMC directive
Noise emission	EN 61000-6-4
Noise immunity	EN 61000-6-2
Note	When being exposed to interference, there may be minimal deviations.

Electrostatic discharge

Standards/regulations	EN 61000-4-2
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Electromagnetic HF field

Standards/regulations	EN 61000-4-3
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Electromagnetic HF field

Comments	Criterion A
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Fast transients (burst)

Standards/regulations	EN 61000-4-4
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Fast transients (burst)

Comments	Criterion B
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Surge current load (surge)

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Standards/regulations	EN 61000-4-5
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Surge current load (surge)

Comments	Criterion B
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Conducted interference

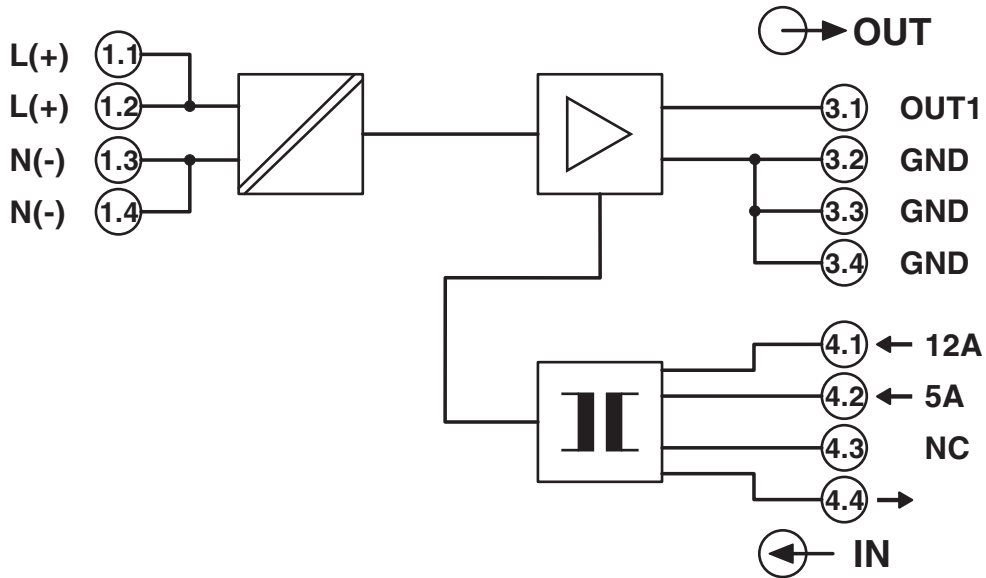
Standards/regulations	EN 61000-4-6
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Mounting

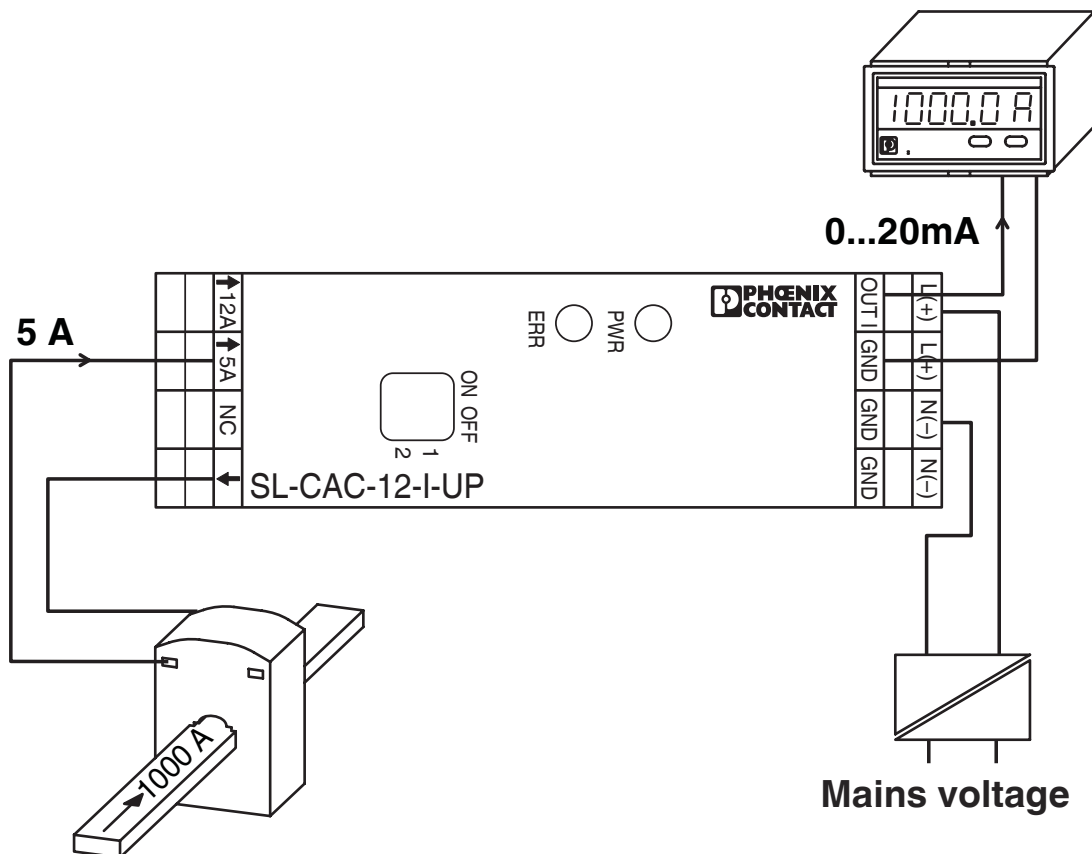
Mounting type	DIN rail mounting
Mounting position	any

