CWT MiniHF

- A novel electrostatic shielded Rogowski coil providing excellent immunity to interference from fast local dV/dt transients or large 50/60Hz voltages
- Extended (-3dB) high frequency bandwidth
  - 30MHz for a 100mm coil
- Peak di/dt capability up to 100kA/µs
- Wide operating temperature from -40°C to +125°C
- 4.5mm thick Rogowski coil with 5kV peak insulation.

Rogowski benefits
Both versions offer the advantages of a CWT Rogowski probe, including:
- simple to use and easy to insert into difficult to reach parts of the circuit
- practically zero insertion impedance
- freedom from flying leads
- isolated measurement
- peak-current ratings from 30A to 300kA
- ±6V into 1MΩ, and now with 50Ω drive capability

Applications
- Semiconductor switching waveforms (device loss)
- Measuring high frequency sinusoidal, pulsed or transient currents from power frequency to rf applications
- Power converter development and diagnostics for example:
  - MOSFET/IGBT devices as small as TO-247 or around the terminals of large power modules
  - monitoring currents in small inductors, capacitors, snubber circuits, etc
- Measuring small AC currents in the presence of large DC currents (e.g. monitoring capacitor ripple)
- Measuring current in motor drives and in particular power quality measurements in VSD, UPS or SMPS circuits

CWT Mini

- Extended (-3dB) low frequency bandwidth
  - typically less than 1Hz
- Extended (-3dB) high frequency bandwidth
  - up to 20MHz for a 100mm coil
- Improved peak di/dt up to 40kA/µs
- 3.5mm thickness with 2kVpeak, and 4.5mm thickness with 5kVpeak insulation coils

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±6V peak corresponding to ‘Peak Current’ into ≥100kΩ (e.g. DC1MΩ oscilloscope)

±2V peak, Sensitivity is half the nominal value into = 50Ω

Accuracy
Conductor position in the coil (for a 2mm² conductor) typically ±2% reading
Linearity (with current magnitude)                             0.05% reading
Calibration
Calibrated to ±0.2% reading with conductor central in the coil loop
DC offset
±3mV at 25°C

Temperature
Coil and cable -40°C to +125°C - (CWT MiniHF)
Coil and cable -40°C to +100°C - (CWT Mini)
Integrator 0°C to 40°C

di/dt ratings
These are ‘Absolute maximum di/dt ratings’ and values must not be exceeded

<table>
<thead>
<tr>
<th>Type</th>
<th>Abs. Max. peak di/dt</th>
<th>Abs. Max. rms di/dt</th>
</tr>
</thead>
<tbody>
<tr>
<td>CWT MiniHF</td>
<td>100kA/µs</td>
<td>1.2kA/µs</td>
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<tr>
<td>CWT Mini</td>
<td>40kA/µs</td>
<td>1.06A/µs</td>
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</tbody>
</table>

Coil length
100 or 200mm – longer coils available on request

Insulation
2kV peak (3.5mm thick coil - CWT Mini models ONLY)
5kV peak (4.5mm thick coil)

Cable length
1, 2.5 or 4m – length of cable from coil to electronics, longer cables available on request

Power
Options:
B - Standard: 4 x AA 1.5V alkaline batteries. Lifetime 25 hours. External adaptor disconnects batteries and powers unit.
R - Rechargeable: 4 x AA 1.2V NiMH batteries. Lifetime 10 hours. External adaptor recharges batteries and powers unit.

External power adaptor - US, EURO, UK versions available

Generating the part code

<table>
<thead>
<tr>
<th>Model</th>
<th>Power option</th>
<th>Cable length (m)</th>
<th>Coil length (mm)</th>
<th>Insulation (V)</th>
</tr>
</thead>
<tbody>
<tr>
<td>See table above</td>
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<td>1, 2.5 or 4</td>
<td>100 or 200</td>
<td>4</td>
</tr>
<tr>
<td>B-Battery</td>
<td>R-Reusable</td>
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<td></td>
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</table>

i.e. a CWT MiniHF, peak current 120A, Rechargeable battery, 2.5m cable, 100mm circumference coil, 3kV peak coil, 4.5mm thick All units are supplied with, factory calibration certificate, hard carry case, 0.5m BNC-BNC output cable

If you have any queries regarding the CWT Mini range or require specifications outside our standard ranges please contact us.

www.pemuk.com
May 2018