



## Thin, flexible, clip-around ac current transducer

# RCTi<sup>®</sup>

The **RCTi<sup>®</sup>** is an industrially specified ac current transducer for permanent installation. The coil sensor is thin, lightweight, flexible and clip-around. The output from the transducer is an instantaneous voltage proportional to the measured current.

Typically the **RCTi<sup>®</sup>** is used with oscilloscopes, data acquisition cards, power analyzers and meters and in power quality applications.

The **RCTi<sup>®</sup>** is an ideal replacement for medium / large current, current transformers (CT's) and has the advantages that it is

- **easy to retrofit** - the coil is small, light-weight, and its length can be specified independently of the size of measured current
- **does not suffer from magnetic saturation**
- **non intrusive** - the coil draws no power from the circuit under test
- **has no danger of open circuit secondaries**
- **has low phase shift** at power frequencies (50/60Hz) and above
- **has a wide-bandwidth 0.6Hz to 1MHz** for measurement of sub and higher frequency harmonics and complex waveforms

### Specifications

Rated current	500 / 1,000 A
<i>Range is switch selectable</i>	1,000 / 2,000 A 2,500 / 5,000 A 5,000 / 10,000 A 10,000 / 20,000 A 25,000 / 50,000 A
Rated Output (Full scale FS)	±5.0Vrms (±7.07V peak)
Output limit	150% FS (±10.6V peak)
Supply voltage	12Vdc ± 10% at 100.0mA <i>-or-</i> 24Vdc ± 10% at 50.0mA <i>-or-</i> 48Vdc ± 10% at 25.0mA
Operating temperature range	-5°C to +65°C
Bandwidth (-3dB)	0.6Hz to 1MHz
Phase shift @ 50Hz	0.9±0.1 degrees
Accuracy	±1.0% of reading (5% to 150% FS, 25°C)
Temperature coefficient	-0.01 (coil) ±0.012 (integrator) % / °C
Output load	> 1.0kΩ



### Features

- **Switch selectable dual range**
- **Traceable calibration**
  - Every transducer is supplied with traceable calibration at 50Hz
  - Due to the excellent linearity of Rogowski coils (<0.05%) the calibration is maintained throughout the current range
- **Fully isolated measurement**
  - Power supply isolated to 1kVrms
  - Rogowski coil insulated to 2kV peak. Established by a standard 'flash test' at 4kVrms, 50Hz for 60 seconds
- **Easy to install, flexible, 'clip-around' coil sensor available in three standard lengths**
  - 300mm (11.8"), 500mm (19.7") and 700mm (27.6")
  - Custom lengths available on request
- **1m cable connecting the coil to the electronic integrator**
  - Custom lengths available on request
- **Small DIN rail or panel mount electronics enclosure**

### Customising the RCTi

For specifications outside those detailed on the specification sheet please contact PEM e.g.

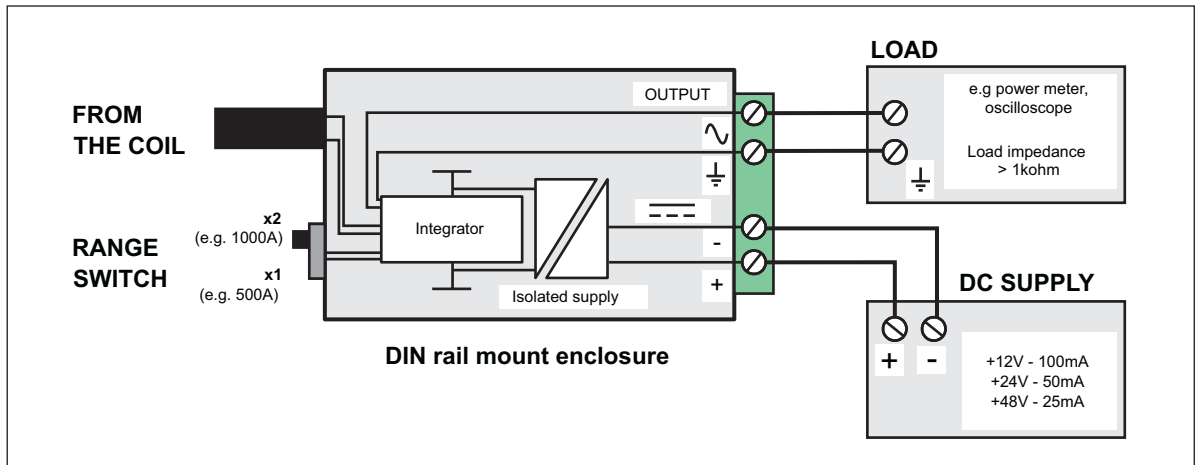
- Phase error requirements at different frequencies
- Extended coil / cable lengths
- Further current / output ratings
- Customised frequency response

