

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 :

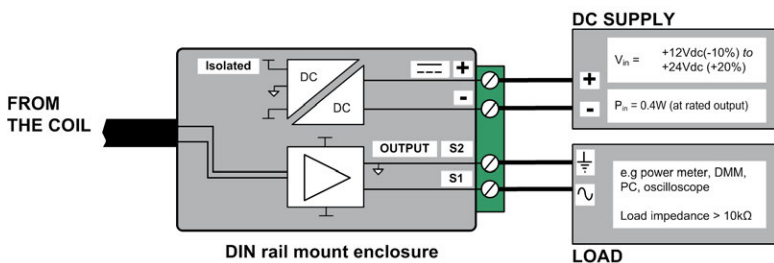
- Easy to retrofit
- Simple to install in applications where space is limited
- Non-intrusive - no power drawn from the primary circuit
- Wide-band up to 1MHz, to measure harmonic components or complex waveforms (e.g. induction heating, VF drives, power measurement)
- The size of the Rogowski coil can 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.



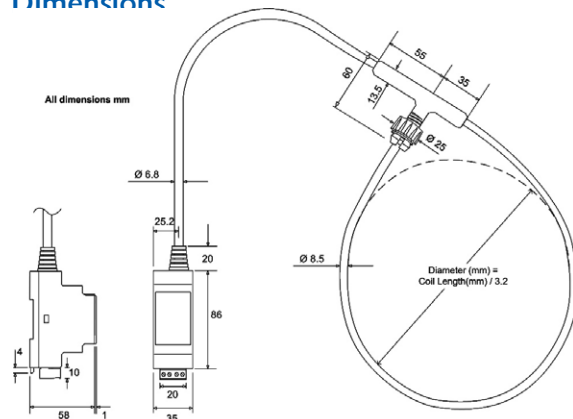
Rated current (rms)	250A	2500A	16000A
	500A	3000A	20000A
	800A	4000A	25000A
	1000A	5000A	30000A
	1600A	8000A	40000A
	2000A	10000A	50000A
Rated output (Full scale FS)	5.0Vrms ($\pm 7.07V$ peak)		
Output limit	150% FS ($\pm 10.6V$ peak)		
Supply voltage (Wide input)	12Vdc (-10%) to 24Vdc (+20%)		
Max. 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	0.6Hz to 1MHz (300mm) 600kHz (700mm)	
	$\geq 2000A$	0.2Hz to 1MHz (300mm) 600kHz (700mm)	
Phase shift @50Hz	<2000A	0.9 \pm 0.1 degrees	
	$\geq 2000A$	0.4 \pm 0.1 degrees	
Accuracy (typ.)	$\pm 1.0\%$ of reading (5% to 150% FS, 25°C)		
Output load	> 10.0k Ω		
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	BC-BNC
500A	2.5m	500mm	Split in Cable
...	...	700mm	
50000A	<i>Custom lengths</i>	...	IRF-Die-cast aluminium enclosure
		<i>Custom lengths</i>	

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



Power Electronic Measurements

Gloucester House, Wellington Street, Long Eaton,
Nottingham. NG10 4HT. United Kingdom.
T +44 (0) 115 946 9657.
F +44 (0) 115 946 8515.
E info@pemuk.com
W www.pemuk.com