

## DCM1500 1500 A TRMS clamp meter



- DC and AC current up to 1500 A
- True RMS measurement for greater accuracy
- Large jaw size safely assists with uninsulated conductor measurements
- 750 VAC and 1000 VDC
- Resistance, continuity and frequency
- Peak, min/max and data-hold functions

### DESCRIPTION

Measuring up to 1500 A ac or dc the DCM1500 also offers 750 Vac and 1000 Vdc ranges making the instrument ideal for use in the installation, maintenance, monitoring or checking of large a.c. or d.c. electrical systems and equipment.

The large clear digits of the numeric display are complemented by the high-resolution digital bar graph, useful for indicating trending and fluctuation of measurement. The backlight assists use in poorly lit areas such as distribution cupboards and corners of switchrooms; and the data-hold feature enables use on difficult access cables where otherwise the display may be impossible to see.

Min/Max hold provides the ability to store the maximum and minimum d.c. or rms values over a period of time. While storage is taking place, either the present, maximum or minimum value can be displayed. Peak hold stores the maximum and minimum peak value of an a.c. signal at a 10 ms sample rate. The auto-off feature automatically places the meter in power-save mode after 30 minutes from power-on, but this can be disabled if required for min/max measurements.

Using the Relative mode (REL), a stable value can be stored, the instrument zeroed at that point, and then any variation from that value is displayed as a direct measurement relative to it.

The DCM1500 is safety rated to IEC 61010-1 CAT IV 600 V, and is drop-tested to 1.2 m onto a hard floor. It is supplied with test leads and a carry case, and a full 1-year manufacturer's warranty.

### True RMS Measurement

By using True RMS measurement techniques the DCM1500 avoids the errors which can occur when non-sinusoidal waveforms created by today's complex loads are measured using traditional average sensing clamp meters.

### APPLICATIONS

The DCM1500 is designed to be used on electrical systems and equipment where there is a need to measure current, volts, resistance and frequency. It is therefore intended for use while installing, maintaining, fault-finding or monitoring those systems.

The tactile barrier below the jaws of the instrument ensures a safe working distance for the operator's hand when measuring current on live uninsulated conductors, although additional personal protection must still be used.

The min/max and peak-hold enable maximum load currents from equipment to be identified such as start-up currents to motors and heaters.

With the added benefit of d.c. current measurement, it can also be used in applications including domestic power generation from solar panels and wind-turbines; battery monitoring; automotive uses for charging and load circuits; electric vehicle servicing such as fork-lift trucks; lift maintenance; UPS commissioning, servicing and maintenance; electro-plating plants and welding equipment servicing.

# DCM1500

## 1500 A TRMS clamp meter

### SPECIFICATIONS

Accuracy is  $\pm$ (% reading + number of digits) at 23°C  $\pm$  5°C, less than 80% R.H.

#### AC current

| Range  | Resolution | Accuracy                         | Frequency Response | Overload Protection |
|--------|------------|----------------------------------|--------------------|---------------------|
| 400 A  | 0.1 A      | $\pm$ (1.5% reading + 5 digits)* | 50 Hz ~ 60 Hz      | 1500 A rms          |
| 1000 A | 1 A        | $\pm$ (1.9% reading + 7 digits)  | 50 Hz ~ 60 Hz      | 1500 A rms          |
| 1500 A | 1 A        | $\pm$ (2.5% reading + 7 digits)  | 50 Hz ~ 60 Hz      | 1500 A rms          |
| 400 A  | 0.1 A      | $\pm$ (1.9% reading + 5 digits)* | 61Hz ~ 400 Hz      | 1500 A rms          |
| 1000 A | 1 A        | $\pm$ (2.5% reading + 7 digits)  | 61 Hz ~ 200Hz      | 1500 A rms          |
| 1500 A | 1 A        | $\pm$ (3.0% reading + 7 digits)  | 61 Hz ~ 200 Hz     | 1500 A rms          |

**AC Conversion Type:** \* add 2 digits to accuracy when reading less 15% of full scale.

AC Conversions are ac-coupled, true rms responding, calibrated to the rms value of a sine wave input. Accuracies are given for sine wave at full scale and non-sine wave below half scale. For non-sine wave add the following Crest Factor corrections:

For Crest Factor of 1.4 to 2.0, add 1.0% to accuracy.

For Crest Factor of 2.0 to 2.5, add 2.5% to accuracy.

For Crest Factor of 2.5 to 3.0, add 4.0% to accuracy.

