

RCT1A

Industrially specified current transformer replacement



RCT1A- Thin, flexible, clip-around, current transformer replacement, 1A output

The RCT1A is a genuine Current Transformer (CT) replacement but has all the intrinsic benefits of a thin, light-weight, flexible, clip-around Rogowski (sense) coil. Just like a CT the RCT1A secondary output is an industry standard 0 to 1A (5VA pf 1) instantaneous current proportional to the measured primary current.

Typically the RCT1A is used with power, current and power quality meters and is an ideal replacement for CTs in retrofit applications to avoid plant shutdown, applications with limited space for installation and particularly where existing monitoring equipment designed for a 0 to 1A CT input is installed.

The RCT1A is an ideal replacement for a traditional current transformer (CT's) and has the advantages:

- Easy to retrofit
- Simple to install in applications where space is limited
- The size of the Rogowski coil can be specified independently of the primary current
- Does not suffer from magnetic saturation
- Intrinsically safe - No danger of open circuit secondaries
- Equivalent to Class 1 CT or better (phase error <0.5 degrees (45 to 65Hz).

PEMI
Power Electronic Measurements

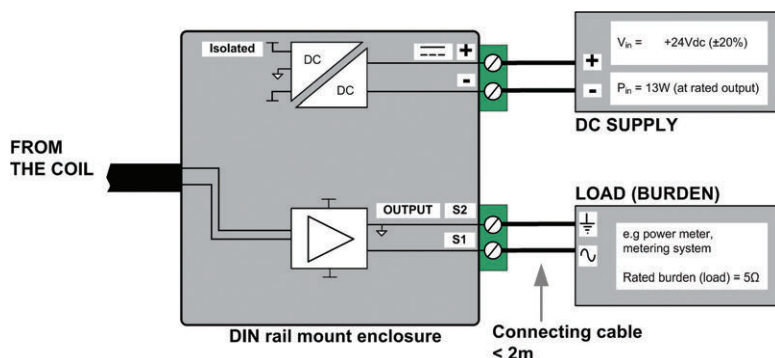
RCT1A Specifications



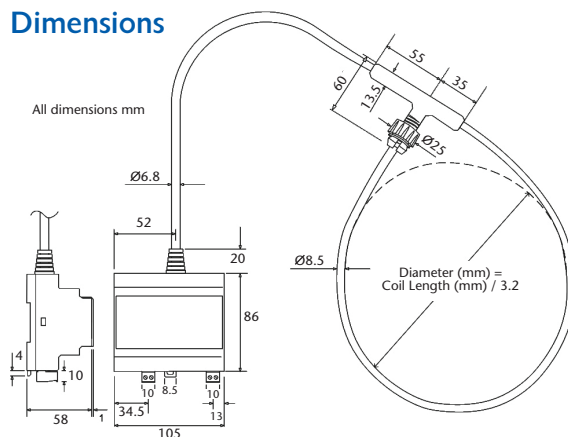
| | | | |
|---------------------|-------|--------|--------|
| Rated current (rms) | 500A | 3000A | 20000A |
| | 800A | 4000A | 25000A |
| | 1000A | 5000A | 30000A |
| | 1600A | 8000A | 40000A |
| | 2000A | 10000A | 50000A |
| | 2500A | 16000A | |

| | |
|---------------------------------------|---|
| Rated output (Full scale FS) | 1A rms |
| Output limit | 120% FS (1.2A rms) |
| Supply voltage (Wide input) | 24Vdc (+/-20%) |
| Input power | For 5Ω burden, 100% Rated current, 13W For 1.25Ω burden, 100% Rated current, 3.5W |
| Operating temperature range | -5°C to +40°C (<i>Integrator electronics</i>) -20°C to +80°C (<i>Coil and cable</i>) |
| Bandwidth (-3dB) | 0.6Hz to 5kHz |
| Phase shift @ 50Hz | < 0.5 degrees |
| Accuracy (typ.) | ±1.0% of reading (20% to 120% FS, 25°C) |
| Rated burden | 5Ω to 1.25Ω |
| 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 <0.2% reading
- **Fully isolated measurement**
 - Isolated power supply 2kVrms
 - Coil rated at 2kVpeak (withstand test is 4kVrms / 50Hz/ 60 sec)
- **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
- Patent pending application no. PCT/EP2012/053893

Order code RCT1A

The RCT order code can be generated as follows:

| Rated current (A) | Cable Length (m) | Coil Length (mm) | Options |
|-------------------|-----------------------|-----------------------|----------------|
| 500A | 2.5m | 500mm | Split in Cable |
| ... | ... | 700mm | |
| 50000A | <i>Custom lengths</i> | <i>Custom lengths</i> | |

For example: RCT1A /2000/1/300 has a rated primary current 2000A, 1m cable, 300mm coil and no 'options'

Further information

The RCT1A 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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