ECM-UC-100A-UI-REL - Current measuring transducer

1698172

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CRA-READY



Current measuring transducers for measuring AC, DC, and distorted currents. Configuration via USB-C interface via the web server (without 24 V DC). Current measuring ranges: 0 A ... 125 A. Relay output, Standard configuration, Push-in connection. The product is being prepared for compliance with the Cyber Resilience Act (CRA).

Product description

Intuitive configuration and precise measurement
The ECM UC current measuring transducer saves you a lot of time with the intuitive device configuration via web-based management. The products detect AC, DC, and distorted currents with an accuracy of < 0.5%.

Your advantages

- Intuitive configuration and visualization of measured data via user-guided WBM
- Easy connection to the PC via standard USB-C cable without additional 24 V supply
- High measuring accuracy of < 0.5% in the measuring ranges
- Digital further processing of the measured data
- Reliable even at temperatures down to -40°C and installation altitudes of up to 4000 m

Commercial data

Item number	1698172
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	C444
Product key	CMMA34
GTIN	4067923263055
Weight per piece (including packing)	162 g
Weight per piece (excluding packing)	113.5 g
Customs tariff number	85043129
Country of origin	DE

Technical data

Notes

Note on application

Note on application	As things stand now, we are preparing the product so that, as of December 11, 2027, it will comply with the requirements of the EU Cyber Resilience Act (CRA) based on the information currently available regarding the CRA.

Product properties

Product type	Current measuring transducer
Special properties	The product is being prepared for compliance with the Cyber Resilience Act (CRA)

Insulation characteristics

Insulation	Safe isolation in accordance with IEC/EN 61010-1
Overvoltage category	III (300 V)
Pollution degree	2

Electrical properties

Step response (10-90%)	200 ms (AC/DC)
	20 ms (DC)
Maximum temperature coefficient	< 0.02 %/K
Maximum transmission error	0.5 % (of nominal range value under nominal conditions)
Rated insulation voltage	300 V AC (to earth)

Electrical isolation IEC 61010-2-030

Standards/regulations	IEC 61010-2-030
Measuring category	III (300 V)

Electrical isolation Input/output

Test voltage	4 kV AC (50 Hz, 60 s)

Electrical isolation Input/power supply

Test voltage	4 kV AC (50 Hz, 60 s)

Electrical isolation Output/supply

Test voltage	2 kV AC (50 Hz, 60 s)

Supply

Nominal supply voltage	24 V DC
Nominal supply voltage range	12 V DC ... 24 V DC -20 % ... +25 %
Supply voltage range	9.6 V DC ... 30 V DC
Power consumption	≤ 2 W (30 V DC)

Input data

Signal: digital

Voltage input signal	0 V DC ... 30 V DC
Current input signal	2 mA ... 15 mA

Measurement

Input current range	0 A AC ... 100 A AC
	-100 A DC ... 100 A DC
Measuring range	0 A AC/DC ... 50 A AC/DC
	0 A AC/DC ... 100 A AC/DC
Setting range for min. input current	0 A AC/DC ... 9.4 A AC/DC
	0 A AC/DC ... 18.8 A AC/DC
Setting range for max. input current	0 A AC/DC ... 62.5 A AC/DC (DIN/EN 61010-1)
	0 A AC/DC ... 125 A AC/DC (DIN/EN 61010-1)
	-125 A DC ... 125 A DC (DIN/EN 61010-1)
Overload capacity	2 x I_N (continuous), depending on the fed-through conductor
Surge strength	20 x I_N (1 s), depending on the fed-through conductor
Frequency measuring range	0 Hz ... 100 Hz
	0 Hz ... 200 Hz
	0 Hz ... 500 Hz
	0 Hz ... 1000 Hz
Curve type	AC, DC or distorted currents

Output data

Switching: Relay

Contact switching type	1 changeover contact
Contact material	AgNi
Minimum switching voltage	12 V (10 mA)
Maximum switching voltage	250 V AC
	48 V DC
Limiting continuous current	6 A AC (250 V AC, 50/60 Hz)
	1 A DC (48 V DC)

Signal: Voltage/current

Voltage output signal	0 V ... 10 V
	0 V ... 5 V
	1 V ... 5 V
	2 V ... 10 V
	-10 V ... 10 V
	-5 V ... 5 V
	10 V ... -10 V
	5 V ... -5 V
	10 V ... 0 V
	5 V ... 0 V
	0 mA ... 20 mA

Current output signal	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

Signal: digital

Max. voltage output signal	24 V DC
Max. current output signal	≤ 100 mA

Connection data

Connection method	Push-in connection
Stripping length	10 mm
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 ... 13

Circular conductor

Conductor cross-section rigid	25 mm²
Conductor cross-section AWG	3

Interfaces

WBM

Designation	WBM: Default address, USB-C interface
IP address	192.168.128.1

Dimensions

Item dimensions

Width	22.6 mm
Height	106.7 mm
Depth	113.8 mm
Depth (Device depth (DIN rail mounting))	114.5 mm (Snapped onto DIN rail NS 35/7,5 in accordance with EN 60715)

Circular conductor

Diameter	11 mm

Material specifications

Color	gray (RAL 7042)
Flammability rating according to UL 94	V0 (Housing)
Housing material	PA 6.6-FR

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20

Ambient temperature (operation)	-40 °C ... 60 °C
	-40 °F ... 140 °F
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	≤ 4000 m
Permissible humidity (operation)	≤ 95 % (non-condensing)

Approvals

CE

Certificate	CE-compliant

UL, USA/Canada

Identification	Ind. Cont. Eq. E238705-E196811

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

Standards and regulations

Standards/regulations	IEC 61010-1
Standards/regulations	IEC/EN 61131-2 (type 3)
Standards/regulations	IEC/EN 61131-2 (type 3)

Mounting

Mounting position	vertical or horizontal

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1698172

cULus Listed
Approval ID: E238705-20221221

cULus Listed
Approval ID: E196811-20231108

cULus Listed
Approval ID: E196811-20231109

Classifications

ECLASS

ECLASS-13.0	27210123
ECLASS-15.0	27210123

ETIM

ETIM 10.0	EC002475

UNSPSC

UNSPSC 21.0	39121000

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	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.)	Lead(CAS: 7439-92-1)
	2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol(CAS: 79-94-7)

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