



The **DCflex** current probe from Power Electronic Measurements Ltd is an easy to use, economical, clip-around DC current probe.

It is suitable for measuring large dc currents of 2kA and greater.

The probe takes a **single shot measurement** of the DC current with a typical accuracy of $\pm 1\%$.

Applications

The DCflex current probe can be used wherever large DC current needs to be measured

- smelting plants
- cathodic protection
- hydro-generation
- DC connection buses between large users
- DC link (large inverter motor drives)
- plating plants
- verifying the performance of large dc shunts or hall effect transducers that are in-situ

Benefits and features

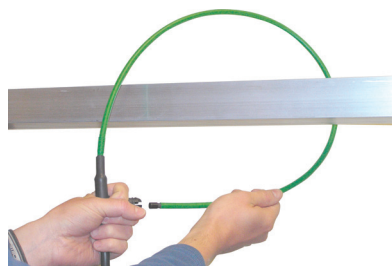
- thin, flexible, clip-around coil easy to insert in confined spaces
- accuracy typically $\pm 1\%$
- intrinsically safe, galvanically isolated measurement
- battery powered with an integral display on the enclosure, thus no need for external scopes or meters

Operation

The DCflex current probe is simple to use



Press the reset button.
Null the offset trimmer to zero



Clip the probe around
the dc busbar



Take the reading

OUTPUT AND RATINGS

| | |
|------------------------|----------------------------------|
| OUTPUT (Full Scale FS) | 1.999V |
| PEAK CURRENT (FS) | 9.999 / 19.99 / 29.99 / 39.99 kA |

Other current ratings and outputs are available on request

ACCURACY

| | |
|---|---|
| CALIBRATED WITH CONDUCTOR CENTRAL IN THE COIL | ± 0.4% of reading The DCflex is supplied with traceable calibration certificate to UKAS |
| TYPICAL VARIATION OF ACCURACY WITH POSITION OF A 20cm ² BUSBAR IN THE COIL | ± 0.5% reading |
| DISPLAY ERROR | 0.1% of FS |
| TEMPERATURE COEFFICIENT | -0.16% / °C clip - around coil ± 0.017% / °C electronics |
| ADDITIONAL MEASUREMENT UNCERTAINTY DUE TO INTERNAL NOISE | 10.0 A pk - pk (e.g. for the 10kA version 0.1% of FS, and for the 40kA version 0.025% of FS) |

MEASUREMENT DRIFT

| | |
|--------------|--|
| SET-UP DRIFT | 0.025% per sec (of reading) From reset to clipping the coil into its socket around the busbar |
| OUTPUT DRIFT | < 5.0A per sec From clipping the coil into its socket to taking a reading |

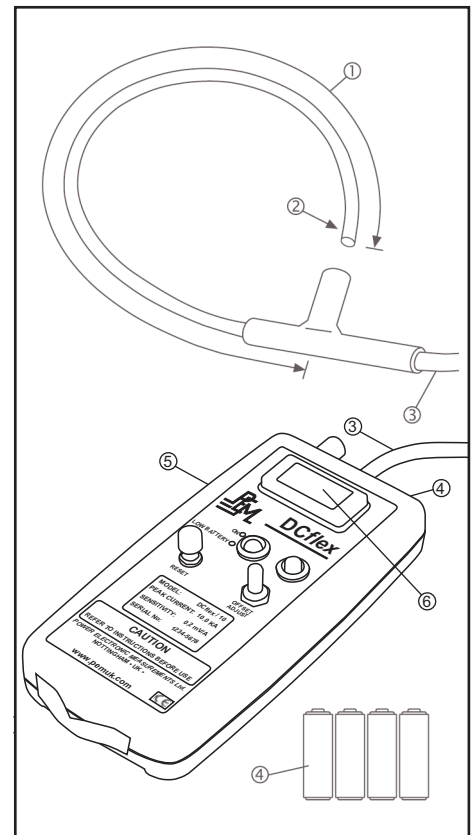
FOR FURTHER DETAILS OF THE DCflex PERFORMANCE CHARACTERISTICS PLEASE SEE FULL TECHNICAL DATA SHEET AVAILABLE FROM www.pemuk.com

COIL AND CABLE

| | |
|-----------------------------------|--|
| ① COIL CIRCUMFERENCE | 1000 or 2000mm |
| ② COIL CROSS SECTION (max) | 8.5mm |
| PEAK COIL VOLTAGE ISOLATION | 2kV Safe peak working voltage to earth. The coils are flash tested at 4kVrms / 50Hz for 60 seconds |
| TEMPERATURE RANGE | 0°C to 120°C For operation at high temperature please consult PEM |
| ③ CABLE LENGTH (from box to coil) | 1.5m |

INTEGRATOR AND DISPLAY

| | |
|-----------------------------|--|
| ④ POWER SUPPLY | Battery 4 x AA (1.5V standard alkali batteries) Typical life battery > 100hrs -plus- 2.1/2.5mm socket for 12V to 24V (±10%) DC input Battery inoperative with DC supply present |
| ⑤ INTEGRATOR BOX DIMENSIONS | H = 183mm, W = 93mm, D = 32mm |
| ⑥ DISPLAY | 1.999V max output (4digit display, 0.001V resolution) Alternative a version available to drive a DMM or oscilloscope directly |
| TEMPERATURE RANGE | 0°C to 40°C |



ORDERING

| | | | | | |
|-----------------|--------|---|---------------------|---|-------------------------|
| | TYPE | / | Current rating (kA) | / | Coil Circumference (mm) |
| e.g. order code | DCflex | / | 10 | / | 2000 |

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