**Max.CF** 2 @ 600A  
1.5 @ 1500A

#### DC current

| Range  | Resolution | Accuracy                        | Over voltage protection |
|--------|------------|---------------------------------|-------------------------|
| 400 A  | 0.1 A      | $\pm$ (1.0% reading + 3 digits) | AC 1000 A for 1 min     |
| 1000 A | 1 A        | $\pm$ (1.9% reading + 7 digits) | AC 1000 A for 1 min     |
| 1500 A | 1 A        | $\pm$ (2.5% reading + 7 digits) | AC 1000 A for 1 min     |

Position Error: Add  $\pm$ 1% of LCD reading

#### AC voltage (auto-ranging)

| Range | Resolution | Accuracy   | Over voltage protection |
|-------|------------|--|-------------------------|
| 400 V | 100 mV     | $\pm$ (1.0% reading + 5 digits)<br>50 Hz ~ 500 Hz* | 750 V rms               |
| 750 V | 1 V        | $\pm$ (1.0% reading + 5 digits)<br>50 Hz ~ 500 Hz* | 750 V rms               |

\* add 2 digits to accuracy when reading less 15% of full scale.

**Input Impedance:**  $\geq$ 1 M $\Omega$ // less than 100pF.

#### AC Conversion Type:

AC Conversions are ac-coupled, true rms responding, calibrated to the rms value of a sine wave input. Accuracies are given for sine wave at full scale and non-sine wave below half scale.

For non-sine wave add the following Crest Factor corrections:

For Crest Factor of 1.4 to 2.0, add 1.0% to accuracy.

For Crest Factor of 2.0 to 2.5, add 2.5% to accuracy.

For Crest Factor of 2.5 to 3.0, add 4.0% to accuracy.

**Max.CF** 2 @ 600V  
1.5 @ 750V

#### DC voltage (auto-ranging)

| Range  | Resolution | Accuracy                        | Over voltage protection |
|--------|------------|---------------------------------|-------------------------|
| 400 V  | 100 mV     | $\pm$ (0.7% reading + 2 digits) | 1000 V rms              |
| 1000 V | 1 V        | $\pm$ (0.7% reading + 2 digits) | 1000 V rms              |

**Input impedance:**  $\geq$  1 M $\Omega$

#### Resistance and continuity

| Range            | Resolution     | Accuracy                        | Over voltage protection |
|------------------|----------------|---------------------------------|-------------------------|
| 0 – 400 $\Omega$ | 100 m $\Omega$ | $\pm$ (1.0% reading + 3 digits) | 600 V rms               |

**Continuity check:** buzzer sounds when resistance < 30  $\Omega$

#### Frequency

| Range       | Resolution | Accuracy                        | Over voltage protection |
|-------------|------------|---------------------------------|-------------------------|
| 20 – 400 Hz | 1 Hz       | $\pm$ (0.1% reading + 2 digits) | AC /DC 1000 A for 1 min |

**Sensitivity:** 3 A rms for < 400 Hz

**Auto power down**

The meter will automatically shut itself off after approximately 30 minutes after power on.

**Peak Hold:** ±(3% reading +10 digits)

\* >750 V Unspecified.

\* >800 A Unspecified.

**Min/Max Hold:** Add ± 15 dgt to accuracy for ACA and DCA.

**LCD**

Display 3 <sup>3</sup>/<sub>4</sub> digit large scale readout

Count 4000

Overrange "OL"

**Power supply**

1 x PP3 MN1604 6LR61 alkaline cell

**Battery life:** 100 hours

**Operating temperature range and humidity**

0 °C - 30 °C (≤ 80% RH)

30 °C - 40 °C (≤ 75% RH)

40 °C - 50 °C (≤ 45% RH)

**Conductor size**                      **Maximum conductor size:** 51 mm

**Safety**                                      IEC61010-1 CAT IV 600 V  
For use on uninsulated conductors

**EMC**                                        EN61326-1

**Pollution degree**                      2

**Storage temperature range**

-20°C - + 60°C 0 to 80% RH (Battery removed)

**Dimensions**                              105 mm (W) x 275 mm (L) x 48 (H)

**Weight**                                      524 g including battery

**ORDERING INFORMATION**

| Description                          | Order Code |
|--------------------------------------|------------|
| DCM1500 clampmeter<br>1500 A ac & dc | 1005-572   |
| <b>Included accessories</b>          |            |
| Battery                              |            |
| Pouch                                |            |
| Testleads red and black              |            |
| <b>Optional accessories</b>          |            |
| <b>Replacement testleads</b>         |            |
| Test lead set and crocodile clips    | 1002-001B  |
| Fused test lead set                  | 1002-015B  |

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