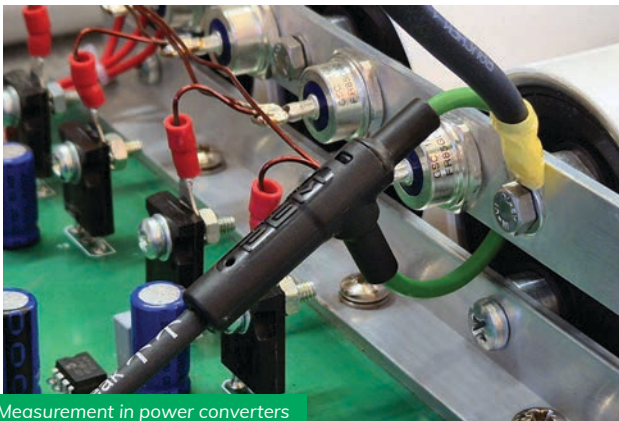


Powertek

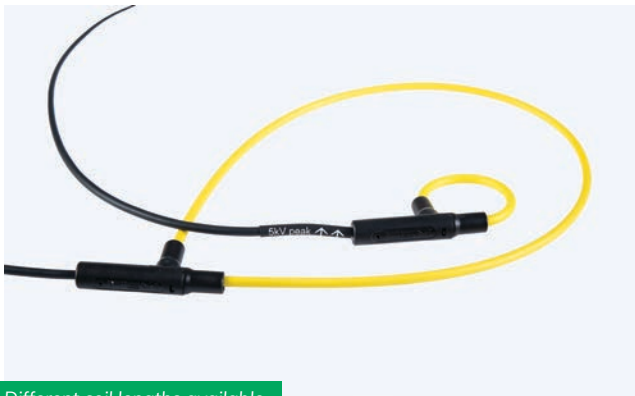
CWTMini

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

The CWTMini has a small clip around coil and wide bandwidth making it useful in applications as diverse as power frequency and harmonic current analysis to measuring long duration pulses. The small coil is offered in two insulation voltages 2kV peak, 3.5mm cross section diameter and 5kV peak, 4.5mm.



Measurement in power converters



Different coil lengths available



Key Features

- Extended low frequency performance.
- Predictable phase response from **Hz to > 100kHz**.
- **Low droop distortion** for measuring longer pulses.
- High frequency operation into **MHz**.
- Standard coil length (circumference) of **100mm** or **200mm**.
Longer coil lengths readily available.
- Thin coils **3.5mm** cross section diameter for a **2kV pk** insulation and **4.5mm** for a **5kV pk** coil.
- Current ratings from **60A pk** to **300kA pk**.



Applications

- Power frequency 50/60Hz measurements and higher order harmonics.
- Pulsed currents, and pulsed power measurements with longer duration pulses.
- Measuring small AC currents in the presence of large DC currents (e.g. monitoring capacitor ripple).
- Power converter development and diagnostics.
- Measuring currents in difficult to reach conductors such as tightly packed bus-bars.
- Power quality monitoring in variable speed drives, UPS, power systems or SMPS circuits.

Model	Sensitivity (mV/A)	Peak Current ^{*1} (A)	Noise ^{*2} (mVp-p)	Droop (%/ms)	LF (-3dB) (Hz)	Peak di/dt (kA/μs)	HF (-3dB) Bandwidth ^{*3} (MHz)	
							100mm	200mm
CWTMini/03	100	60	15	6.6	7.0	1.0	10	5.0
CWTMini/06	50	120	15	4.8	5.0	2.0	10	5.0
CWTMini/1	20	300	12	3.6	4.0	2.5	20	15
CWTMini/3	10	600	10	1.8	2.0	5.0	20	15
CWTMini/6	5.0	1.2k	10	0.8	0.9	10	20	15
CWTMini/15	2.0	3.0k	8.0	0.4	0.5	25	20	15
CWTMini/30	1.0	6.0k	7.0	0.25	0.3	40	20	15
CWTMini/60	0.5	12k	5.0	0.2	0.2	40	20	15
CWTMini/150	0.5	30k	5.0	0.1	0.1	40	20	15
CWTMini/300	0.1	60k	5.0	0.05	0.05	40	20	15
CWTMini/600	0.05	120k	5.0	0.03	0.02	40	20	15
CWTMini/1500	0.02	300k	5.0	0.03	0.02	40	20	15