Drawings

Circuit diagram



Application drawing



Current measurement

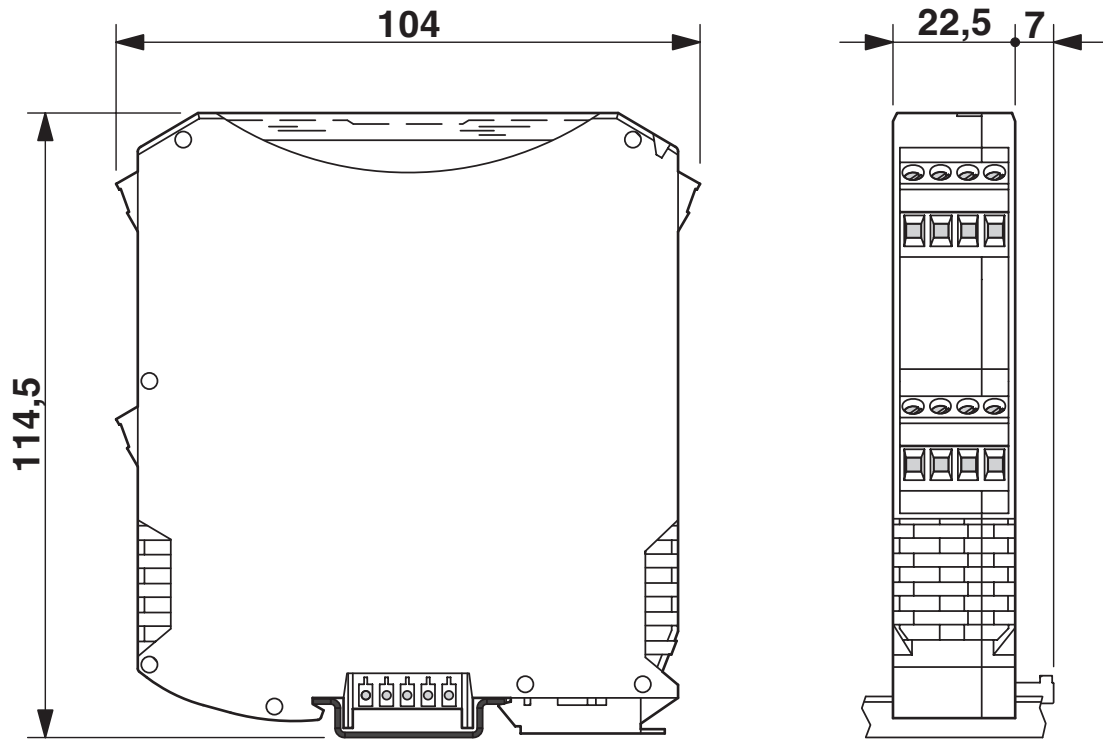
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Dimensional drawing



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Approvals



EAC Ex

Approval ID: RU C-DE.AB72.B.02066



ATEX

Approval ID: 2810638_Ex-n

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Classifications

ECLASS

ECLASS-9.0	27210123
ECLASS-10.0.1	27210123
ECLASS-11.0	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
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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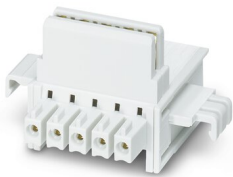
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Accessories

DIN rail bus connectors

DIN rail bus connectors - ME 22,5 TBUS 1,5/ 5-ST-3,81 GY - 2201937

<https://www.phoenixcontact.com/pc/products/2201937>



DIN rail connector, color: gray, nominal current: 8 A (parallel contacts), rated voltage (III/2): 125 V, number of positions: 5, pitch: 3.81 mm, locking: without, mounting: without, type of packaging: packed in cardboard, Item with gold-plated contacts, bus connectors for connecting with electronics housings, 5 parallel contacts

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