

# PACT RCP-4000A-1A-D190-3M-UV - Current transformer



1033485

<https://www.phoenixcontact.com/us/products/1033485>

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Set consisting of one 1 A measuring transducer and one UV-resistant Rogowski coil with signal line. Length of Rogowski coil: 600 mm, diameter: 190 mm. Length of signal line: 3 m. The Rogowski coil measures the AC current of busbars and power lines.



## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1033485       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | C444          |
| Product key                          | CMMA12        |
| GTIN                                 | 4055626538761 |
| Weight per piece (including packing) | 530.2 g       |
| Weight per piece (excluding packing) | 440.3 g       |
| Customs tariff number                | 85437090      |
| Country of origin                    | DE            |

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## Technical data

### Product properties

|                |                              |
|----------------|------------------------------|
| Product type   | Current transformer          |
| Product family | Rogowski coil (UV-resistant) |

### Insulation characteristics

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

### Electrical properties

|                          |  |
|--------------------------|--|
| Typical measuring error  | < 1 %  |
| 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

|                                 |                                 |
|---------------------------------|---------------------------------|
| Length of measuring coil        | 600 mm                          |
| Diameter of measuring coil      | 8.3 mm ±0.2 mm                  |
| Length of signal cable          | 3 m                             |
| 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 / 1 min.)          |
| Basic accuracy                  | <± 0.21 %                       |

### 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    | UV-resistant 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   |

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|                          |        |
|--------------------------|--------|
| Max. current consumption | 190 mA |
| Power consumption        | 4 W    |

## Input data

### Frequency

|                           |                    |
|---------------------------|--------------------|
| Designation               | Measuring coil     |
| Frequency measuring range | 40 Hz ... 20000 Hz |
| Position error            | < 1 %              |
| 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<br>0 A AC ... 250 A AC<br>0 A AC ... 400 A AC<br>0 A AC ... 630 A AC<br>0 A AC ... 1000 A AC<br>0 A AC ... 1500 A AC<br>0 A AC ... 2000 A AC<br>0 A AC ... 4000 A AC |
| Phase angle                    | < 1 °  |
| Can be calibrated              | no   |
| Converter type                 | UV-resistant 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)             | $V_{OUT} = M \cdot dl/dt$  |
| 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)) |
| 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<br>32 m (0.75 mm <sup>2</sup> (AWG 20)) |

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|  |                                      |
|--|--------------------------------------|
| Max. distances for copper cables at $P_{N\ max}$ | 64 m (1.5 mm <sup>2</sup> (AWG 16))  |
|  | 107 m (2.5 mm <sup>2</sup> (AWG 14)) |

## Connection data

### Measuring transducer side

|                                  |   |
|----------------------------------|---|
| Connection method                | Screw connection                            |
| Stripping length                 | 7 mm  |
| Screw thread                     | M3  |
| Conductor cross-section rigid    | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Conductor cross-section flexible | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Conductor cross-section AWG      | 24 ... 14                                   |
| Tightening torque                | 0.5 Nm ... 0.6 Nm                           |

## Signaling

|                           |           |
|---------------------------|-----------|
| Operating voltage display | Green LED |
|---------------------------|-----------|

## Dimensions

### Measuring coil

|          |                |
|----------|----------------|
| Length   | 600 mm         |
| Diameter | 8.3 mm ±0.2 mm |

### Measuring coil when installed

|          |        |
|----------|--------|
| Diameter | 190 mm |
|----------|--------|

### Signal line

|        |     |
|--------|-----|
| Length | 3 m |
|--------|-----|

## Material specifications

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

## Approvals

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## UKCA

|             |                |
|-------------|----------------|
| Certificate | UKCA-compliant |
|-------------|----------------|

## CMIM

|             |                |
|-------------|----------------|
| Certificate | CMIM-compliant |
|-------------|----------------|

## UL, USA/Canada

|                |                      |
|----------------|----------------------|
| Identification | UL 508 Listed        |
| Note           | Measuring transducer |

## Standards and regulations

|                       |                 |
|-----------------------|-----------------|
| Standards/regulations | IEC 61010-1     |
|                       | IEC 61010-2-032 |

## Mounting

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

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## Classifications

### ECLASS

ECLASS-13.0

27210902

### ETIM

ETIM 9.0

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.) | Diboron trioxide(CAS: 1303-86-2)           |
|                                     | Lead monoxide (lead oxide)(CAS: 1317-36-8) |
|                                     | Lead(CAS: 7439-92-1)                       |
| SCIP                                | b359369b-2bb2-4f45-9b62-3df4acd5609b       |

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