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
CWTMini	40kA/μs	1.0kA/μs

Output

±6V pk corresponding to 'Peak Current' into $\geq 100\text{k}\Omega$ (recommended e.g. DC1M Ω oscilloscope).
±2V pk, Sensitivity is half the nominal value into 50 Ω .

Accuracy

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

DC offset

±3mV max. at 25°C

Temperature

Coil and cable -20°C to +1005°C
Integrator electronics 0°C to +40°C

Coil voltage

2kV pk (3.5mm thick coil).
5kV pk (4.5mm thick coil).
Safe peak working voltage to earth.

Cable length

1m, 2.5m or 4m (length of cable from coil to electronics).
Longer cables are available on request.

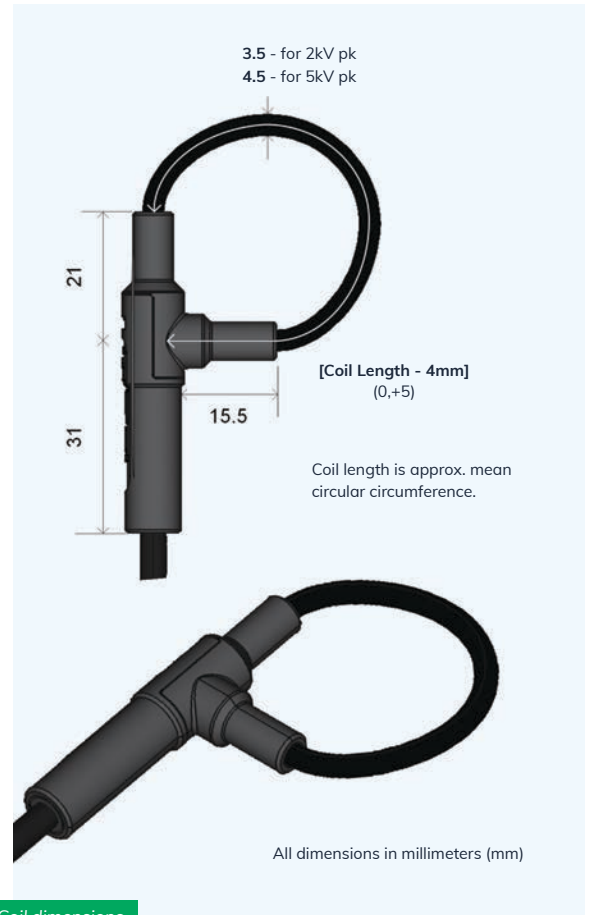
Coil length

100mm or 200mm
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 Rechargeable 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.



1 2 3 4 5 6
CWTMini / 06 / R / 1 / 100 / 5

Example part codes

CWTMini/06/R/1/100/5

CWTMini peak current 120A, Rechargeable batteries, 1m cable, 100mm coil, 5kV pk, 4.5mm thick coil.

CWTMini/015/B/1/200/2

CWTMini peak current 30A, Alkaline batteries, 1m cable, 200mm coil, 2kV pk, 3.5mm thick coil.

Generating the part code

- 1 **Model**
- 2 **Range**
- 3 **Battery Option**
- 4 **Cable Length (m)**
- 5 **Coil Length (mm)**
- 6 **Insulation (kV)**



Included as standard

- ✓ Carry Case
- ✓ Unit Model
- ✓ Batteries (B or R)
- ✓ 0.5m BNC Output Cable
- ✓ Calibration Certificate

Optional Extras

- + Longer Cable
- + Longer Coil
- + Power Adaptor (UK, EU, US, AU)

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

Powertek

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