RCTi

Industrially specified ac current transducer

RCTi - 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 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.

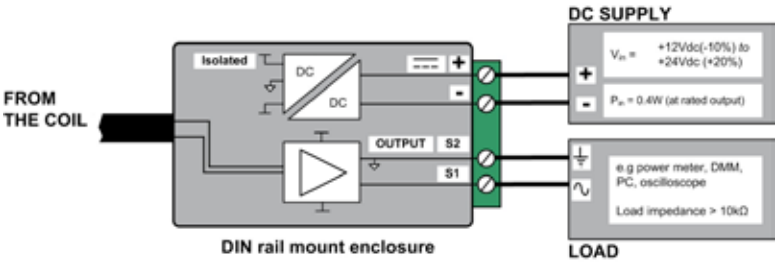
PEM
Power Electronic Measurements

RCTi Specifications

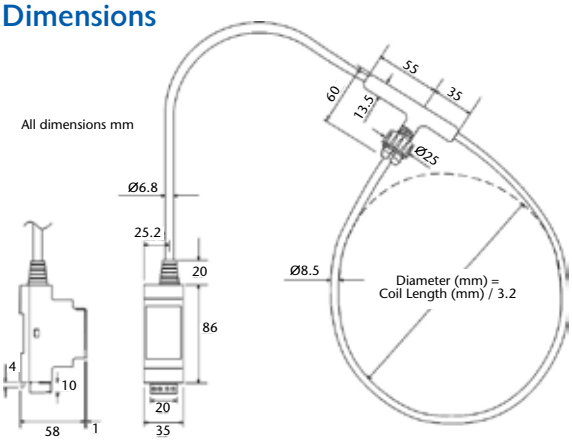
Rated current (rms)	250A 500A 800A 1000A 1600A 2000A	2500A 3000A 4000A 5000A 8000A 10000A	16000A 20000A 25000A 30000A 40000A 50000A
Rated output (Full scale FS)	5.0Vrms (±7.07V peak)		
Output limit	150% FS (±10.6V peak)		
Supply voltage (Wide input)	12Vdc (-10%) to 24Vdc (+20%)		
Max. Input power	0.4W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

Connections

RCTi



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

- **IP65 die-cast aluminium panel mount enclosure** (previously known as the IRF)
- **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

The RCTi order code can be generated as follows:

Rated current (A)	Cable Length (m)	Coil Length (mm)	Options
250A 500A ... 50000A	1m 2.5m ... *Custom lengths*	300mm 500mm 700mm ... *Custom lengths*	**BC**-BNC Split in Cable **IRF**-Die-cast *aluminium enclosure*

For example: RCTi/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 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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