**RCTrms - Thin, flexible, clip-around, ac current transducer with true rms output**

The RCTrms is an ac current transducer for permanent installation. Simple to install and easy to retrofit it combines the benefits of a thin, flexible, clip-around Rogowski (sense) coil with a signal conditioner providing accurate, true rms measurement, of ac current.

The RCTrms has an industry standard 4-20mA output making it ideal for process control, status alarming or system monitoring purposes. Typically the RCTrms is used with SCADA systems, PLCs, data loggers and protection equipment.

The RCTrms is an ac current transducer providing a 4 to 20mA output proportional to the true rms of the primary current and has the advantages:

- Easy to retrofit
- Simple to install in applications where space is limited
- The size of the Rogovski coil can be specified independently of the primary current
- Does not suffer from magnetic saturation
- Intrinsically safe
- Ideal for process control, status alarming or system monitoring in a wide variety of applications, from arc furnaces to power distribution.

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### Specifications

**Dimensions**

All dimensions mm

![Dimensions Diagram](image)

**Features**

- **Traceable calibration**
  - Every unit is supplied with a traceable calibration certificate
  - No magnetic materials means excellent linearity <0.2% of 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.

- **IP65 die-cast aluminium panel mount enclosure**

**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 RCTrms**

The RCTrms order code can be generated as follows:

<table>
<thead>
<tr>
<th>Rated current (A)</th>
<th>Cable Length (m)</th>
<th>Coil Length (mm)</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>250A</td>
<td>1m</td>
<td>300mm</td>
<td>BC-BNC Split in Cable</td>
</tr>
<tr>
<td>500A</td>
<td>2.5m</td>
<td>500mm</td>
<td>IRF-Die-cast aluminium enclosure</td>
</tr>
<tr>
<td>50000A</td>
<td>Custom lengths</td>
<td>Custom lengths</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For example: RCTrms /2000/1/300 has a rated primary current 2000A, 1m cable, 300mm coil and no ‘options’

**Further information**

The RCT 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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### Connections

![Connections Diagram](image)

<table>
<thead>
<tr>
<th>FROM THE COIL</th>
<th>DC SUPPLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIN rail mount enclosure</td>
<td>e.g. PLC, DIM, PC, or dissolve</td>
</tr>
<tr>
<td>T</td>
<td>+10V (dc voltage)</td>
</tr>
<tr>
<td>Si</td>
<td>+7V (at rated output)</td>
</tr>
<tr>
<td>OUTPUT</td>
<td>-7V (at rated output)</td>
</tr>
</tbody>
</table>

**Coil Length**

- 300mm, 500mm or 700mm
- Custom lengths available

**Cable Length**

- 1m or 2.5m
- Custom lengths available

### RCTrms

**Rated current (rms)**

- 100A
- 200A
- 250A
- 2500A
- 500A
- 3000A
- 5000A
- 800A
- 4000A
- 10000A
- 16000A
- 100000A

**Rated output (Full scale FS)**

- 4 to 20mA

**Output limit**

- 150% FS (28mA)

**Supply voltage (Wide input)**

- 12Vdc (-10%) to 24Vdc (+20%)

**Input power**

- 0.7W (at rated output)

**Operating temperature range**

- -5°C to +65°C (Integrator electronics)
- -20°C to +80°C (Coil and cable)

**Bandwidth (-3dB)**

- 2Hz to 100kHz

**Max. Response time (10 to 90%)**

- 1000ms

**Accuracy (typ.)**

- ±1.5% of reading (10% to 150% FS, 25°C)

**Output load**

- < 300Ω

**Coil Length**

- 300mm, 500mm or 700mm
- Custom lengths available

**Cable Length**

- 1m or 2.5m
- Custom lengths available

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### RCTrms Dimensions

- Diameter (mm) = Coil Length (mm) / 3.2

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### Further Information

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