

RCTi-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 :

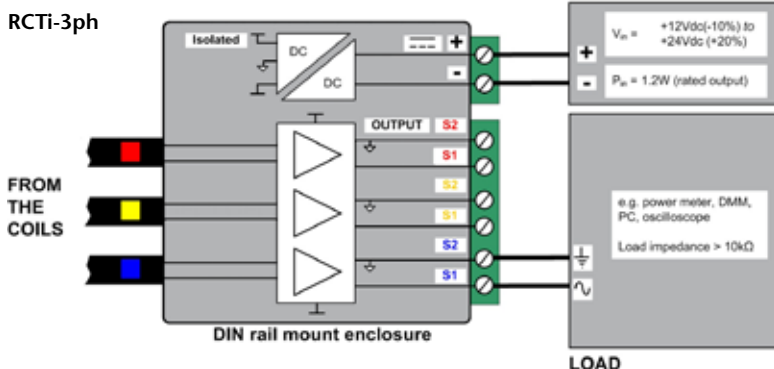
- Easy to retrofit
- Simple to install in applications where space is limited
- Non-intrusive - no power drawn from the primary circuit
- Wide-band up to 1MHz, to measure harmonic components or complex waveforms (e.g. induction heating, VF drives, power measurement)
- The size of the Rogowski coil can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

RCTi-3ph Specifications

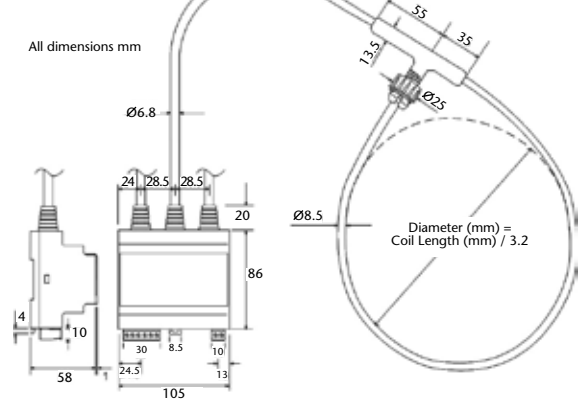


Rated current (rms)	250A 500A 800A 1000A 1600A 2000A	2500A 3000A 4000A 5000A 8000A 10000A	16000A 20000A 25000A 30000A 40000A 50000A
Rated output (Full scale FS)	5.0Vrms ($\pm 7.07V$ peak)		
Output limit	150% FS ($\pm 10.6V$ peak)		
Supply voltage (Wide input)	12Vdc (-10%) to 24Vdc (+20%)		
Max. Input power	1.2W		
Operating temperature range	-5°C to +65°C (<i>Integrator electronics</i>) -20°C to +80°C (<i>Coil and cable</i>)		
Bandwidth (-3dB)	<2000A ($\geq 2000A$)	0.6Hz to 1MHz (300mm) 0.2Hz to 1MHz (300mm)	600kHz (700mm) 600kHz (700mm)
Phase shift @50Hz	<2000A ($\geq 2000A$)	0.9 \pm 0.1 degrees 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



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	1m	300mm	BC-BNC Split in Cable
500A	2.5m	500mm	
...	...	700mm	
50000A	<i>Custom lengths</i>	<i>Custom lengths</i>	

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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