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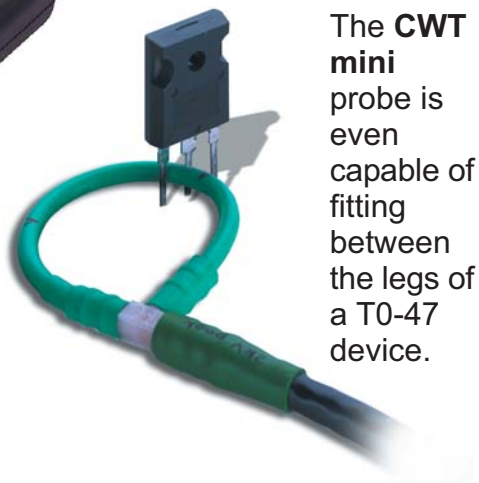
CWT mini SPECIFICATION

The **CWT miniature** range from *Power Electronic Measurements Ltd.* combines the state of the art performance of the CWT ac current probe but features a miniature clip around coil capable of monitoring currents in even the most difficult to reach parts of a circuit.



The **CWT mini** probe is even capable of fitting between the legs of a T0-47 device.

Applications

- **Monitoring current waveforms for semiconductor switches**
- **Development and servicing of power electronic equipment**
- **Monitoring currents in restricted places**
- **Measuring fault currents**
- **Measuring pulses of current**
- **Measuring harmonic current components**

Features

- Measurement range from **300mA to 300,000A**
- Typical bandwidths from **0.1Hz to 17MHz**
- The DC offset is no greater than 2mV over the operating temperature range.
- **Very thin and flexible, 'clip-around' coil** (cross section only 3.5mm for 2kV isolation) in **lengths 100mm to 200mm** – other lengths available as custom designs.
- Coil peak voltage isolation capability up to 5kV
- Instantaneous ±6V peak to peak output to plug directly into scope, data acquisition equipment, DVM or power recorders.
- Rogowski technology with all the intrinsic benefits
  - ⇨ Easy to insert probe in confined spaces
  - ⇨ Non-intrusive – loading the circuit under test by only a few pH
- CE Marked
- Accuracy of ±2% of reading.

POWER ELECTRONIC MEASUREMENTS Ltd.,
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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 *2	
								Coil Length **100mm**	Coil Length **200mm**
High Sensitivity Ranges of CWT ... measuring currents from 300mA									
CWT015	200.0	0.03	0.2	6.5	130	150	2.0 @ 6kHz	5.0	3.5
CWT03	100.0	0.06	0.4	4.5	90	105	2.0 @ 4kHz	8.5	5.5
CWT06	50.0	0.12	0.8	3.0	70	80	2.0 @ 3kHz	17	12
CWT1	20.0	0.3	2.0	2.5	40	50	1.9 @ 2kHz	17	12
CWT3	10.0	0.6	4.0	8.0	3.0	3.5	1.0 @ 300Hz	17	12
Standard Ranges of CWT ... measuring currents from 15A									
CWT6	5.0	1.2	8.0	14.0	0.9	1.0	1.7	17	12
CWT15	2.0	3.0	20.0	7.0	0.7	0.8	1.3	17	12
CWT30	1.0	6.0	25.0	5.0	0.5	0.6	0.9	17	12
CWT60	0.5	12.0	25.0	3.5	0.35	0.4	0.6	17	12
CWT150	0.2	30.0	25.0	3.0	0.2	0.2	0.3	17	12
CWT300	0.1	60.0	25.0	3.0	0.1	0.1	0.2	17	12
CWT600	0.05	120.0	25.0	3.0	0.06	0.05	0.1	17	12
CWT1500	0.02	300.0	25.0	3.0	0.035	0.03	0.06	17	12

*1. Distributed around the f_L (-3dB) bandwidth.
*2. For 2.5m cable lengths. Contact PEM for values of f_H for other coil and cable lengths

TYPICAL ACCURACY Calibrated to **UKAS** ±0.2% with conductor central in the loop
Variation with conductor position in the coil loop typically ±2%

TYPICAL LINEARITY ±0.05% (Full Scale)

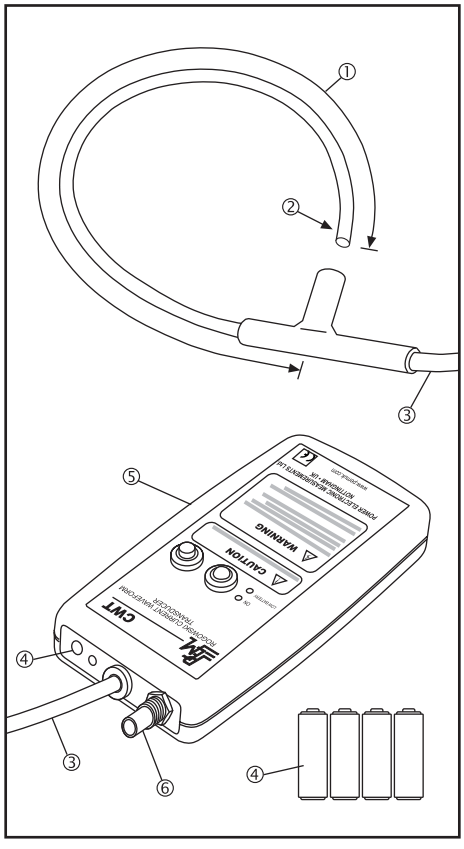
ABSOLUTE MAXIMUM VALUES OF *di / dt* (kA/μs) (value must not be exceeded)

CWT 015, 03, 06	**PEAK** 25.0	**RMS** 0.9 @ 70°C
all other CWT's	**PEAK** 25.0	**RMS** 1.2 @ 70°C

(Further information available on request)

COIL AND CABLE

① **COIL CIRCUMFERENCE**	100 - or - 200mm
② **COIL CROSS SECTION** (max)	3.5mm - for 2kV isolation 4.5mm - for 5kV isolation
PEAK COIL VOLTAGE ISOLATION Safe peak working voltage to earth. 2kV coils are flash tested at 3.8kVrms/50Hz for 60 seconds and 5kV coils are flash tested at 8kVrms/50Hz for 60 seconds. Information about continuous use of the coils at high voltage can be obtained from PEM.	2 - or 5kV
TEMPERATURE RANGE For de-rating due to temperature cycling please consult PEM	-20°C to 100°C
③ **CABLE LENGTH** (from box to coil)	2.5m or 4m



INTEGRATOR

④ **POWER SUPPLY**

B Battery 4 x AA (1.5V standard alkali batteries)
-plus-
2.1/2.5mm socket for 12 to 24V (±10%) DC input

Typical life 70hrs
Battery inoperative with DC supply present

R Rechargeable battery 4 x AA (rechargeable NiMH batteries)
-plus-
2.1/2.5mm socket for 12 to 24V (±10%) DC input

Recharge time 40hrs, Typical life 30hrs
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	/	Insulation
e.g. order code	**CWT015 R**	/	**1**	/	**100 M**	/	**5**

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