

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 | CMMA12 |
| GTIN | 4046356900959 |
| Weight per piece (including packing) | 312.2 g |
| Weight per piece (excluding packing) | 390.8 g |
| Customs tariff number | 85437090 |
| Country of origin | DE |

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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 |
| Product family | Rogowski coil and 1 A measuring transducer |

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) |
| Accuracy class | 0.2 (IEC 61869-10: A1) |

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 |
| 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 |

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| | |
|-------------------|-----|
| Power consumption | 4 W |
|-------------------|-----|

Input data

Frequency

| | |
|---------------------------|--------------------|
| Designation | Measuring coil |
| Frequency measuring range | 40 Hz ... 20000 Hz |

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 | $< 1^\circ$ |
| Can be calibrated | no |
| 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) | $V_{OUT} = M \cdot di/dt$ |
| Output voltage (sinusoidal, in no-load operation) | 100 mV ($V_{OUT} = 2 \cdot \pi \cdot M \cdot f \cdot I$ (M = 0.318 μH; example: At 50 Hz; I = 1,000 A)) |

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 mm ² (AWG 20)) |
| | 32 m (1.5 mm ² (AWG 16)) |
| | 55 m (2.5 mm ² (AWG 14)) |

Connection data

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Measuring transducer side

| | |
|----------------------------------|---|
| Connection method | Screw connection |
| Stripping length | 7 mm |
| Screw thread | M3 |
| Conductor cross-section rigid | 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 |
| 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 |
| | PA |
| Coil material | Elastollan |

Environmental and real-life conditions

Ambient conditions

| | |
|--|---|
| Measuring coil degree of protection | IP54 (not assessed by UL) |
| Measuring transducer degree of protection | IP20 |
| Ambient temperature (operation) (Measuring coil) | -30 °C ... 80 °C (Measuring coil) |
| Ambient temperature (operation) (Measuring transducer) | -20 °C ... 70 °C (Measuring transducer) |
| Ambient temperature (storage/transport) | -40 °C ... 80 °C (Measuring coil) |
| | -25 °C ... 85 °C (Measuring transducer) |

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| | |
|----------------------------------|-------------------------------|
| Altitude | < 2000 m |
| Permissible humidity (operation) | 5 % ... 95 % (non-condensing) |

Approvals

CE

| | |
|-------------|--------------|
| Certificate | CE-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

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

Noise emission

| | |
|-----------------------|--------------|
| Standards/regulations | EN 61000-6-4 |
|-----------------------|--------------|

Standards and regulations

| | |
|-----------------------|--|
| Electrical isolation | Reinforced insulation in accordance with IEC 61010-1 |
| Standards/regulations | IEC 61010-2-030 |
| | IEC 61869-10 |

Mounting

| | |
|---------------|-------------------|
| Mounting type | DIN rail mounting |
|---------------|-------------------|

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Approvals

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EAC

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

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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-13.0 | 27210902 |
| ECLASS-15.0 | 27210902 |

ETIM

| | |
|-----------|----------|
| ETIM 10.0 | EC002048 |
|-----------|----------|

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.) | Lead(CAS: 7439-92-1) |
| SCIP | 217e3d38-35bd-4709-8dbc-0924b999b109 |

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