

## PERFORMANCE CHARACTERISTICS

| Type | Sensitivity<br>(mV/A) | Peak<br>current<br>(kA) | Peak<br>di/dt<br>(kA/μs) | Noise<br>max <sup>*1</sup><br>(mV <sub>pk-pk</sub> ) | Droop<br>typ.<br>(%/ms) | LF (3dB)<br>bandwidth<br>typ. (Hz) $f_L$ | Phase lead<br>at 50Hz<br>typ. (deg) | HF (3dB) bandwidth<br>typ. (MHz) $f_H$ <sup>*2</sup> |                      |
|------|-----------------------|-------------------------|--------------------------|------------------------------------------------------|-------------------------|------------------------------------------|-------------------------------------|------------------------------------------------------|----------------------|
|      |                       |                         |                          |                                                      |                         |                                          |                                     | Coil Length<br>300mm                                 | Coil Length<br>700mm |

### High Sensitivity Ranges of CWT ... measuring currents from 300mA

|        |       |      |     |     |     |     |             |    |     |
|--------|-------|------|-----|-----|-----|-----|-------------|----|-----|
| CWT015 | 200.0 | 0.03 | 0.2 | 6.5 | 130 | 150 | 2.0 @ 6kHz  | 6  | 4   |
| CWT03  | 100.0 | 0.06 | 0.4 | 4.5 | 90  | 105 | 2.0 @ 4kHz  | 10 | 6.5 |
| CWT06  | 50.0  | 0.12 | 0.8 | 3.0 | 70  | 80  | 2.0 @ 3kHz  | 16 | 10  |
| CWT1   | 20.0  | 0.3  | 2.0 | 2.5 | 40  | 50  | 1.9 @ 2kHz  | 16 | 10  |
| CWT1N  | 20.0  | 0.3  | 2.0 | 2.0 | 20  | 25  | 1.9 @ 1kHz  | 10 | 5   |
| CWT3   | 10.0  | 0.6  | 4.0 | 8.0 | 3.0 | 3.5 | 1.0 @ 300Hz | 16 | 10  |

### Standard Ranges of CWT ... measuring currents from 15A

|         |      |       |      |      |       |      |      |    |    |
|---------|------|-------|------|------|-------|------|------|----|----|
| CWT3N   | 10.0 | 0.6   | 4.0  | 14.0 | 0.9   | 1.0  | 1.7  | 10 | 5  |
| CWT6    | 5.0  | 1.2   | 8.0  | 14.0 | 0.9   | 1.0  | 1.7  | 16 | 10 |
| CWT15   | 2.0  | 3.0   | 20.0 | 7.0  | 0.7   | 0.8  | 1.3  | 16 | 10 |
| CWT30   | 1.0  | 6.0   | 40.0 | 5.0  | 0.5   | 0.6  | 0.9  | 16 | 10 |
| CWT60   | 0.5  | 12.0  | 40.0 | 3.5  | 0.35  | 0.4  | 0.6  | 16 | 10 |
| CWT150  | 0.2  | 30.0  | 40.0 | 3.0  | 0.2   | 0.2  | 0.3  | 16 | 10 |
| CWT300  | 0.1  | 60.0  | 40.0 | 3.0  | 0.1   | 0.1  | 0.2  | 16 | 10 |
| CWT600  | 0.05 | 120.0 | 40.0 | 3.0  | 0.06  | 0.05 | 0.1  | 16 | 10 |
| CWT1500 | 0.02 | 300.0 | 40.0 | 3.0  | 0.035 | 0.03 | 0.06 | 16 | 10 |

<sup>\*1</sup>. Distributed around the  $f_L$  (-3dB) bandwidth.