### Standards and Approvals

- CE Marked
- Complies with EN 61010:2001
- PEM Ltd is an ISO9001:2000 registered company
- EMC EN 61326



## Connections



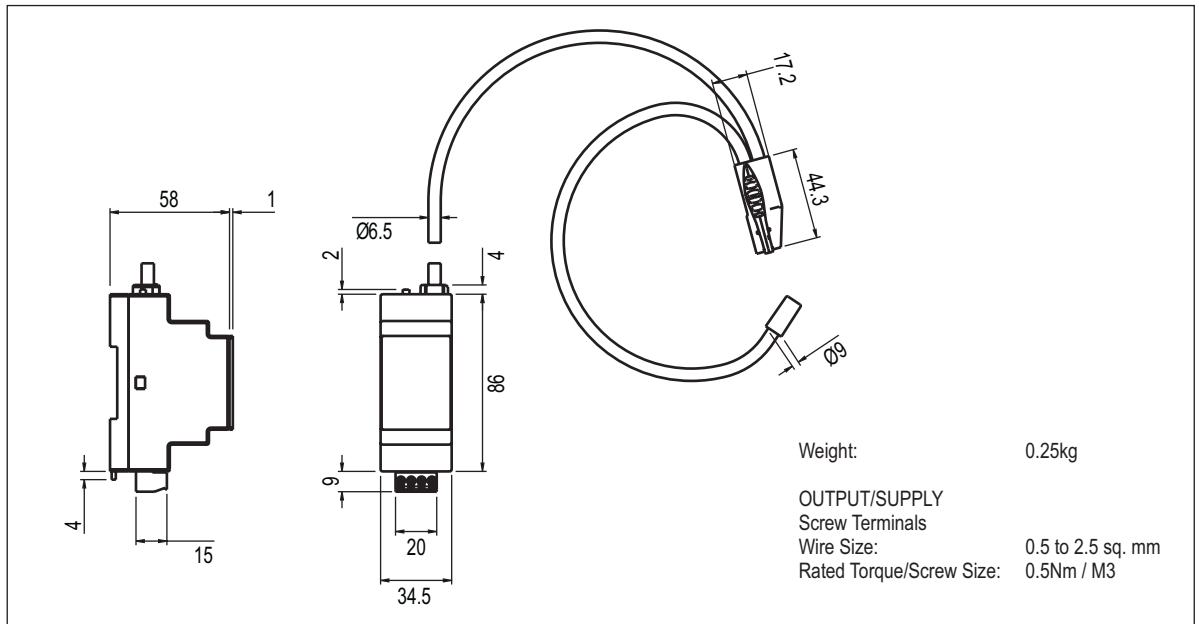
## Order Code

<b>RCTi</b>	/	/	/
	Current range	Power supply	Coil length
3	- 500/1000 A	<b>D12</b> - +12V dc	<b>300</b> - 300 mm
4	- 1000/2000 A	<b>D24</b> - +24V dc	<b>500</b> - 500 mm
5	- 2500/5000 A	<b>D48</b> - +48V dc	<b>700</b> - 700 mm
6	- 5000/10000 A		
7	- 10000/20000 A		
8	- 25000/50000 A		

For example an RCTi/6/D12/500 has a switch selectable current ranges of 5000 and 10000A, +12V dc supply and a 500mm (19.7") circumference Rogowski coil.

Customised versions are available on request. If your requirement is outside that listed in this datasheet please contact Power Electronic Measurements Ltd.

## Dimensions



## Further information

Further technical advice available at [www.pemuk.com](http://www.pemuk.com). For all questions, queries or specifications outside those listed please contact Power Electronic Measurements Ltd.



**Power Electronic Measurements Ltd**

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