

# 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.

**PENI**  
Power Electronic Measurements



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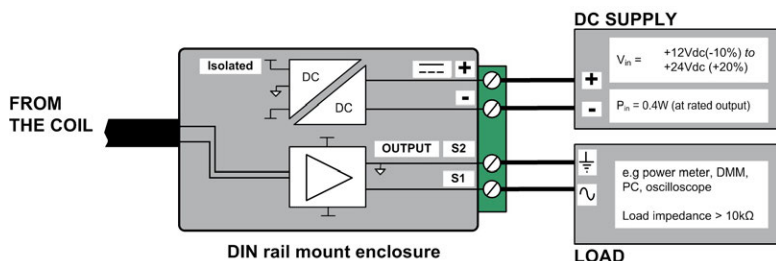
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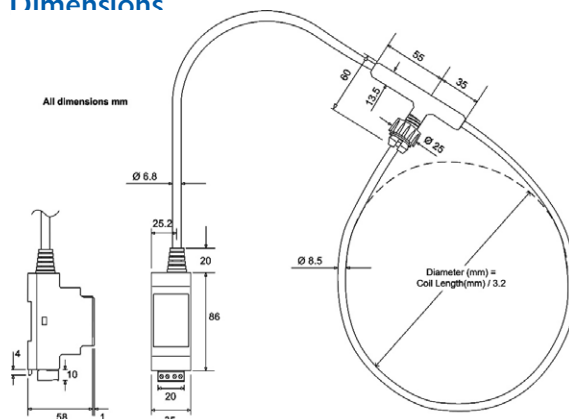
Rated current (rms)	2500A	2500A	16000A
	500A	3000A	20000A
	800A	4000A	25000A
	1000A	5000A	30000A
	1600A	8000A	40000A
	2000A	10000A	50000A
Rated output (Full scale FS)	5.0Vrms ( $\pm 7.07V$ peak)		
Output limit	150% FS ( $\pm 10.6V$ peak)		
Supply voltage (Wide input)	12Vdc (-10%) to 24Vdc (+20%)		
Max. Input power	0.4W		
Operating temperature range	-5°C to +65°C ( <i>Integrator electronics</i> ) -20°C to +80°C ( <i>Coil and cable</i> )		
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 <i>Custom lengths available</i>		
Cable Length (coil to electronics)	1m or 2.5m <i>Custom lengths available</i>		

## 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	1m	300mm	<b>BC-BNC</b> Split in Cable
500A	2.5m	500mm	
...	...	700mm	
50000A	<i>Custom lengths</i>	<i>Custom lengths</i>	<b>IRF-Die-cast aluminium enclosure</b>

**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](http://www.pemuk.com)



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