<sup>\*2</sup>. For 2.5m cable length. Contact PEM for values of  $f_H$  for other coil and cable lengths

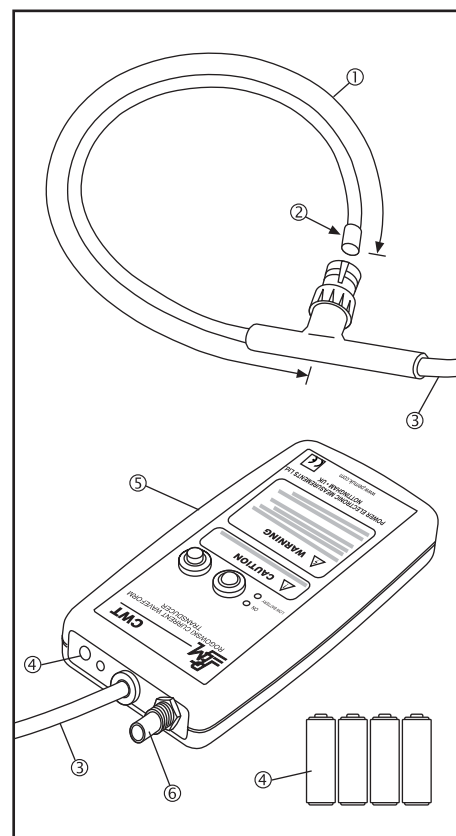
|                                             |                                                                                                                                        |                  |                       |                                            |                     |  |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------------|--------------------------------------------|---------------------|--|
| <b>TYPICAL ACCURACY</b>                     | Calibrated to <b>UKAS</b> ±0.2% with conductor central in the loop<br>Variation with conductor position in the coil loop typically ±1% |                  |                       | <b>TYPICAL LINEARITY</b>                   | ±0.05% (Full Scale) |  |
| <b>ABSOLUTE MAXIMUM</b>                     | <b>CWT</b> 03, 06                                                                                                                      | <b>PEAK</b> 40.0 | <b>RMS</b> 1.2 @ 70°C | (Further information available on request) |                     |  |
| <b>VALUES OF <math>di/dt</math> (kA/μs)</b> | <b>CWT</b> 015, 1N, 3N                                                                                                                 | <b>PEAK</b> 20.0 | <b>RMS</b> 1.0 @ 70°C |                                            |                     |  |
| (value must not be exceeded)                | <b>all other CWT's</b>                                                                                                                 | <b>PEAK</b> 40.0 | <b>RMS</b> 1.5 @ 70°C |                                            |                     |  |

## COIL AND CABLE

|                                                                                                                                                                                                                                                                                          |                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| ① COIL CIRCUMFERENCE                                                                                                                                                                                                                                                                     | 300, 500, 700 or 1000mm     |
| ② COIL CROSS SECTION (max)                                                                                                                                                                                                                                                               | 8.5mm - (14 mm with sleeve) |
| <b>PEAK COIL VOLTAGE ISOLATION</b>                                                                                                                                                                                                                                                       | 10kV                        |
| Safe peak working voltage to earth. The coils are flash tested at 15kVrms for 60 seconds. The coil is supplied with a removable silicone sleeve which provides additional mechanical protection. Information about continuous use of the coils at high voltage can be obtained from PEM. |                             |
| <b>TEMPERATURE RANGE</b>                                                                                                                                                                                                                                                                 | -20°C to 100°C              |
| For de-rating due to temperature cycling please consult PEM                                                                                                                                                                                                                              |                             |
| ③ CABLE LENGTH (from box to coil)                                                                                                                                                                                                                                                        | 2.5m or 4m                  |

## INTEGRATOR

|                                                                                                                                                                                                     |                                                                                                                                                                                                                                       |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| ④ POWER SUPPLY                                                                                                                                                                                      |                                                                                                                                                                                                                                       |  |
| <b>B</b> Battery 4 x AA (1.5V standard alkali batteries)<br><b>-plus-</b><br>2.1/2.5mm socket for 12 to 24V (±10%) DC input<br><br>Typical life 70hrs<br>Battery inoperative with DC supply present | <b>R</b> Rechargeable battery 4 x AA (rechargeable NiMH batteries)<br><b>-plus-</b><br>2.1/2.5mm socket for 12 to 24V (±10%) DC input<br><br>Recharge time 40hrs, Typical life 30hrs<br>Battery is charged whenever DC supply present |  |
| ⑤ INTEGRATOR BOX DIMENSIONS                                                                                                                                                                         | H = 183mm, W = 93mm, D = 32mm                                                                                                                                                                                                         |  |
| ⑥ 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

|                     |   |              |   |                    |
|---------------------|---|--------------|---|--------------------|
| Type + Power supply | / | Cable Length | / | Coil Circumference |
| e.g. order code     |   |              |   |                    |
| CWT30 B             | / | 4            | / | 700                |

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