

DCM2000P Power Clampmeter

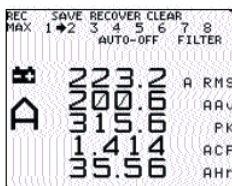


- **W, VA, VAR, kWh AND Power Factor measurement even on distorted waveforms**
- **AC/DC Current up to 2000Amps**
- **True rms, Peak, Crest Factor, THD, DF, Frequency measurement, and DC Ripple**
- **3 Phase Power capability**
- **Live Harmonic Analysis, bargraph display**

DESCRIPTION

The new Megger® DCM2000P Power Clampmeter combines the functionality of power meter, oscilloscope, harmonics meter and data logger in one easy to use package. The design meets the requirements of BSEN 61010-1 600V Cat IV for supply side applications. A large backlit dot matrix LCD clearly displays waveforms, harmonics, chart trends and up to 5 parameters at a time. The DCM2000P can measure DC, AC, pulsed and mixed currents up to 2000 A, voltages up to 600 V, all power related parameters including energy consumption, frequency, crest factor, total harmonic distortion, distortion factor and ripple. It features auto-ranging and auto-zeroing and has a built-in 3-phase adapter for power measurements. This battery-operated precision power meter can transmit both stored and live measurements to a PC running PowerLog software for further analysis if required. The DCM2000P is ideally suited to measuring mains power quality and applications in the development, installation, maintenance and repair of equipment and devices used in power electronics and power engineering. It simplifies the compensation of reactive power, even for complex waveforms with high harmonic distortion.

Multi-Parameter Simultaneous Display

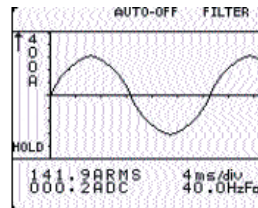


Measurement Techniques

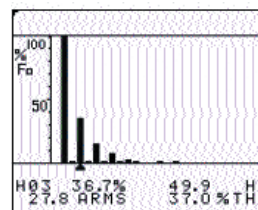
Voltages may be measured using the test leads supplied whilst current measurement is effected by simply clamping the jaws around the appropriate conductor. Where power measurements are to be made both techniques above are performed simultaneously.

The DCM2000P measures true power, apparent power, reactive power and power factor.

Oscilloscope / Harmonics Functions



Measured signals may be displayed graphically to indicate waveshape and distortion. Alternatively, by the press of a single key the harmonic content of the signal, up to the 25th harmonic can be displayed.



Measurement Technology

The DCM 2000P utilises a Hall effect sensor for accurate measurements. The magnetic circuit comprises the two jaws and a gap which provides a concentration of the magnetic flux at the Hall generator. The overall geometry of the jaws and the gap has been designed such that the measured value is not affected by an off-centre position of the conductor. The magnetic characteristics of the material used in the jaw tolerate overload currents up to 10,000 A without causing any disturbing residual magnetism. A highly linear electric/magnetic conversion is performed by the magnetic circuit, and a subsequent, equally linear, magnetic/electric conversion by the Hall generator. A voltage is generated which is a true image of the measured current, no matter whether the current is DC, AC, pulsed, mixed or of a complex waveform. External magnetic fields have little or no effect on the accuracy of the DCM2000P.

Safety

For enhanced safety in hazardous environments such as incoming supplies for commercial premises the DCM2000P has been designed to be safe to use on supplies rated up to IEC 61010 Installation Category IV 600V or Category III 750V.

Data Logging

The DCM 2000P may be used to perform data logging to its internal non-volatile memory, or in real time to a serially connected PC running the optional PowerLog software. In PC mode data is continually sent to the PC and is not stored in the instruments memory. All the parameters shown on the display are logged. When internal logging is selected, up to 5000 readings may be stored, (2500 sets of two or 1000 sets of 5 parameters). The maximum logging period is determined by the memory capacity and the battery life, (24hrs in this mode). A chart display screen is also available to show the variation of single parameter during the logging period.



