PACT RCP-4000A-1A-D140 - Current transformer

2904922

https://www.phoenixcontact.com/us/products/2904922

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Set consisting of one 1 A measuring transducer and one Rogowski coil with signal line. Length of Rogowski coil: 450 mm, diameter: 140 mm. Length of signal line: 3 m. The Rogowski coil measures the AC current of busbars and power lines.

Commercial data

Item number	2904922
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	C444
Product key	CK4A12
Catalog page	Page 222 (C-5-2019)
GTIN	4046356900959
Weight per piece (including packing)	441.6 g
Weight per piece (excluding packing)	390.8 g
Customs tariff number	85437090
Country of origin	DE

Set consists of

PACT RCP-4000A-1A - Measuring transducer

2902990

https://www.phoenixcontact.com/us/products/2902990

This is an individual product; please order the complete set. The measuring transducer processes the mV signal of the upstream Rogowski coil. The measuring transducer has 8 current measuring ranges (100 A ... 4000 A AC) which can be set; max. output current of 1 A AC.

PACT RCP-D140 - Coil

2904891

https://www.phoenixcontact.com/us/products/2904891

450 mm long Rogowski coil. The measuring coil diameter when installed is 140 mm. The Rogowski coil is used for AC current measurement for busbars and power lines.

Technical data

Product properties

Product type	Current transformer

Data management status

Article revision	10

Insulation characteristics

Insulation	double insulation
Overvoltage category	III (1000 V, to neutral conductor)
	IV (600 V, to neutral conductor)
Pollution degree	2

Electrical properties

Electrical isolation	Reinforced insulation in accordance with IEC 61010-1
Typical measuring error	< 1 %
Protective circuit	Surge protection; 33 V suppressor diode
Temperature coefficients	0.005 %/K (+10 °C ... +70 °C, both components have the same ambient temperature)
	0.07 %/K (-20 °C ... +10 °C, both components have the same ambient temperature)

Measuring coil

Conductor structure signal line	2x 0.22 mm (Signal (tinned))
	1x 0.22 mm (Shielding (tinned))
Insulation	double insulation
Rated insulation voltage	1000 V AC (rms CAT III)
	600 V AC (rms CAT IV)
Test voltage	10.45 kV DC (60 s)
Basic accuracy	<± 0.2 %

Measuring transducers

Linearity error	< 0.5 % (From the range end value)
Maximum transmission error	≤ 0.5 % (From the range end value)
Frequency range	45 Hz ... 65 Hz
Max. detectable harmonics	< 2 kHz
Current consumption	< 190 mA (at 19.2 V)
Test voltage	1.5 kV AC (Supply/input and output: 50 Hz, 1 min)

General

Can be calibrated	no
Class	1
Accuracy class	1
Converter type	Rogowski coil and 1 A measuring transducer

Supply: Measuring transducers

Nominal supply voltage	24 V DC -20 % ... +25 %
Nominal supply voltage range	19.2 V DC ... 30 V DC
Max. current consumption	190 mA
Power consumption	4 W

Input data

Frequency

Designation	Measuring coil
Frequency measuring range	40 Hz ... 20000 Hz
Position error	<± 0.1 % (typical)
Linearity error	< 0.1 %

Signal

Input signal (at 50 Hz)	100 mV (1000 A)
Curve type	Sine
Input impedance	27 kΩ (smallest measuring range)

Current transformer

Configurable/programmable	Via DIP switches
Rated power	1.25 VA
Primary rated current I_{pn}	0 A AC ... 100 A AC
	0 A AC ... 250 A AC
	0 A AC ... 400 A AC
	0 A AC ... 630 A AC
	0 A AC ... 1000 A AC
	0 A AC ... 1500 A AC
	0 A AC ... 2000 A AC
	0 A AC ... 4000 A AC
Phase angle	< 1 °
Can be calibrated	no
Class	1
Accuracy class	1
Converter type	Rogowski coil and 1 A measuring transducer

Output data

Signal

Designation	Measuring coil
Output signal (at 50 Hz)	100 mV (no load, at 1,000 A)
Output voltage (in no-load operation)	V_{OUT} = M * dI/dt
Output voltage (sinusoidal, in no-load operation)	100 mV (V_{OUT} = 2 * π * M * f * I (M = 0.318 µH; example: At 50 Hz; I = 1,000 A))
Accuracy class	< 1

Signal

Designation	Measuring transducer

Current output signal	0 A AC ... 1 A AC
Rated power	1.25 VA
Load	0 Ω ... 1.25 Ω
Max. distances for copper cables at $P_{N\ max}$	16 m (0.75 mm² (AWG 20))
	32 m (1.5 mm² (AWG 16))
	55 m (2.5 mm² (AWG 14))

Connection data

Measuring transducer side

Connection method	Screw connection
Stripping length	7 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
Tightening torque	0.5 Nm ... 0.6 Nm

Signaling

Operating voltage display	Green LED

Dimensions

Item dimensions

Width	22.5 mm
Height	85 mm
Depth	70.4 mm

Measuring coil

Length	450 mm
Diameter	8.3 mm ±0.2 mm

Measuring coil when installed

Diameter	140 mm

Signal line

Length	3 m
Width	22.5 mm
Height	85 mm
Depth	70.4 mm

Material specifications

Housing material	PC
	Polyamide
Coil material	Elastollan

Environmental and real-life conditions

Ambient conditions

Measuring coil degree of protection	IP67 (not assessed by UL)
Measuring transducer degree of protection	IP20
Ambient temperature (operation)	-30 °C ... 80 °C (Measuring coil)
	-20 °C ... 70 °C (Measuring transducer)
Ambient temperature (storage/transport)	-40 °C ... 80 °C (Measuring coil)
	-25 °C ... 85 °C (Measuring transducer)
Altitude	< 2000 m
Permissible humidity (operation)	5 % ... 95 % (non-condensing)

Approvals

CE

Certificate	CE-compliant

UKCA

Certificate	UKCA-compliant

CMIM

Certificate	CMIM-compliant

UL, USA/Canada

Identification	UL 61010 Recognized
Note	Measuring coil

UL, USA/Canada

Identification	UL 508 Listed
Note	Measuring transducer

EMC data

Noise immunity	EN 61000-6-3
Electromagnetic compatibility	Conformance with EMC directive
Noise emission	EN 61000-6-4

Standards and regulations

Electrical isolation	Reinforced insulation in accordance with IEC 61010-1
Standards/regulations	IEC 61010-1
	IEC 61010-2-032

Mounting

Mounting type	DIN rail mounting

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2904922

EAC
Approval ID: RU*DE*08.B.01187/19

Classifications

ECLASS

ECLASS-11.0	27210902
ECLASS-13.0	27210902
ECLASS-12.0	27210902

ETIM

ETIM 9.0	EC002048

UNSPSC

UNSPSC 21.0	39121000

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.)	Diboron trioxide(CAS: 1303-86-2)
	Lead monoxide (lead oxide)(CAS: 1317-36-8)
	Lead(CAS: 7439-92-1)
SCIP	217e3d38-35bd-4709-8dbc-0924b999b109

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