The **CWT LF** from *Power Electronic Measurements Ltd.* features an extended low frequency bandwidth.

*This enables measurement of:*
- small currents at 50/60Hz
- sinusoidal currents with significantly lower phase shift and...
- long pulses of current with significantly lower values of droop than the CWT standard or mini ranges.

The **CWT LF** can be specified with either a standard or miniature coil.

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**Features**

- Measuring ac currents **1A to 300,000A**
- Typical bandwidths from **0.1Hz to 6MHz**
- Very low ‘droop’ values
- Thin and flexible, ‘clip-around’ coil - can be specified with either standard or mini coil (see relevant specification sheet for more details)
  - Easy to insert probe in confined spaces
  - Non-intrusive – loading the circuit under test by only a few pH
- Instantaneous ±6V peak to peak output to plug directly into scope, data acquisition equipment, DVM or power recorders
- CE Marked
### PERFORMANCE CHARACTERISTICS

| Type        | Sensitivity (mV/A) | Peak current (kA) | Peak di/dt (kA/µS) | Noise max\(^1\) (mV pk-pk) | Droop typ (‰/ms) | LF (3dB) bandwidth typ. (Hz) \(f_L\) | Phase lead at 50Hz typ. (deg) | HF (3dB) bandwidth typ. (MHz) \(f_H\) | Coil Length 100mm | Coil Length 200mm |
|-------------|--------------------|-------------------|---------------------|-----------------------------|-----------------|----------------------------------------|-------------------------------|-------------------------------|----------------|----------------|---|
| **Standard Coils** |                     |                   |                     |                             |                 |                                        |                               |                               |                 |                 |
| CWT03LF     | 100.0              | 0.06              | 0.4                 | 15.0                        | 4.6             | 5.1                                    | 8.3                           | 6.5                           | 3.0            |                 |
| CWT06LF     | 50.0               | 0.12              | 0.8                 | 15.0                        | 2.3             | 2.6                                    | 4.2                           | 6.5                           | 3.0            |                 |
| CWT11LF     | 20.0               | 0.3               | 2.0                 | 15.0                        | 1.0             | 1.0                                    | 1.8                           | 6.5                           | 3.0            |                 |
| CWT3LF      | 10.0               | 0.6               | 4.0                 | 15.0                        | 0.5             | 0.55                                   | 0.85                          | 6.5                           | 3.0            |                 |
| CWT6LF      | 5.0                | 1.2               | 8.0                 | 15.0                        | 0.25            | 0.27                                   | 0.45                          | 6.5                           | 3.0            |                 |
| CWT15LF     | 2.0                | 3.0               | 11.0                | 15.0                        | 0.1             | 0.11                                   | 0.18                          | 6.5                           | 3.0            |                 |
| CWT30LF     | 1.0                | 6.0               | 11.0                | 15.0                        | 0.05            | 0.055                                  | 0.09                          | 6.5                           | 3.0            |                 |
| CWT60LF     | 0.5                | 12.0              | 11.0                | 15.0                        | 0.02            | 0.008                                  | 0.012                         | 6.5                           | 3.0            |                 |
| CWT100LF    | 0.05               | 120.0             | 11.0                | 5.0                         | 0.008           | 0.012                                  | 0.012                         | 12.0                          | 7.5            |                 |
| CWT1500LF   | 0.02               | 300.0             | 11.0                | 4.0                         | 0.007           | 0.008                                  | 0.012                         | 10.0                          | 5.0            |                 |

\(^1\) Distributed around the \(f_L\) (3dB) bandwidth.

\(^2\) For 2.5m cable length. Contact PEM for values of \(f_H\) for other coil and cable lengths

**TYPICAL ACCURACY**

Traceable calibration to ±0.2% with conductor central in the loop
Variation with conductor position in the coil loop typically ±1% for STANDARD COILS
Variation with conductor position in the coil loop typically ±2% for MINIATURE COILS

**TYPICAL LINEARITY**

±0.05% (Full Scale)

**ABSOLUTE MAXIMUM**

<table>
<thead>
<tr>
<th>(Standard coil)</th>
<th>PEAK 11.0</th>
<th>RMS 0.8 @ 70°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Miniature coil)</td>
<td>PEAK 14.0</td>
<td>RMS 0.85 @ 70°C</td>
</tr>
</tbody>
</table>

(value must not be exceeded)

(Further information available on request)

### COIL AND CABLE

Please refer to CWT and CWT Mini specification sheets for details about
- Coil length/Peak coil insulation voltage
- Cable length between Rogowski coil and integrator

### INTEGRATOR

1. **POWER SUPPLY**
   - B Battery 4 x AA (1.5V standard alkaline batteries)
   - R Rechargeable battery 4 x AA (rechargeable NiMH batteries)
   - *plus*- 2.1/2.5mm socket for 12 to 24V (±10%) DC input
   - *plus*- 2.1/2.5mm socket for 12 to 24V (±10%) DC input
   - **Typical life** 70hrs
   - Battery inoperative with DC supply present
   - **Typical life** 40hrs, Typical life 30hrs
   - Battery is charged whenever DC supply present

2. **INTEGRATOR BOX DIMENSIONS**
   - H = 183mm, W = 93mm, D = 32mm

3. **OUTPUT SOCKET**
   - BNC (output impedance 50Ω - unit supplied with 0.5m BNC / BNC coaxial cable)

**MIN. OUTPUT LOADING**

100kΩ (for rated accuracy)

**TEMPERATURE RANGE**

0°C to 40°C

### ORDERING

<table>
<thead>
<tr>
<th>Type + Power supply</th>
<th>Cable Length</th>
<th>Coil Circumference</th>
<th>Insulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CWT30LF R</td>
<td>4</td>
<td>100 M</td>
<td>2</td>
</tr>
</tbody>
</table>

If you have any queries regarding the CWT or require specifications outside our standard ranges please do not hesitate to contact us.

Mar 2018