# RCT*i-3ph* Industrially specified ac current transducer


## RCTi-3ph - Thin, flexible, clip-around, ac current transducer

The RCTi is a current transducer for permanent installation. Simple to install and easy to retrofit, the Rogowski (sense) coil is thin, lightweight, flexible and clip-around. The secondary output from the transducer is an instantaneous voltage proportional to the measured primary current providing an accurate, low cost, wide-band measurement of the primary current.

The RCTi is typically used with power and harmonic meters and analyzers, current meters, oscilloscopes, data-loggers, data acquisition cards, and in power quality applications.

### The RCTi-3ph is a wide-band ac current transducer :

- Easy to retrofit
- Simple to install in applications where space is limited
- Non-intrusive - no power drawn from the primary circuit
- Wide-band up to 1MHz, to measure harmonic components or complex waveforms (e.g. induction heating, VF drives, power measurement
- The size of the Rogowski coil can be specified independently of the primary current
- Does not suffer from magnetic saturation
- Intrinsically safe
- Equivalent to Class 1 CT or better
- Low cost monitoring for medium/large currents.

PEM
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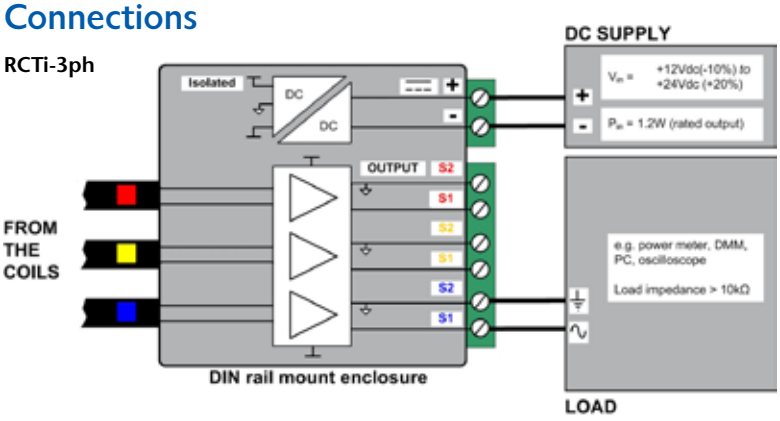
# RCT*i-3ph* Specifications

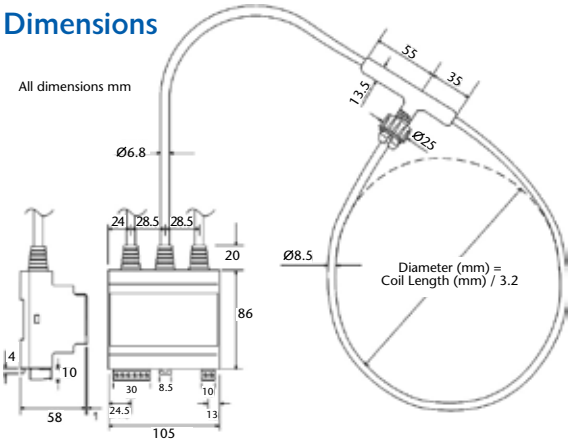
| | | | |
|---|---|---|---|
| Rated current (rms) | 250A | 2500A | 16000A |
| | 500A | 3000A | 20000A |
| | 800A | 4000A | 25000A |
| | 1000A | 5000A | 30000A |
| | 1600A | 8000A | 40000A |
| | 2000A | 10000A | 50000A |
| Rated output (Full scale FS) | 5.0Vrms (±7.07V peak) | | |
| Output limit | 150% FS (±10.6V peak) | | |
| Supply voltage (Wide input) | 12Vdc (-10%) to 24Vdc (+20%) | | |
| Max. Input power | 1.2W | | |
| Operating temperature range | –5°C to +65°C *(Integrator electronics)*<br>–20°C to +80°C *(Coil and cable)* | | |
| Bandwidth (-3dB) (<2000A) | 0.6Hz to 1MHz (300mm) 600kHz (700mm) | | |
| (≥2000A) | 0.2Hz to 1MHz (300mm) 600kHz (700mm) | | |
| Phase shift @50Hz (<2000A) | 0.9±0.1 degrees | | |
| (≥2000A) | 0.4±0.1 degrees | | |
| Accuracy (typ.) | ±1.0% of reading<br>(5% to 150% FS, 25°C) | | |
| Output load | > 10.0kΩ | | |
| Coil Length | 300mm, 500mm or 700mm<br>*Custom lengths available* | | |
| Cable Length<br>(coil to electronics) | 1m or 2.5m<br>*Custom lengths available* | | |

## Connections

**RCTi-3ph**




## Dimensions




## Features

- **Traceable calibration**
  - Every unit is supplied with a traceable calibration certificate
  - No magnetic materials means excellent linearity <0.1% reading
- **Fully isolated measurement**
  - Isolated power supply 2kVdc
  - Coil rated at 2kVpeak (withstand test is 4kVrms / 50Hz/ 60 sec)
- **Small DIN rail (or panel mount) enclosure – UL94 V-0 rated**

## Options

- **Isolated BNC-BNC cable split option**
  - Between coil and electronics to enable ease of installation e.g. threading through existing conduit. Standard cable permanently fixed.

## Standards and Approvals

- **CE marked**
- **Complies with EMC EN 61326-1 2006**
- **PEM Ltd is an ISO9001:2008 registered company**
- **Complies with IEC61010-1:2001**

## Order code RCTI-3ph

The RCTi-3ph order code can be generated as follows:

| Rated current (A) | Cable Length (m) | Coil Length (mm) | Options |
|---|---|---|---|
| 250A<br>500A<br>...<br>50000A | 1m<br>2.5m<br>...<br>*Custom lengths* | 300mm<br>500mm<br>700mm<br>...<br>*Custom lengths* | **BC**-BNC Split in Cable |

**For example: RCTi-3ph/500 /1/700 /BC** has a rated primary current 500A, 1m cable, 700mm coil and a BNC - BNC split in the cable

## Further information

The RCTi-3ph can be configured to suit a great many applications. If your requirement is outside that listed in this datasheet please contact us to discuss your application.

More detailed technical advice is available at **www.pemuk.com**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