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CWT Ultra-mini

A wide-band AC current probe with BNC output to connect to most types of oscilloscope or data acquisition devices.

The CWT Ultra-mini (CWTUM) has an extremely thin, clip-around coil of typically 1.6mm cross section. With such a thin coil it is possible to access even the most difficult to reach parts of a power electronic converter with negligible disruption to the circuit under test.

Key Features

- Wide operating temperature **-40°C to +125°C**.
- (-3dB) bandwidth from a **few Hz** to **30MHz**.
- Loads the circuit under test by only a **few pH**.
- Coil insulation **1.2kV pk**.
- Standard coil length (circumference) of **80mm**.
  Longer coil lengths readily available.
- **1.7mm** (max) cross section diameter.
- Peak di/dt capabilities up to **100kA/µs**.
- Current ratings from **30A pk** to **30kA pk**.

Coil on legs of TO-220

Different coil lengths available

Applications

- Switching current waveforms in power electronic circuits:
  - MOSFET or IGBT devices as small as TO-220 or TO-247.
  - Measuring power losses in semiconductor bond wires in power devices.
  - 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).
- Power converter development and diagnostics.
- Measuring high frequency sinusoidal, pulsed or transient currents in power frequency to rf applications.

Model	Sensitivity (mV/A)	Peak Current (A)	Noise*1 (mVp-p)	Droop (%/ms)	LF (-3dB) (Hz)	Peak di/dt (kA/µs)	HF (-3dB) Bandwidth*2 (MHz)
CWTUM/015	200	30	20	80	116	2.0	30
CWTUM/03	100	60	20	65	67	4.0	30
CWTUM/06	50	120	15	35	34	8.0	30
CWTUM/1	20	300	15	9.0	9.2	20	30
CWTUM/3	10	600	10	6.0	6.2	40	30
CWTUM/6	5.0	1.2k	10	3.0	3.2	70	30
CWTUM/15	2.0	3.0k	5.0	2.0	2.0	70	30
CWTUM/30	1.0	6.0k	5.0	1.5	1.5	70	30
CWTUM/60	0.5	12.0k	5.0	1.0	1.0	100	30
CWTUM/150	0.2	30.0k	5.0	1.0	1.0	100	30

*1 'Noise' is the internally generated integrator noise, this is predominantly the same frequency as the LF (-3dB) bandwidth.

*2 The HF(-3dB) is specified for a 1m cable and 80mm coil, we can supply longer coils and cables on request.

di/dt ratings

These are 'Absolute maximum di/dt ratings' and values must not be exceeded.

Type	Abs. Max. peak di/dt	Abs. Max. rms di/dt
CWTUM 015 | **03** | **06**	70kA/µs	1.0kA/µs
CWTUM 1 | **3** | **6** | **15** | **30**	70kA/µs	1.2kA/µs
CWTUM 60 | **150**	100kA/µs	1.2kA/µs

Output
±6V pk corresponding to 'Peak Current' into ≥ 100kΩ (recommended e.g. DC1MΩ oscilloscope).
±2V pk, Sensitivity is half the nominal value into 50Ω.

Accuracy
Calibrated to ±0.2% reading with conductor central in the Rogowski coil loop.
Conductor position in the coil (for a 2mm dia. conductor) typically ±2% reading.
Conductor position in the coil (for a 10mm dia. conductor) typically ±1% reading.
Linearity (with current magnitude) 0.05% reading.

DC offset
±3mV max. at 25°C

Temperature
Coil and cable -40°C to +125°C
Integrator electronics 0°C to +40°C

Coil voltage
1.2kV pk
Safe peak working voltage to earth.
Rating established by a 3kV rms, 50Hz, 60 sec flash test.

Cable length
1m *(length of cable from coil to electronics).*
Longer cables are available on request.

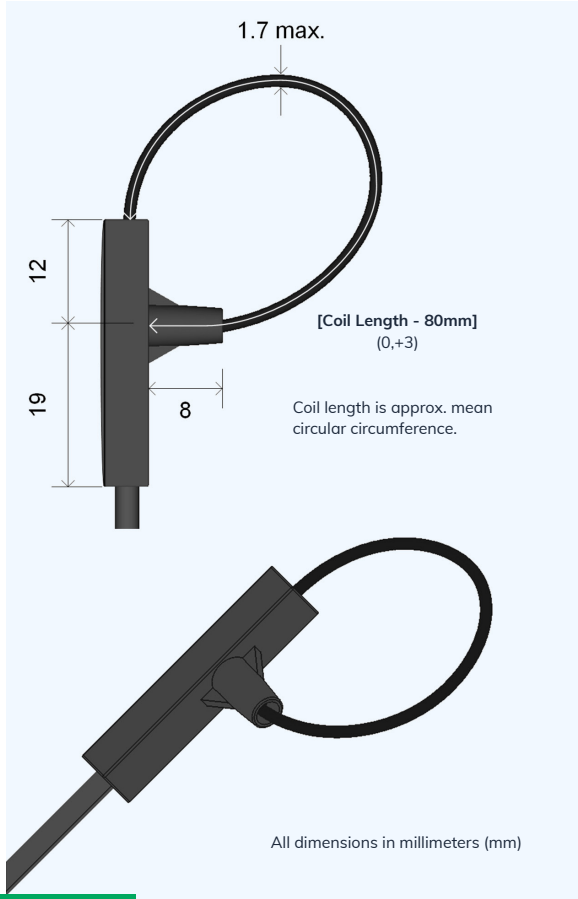
Coil length
80mm
Longer coils are available on request.

Battery Options

B **Alkaline Batteries --** 4 x 1.5V AA alkaline batteries, 25 hour life.
External power adaptor disconnects batteries and powers unit.

R **Rechargable Batteries --** 4 x 1.2V NiMH batteries, 10 hour life.
External power adaptor trickle charges batteries and powers unit

*External power adaptor available in **US**, **EURO**, **UK** & **AUS** versions as an optional extra.*



Coil dimensions

1 CWTUM / 2 015 / 3 R / 4 1 / 5 80

Generating the part code

1. **Model**
2. **Range**
3. **Battery Option**
4. **Cable Length** (m)
5. **Coil Length** (mm)

Example part codes

CWTUM/015/R/1/80
CWT Ultra-mini peak current 30A, Rechargable batteries, 1m cable, 80mm coil.

Enquire about a custom coil / cable length

CWTUM/6/B/2/300
CWT Ultra-mini peak current 1200A, Alkaline batteries, 2m cable, 300mm coil.

标配包括

- 手提收纳箱
- 罗氏线圈
- 电池(B 或 R)
- 0.5m BNC 输出连接线
- 校准证书

可选项

- 更长的线缆
- 更长的线圈周长
- 电源适配器

More detailed technical notes, dimensioned drawings, CAD files and quotation request for this product are available online.

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