DCM2000P - Chart Display

PowerLog

The optional PowerLog interface and software package allows data logging directly to a PC and simple transmission of stored data for further analysis and archiving. In addition to logging up to five parameters at a time it is also possible to log waveforms and harmonics screens together with THD values. This ensures fast identification and quantification of intermittent harmonics problems.

PowerLog chart table and harmonics Modes



The DCM2000P and PowerLog have been designed for ease of use with Quick Log functions and simple data download of saved screens and internally logged data. Data presentation is in chart or table format for quick identification and analysis of trends. For report preparation graphics and data can be easily exported into other applications.

POWERLOG - KEY FEATURES

When used with the DCM2000P PowerLog exhibits the following key features:

- Easy to use Windows format
- Data presentation in display mimic
- Table and chart modes
- Waveform and data download
- Harmonic analysis of waveforms
- Logging of up to five parameters
- Simple exporting of data and trends into other Windows applications.

PowerLog - System Requirements:

The minimum PC configuration to run PowerLog is as follows:

- 486-66MHz Processor
- 8 MB Ram
- 5 MB Hard Disk space free
- Microsoft Windows 3.1x, 95 or NT

PowerLog is supplied complete with serial communications lead. Temperature

Power

6x 1.5V Alkaline MN1500, IEC LR6 or equivalent

Communications:

RS232 via special lead supplied with PowerLog

Standards and Approvals

The DCM2000P complies with the latest international directives concerning safety and electromagnetic compatibility

- European low voltage directive 73/23/EEC and 93/68/EEC
- European EMC Directive 89/336/EEC and 93/68/EEC
- Submitted for approval to UL 3111-1

FEATURE	DCM2000P	ACCURACY	RESOLUTION
Jaw Capacity	60mm ø		
Measurement modes	AC / DC, AC+DC		
TRMS	•		
A Ranges (autoranging)	40/400/2000 A	±1.5% rdg. ±5 dgts	0.01/0.1/1 A
V Ranges (autoranging)	4/40/400/600 V	±1% rdg. ±5 dgts	0.001/0.01/0.1/1 V
kW/kVA/kVAR Ranges (autoranging)	4/40/400/1200 kW/kVA/kVAR	±2.5% rdg. ±5 dgts	0.001/0.01/0.1/1 kW
kWHr (autoranging)		±3% rdg. ±5 dgts	0.001/0.01/0.1/1/10 kWhr
Frequency	4,40,400,4000, 40,000 kHz	0.5% rdg (40-70Hz)	0.1Hz
Crest Factor	10 Hz-1 kHz	±3% rdg.±5 dgts (CF1-3)	0.01
Total Harmonic Distortion	1-5	±3% rdg.±5 dgts	0.1%
Distortion Factor	1-600%		
Harmonics Bargraph	•		
Smart Save	•		
Ripple	•		
Peak, Average	•		
REC Min, Max, Av	•		
Memory	•		
Digital Output	8 Screens		
Logging	•		
Chart mode	int/ext 5,000 rdgs		
Oscilloscope mode	•		
Multi Parameter Display	2/4/20/50 ms/div		
Back light	Up to 5		
3 Phase Capability	•		
PowerLog Compatibility	•		
Maximum overload	•		
Safety BSEN 61010	10,000 A		
	600 V Cat IV, 750 V Cat III		

Safety Standards

IEC 1010-1-1992 EN 61010-1 1992-09 safety Requirements for electrical equipment for measurement, control, and laboratory use.

Part 2-032: 1994-12 Particular Requirements for hand-held current clamps for electrical measurement and test.

Part 2-031 1993-02 Particular Requirements for hand-held probe assemblies for electrical measurement and test

600V Cat IV (750V CatIII) Pollution Degree 2.

Electromagnetic Compatibility

In accordance with IEC61326 including Amendment No.1.

Physical Specifications

Weight: (including batteries): 820g (1.8lbs)

Length: 300mm (12 inches)

Depth: 98mm (3.75 inches)

Height: 52mm (2 inches)

ORDERING INFORMATION

Item	Order Code
Power Clampmeter	DCM2000P
Included Accessories	
User Guide	
Test Leads	
Carry Case	
Optional Accessory	
Powerlog data download software & cable	6220-633

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