## *MEGGER® CM500*

- **Combines the functions of several instruments in one package**
- **Low-current loop for testing surge-sensitive supplies**
- **GFCI test eliminates the need for a neutral connection**
- **Stores approximately 750 different test results in internal memory**
- **Recalls results to the display for manual certificate completion**
- **Output available to print test results on site**

# Multifunction Installation Tester

## DESCRIPTION

The MEGGER® CM500 Multifunction Installation Tester is a compact product that combines all the functions required to fully test domestic, commercial and industrial fixed wiring in accordance with international standards. The CM500 is the first installation tester with a low-current loop test suitable for testing surge-sensitive supplies such as Uninterruptible Power Supplies (UPS), which will also not trip GFCIs rated 30 mA or above. Its memory and storage capability offers recall of stored all to display, download to a PC, and serial output for printing on site.

## APPLICATIONS

The MEGGER CM500 is used for testing and commissioning electrical installations in accordance with the wiring regulations. It is suitable for use on all internal, single- or three-phase wiring systems, classified IEC 1010 Installation Category III, with rated voltages up to 300 V ac rms to ground, 480 V phase to phase.

The CM500 is the ideal instrument for:

• Electricians and electrical contractors for testing installations as part of a routine preventive maintenance program, as well as on all new installations and modifications to existing installations.

• Site electricians and maintenance crews during preventive maintenance checks to ensure facility reliability, and following modification or expansion of the electrical installation.

• Utilities for testing and inspecting customer premises prior to connection of the electrical supply.

• Electrical inspectors during quality checks following installation work.

• Schools and colleges during practical sessions within electrical installation and installation testing classes.

## FEATURES AND BENEFITS

• Stores test results in the internal memory, saving time and money and helping eliminate human error.

• Direct serial printer driver output enables on-site printing of results.

• RS232 output for connection to a PC provides the ultimate solution with computerized reporting and certification.

• Recalls stored results to the display for review and facilitates the manual recording and completion of reports and certificates.

• Patented analog arc & digital display is useful in identifying insulation breakdown and intermittent continuity measurements, as well as eliminating human errors in results interpretation.

• Selectable display backlight allows results to be easily read in dark distribution cupboards and on de-energized systems where no mains lighting is available.

• With the variable ground-fault circuit interrupter (GFCI) test currents available, there is no need to use a costly specialized tester when these devices are encountered.

• Simple two-wire loop and GFCI tests eliminate the need for a neutral connection.

• Power-saving features extend battery life and reduce costs.

• Automatically measures supply voltage and frequency, eliminating the need for additional testers and warning of dangerous live systems.

• Test lead null facility allows up to 10 Ω of test lead resistance to be automatically subtracted from continuity resistance readings.

• Test lead null retained during switch off eliminates the requirement to null leads every time the product is switched on.

• Loop and GFCI tests performed at 100 to 480 V, 45 to 65 Hz is suitable for use on all domestic, commercial and industrial supply variants.

• Prospective fault currents displayed directly in kA eliminates errors associated with manual calculation processes.

• Measures ground electrode resistance, saving money otherwise required to purchase additional products.

• Low-current loop impedance test enables electrical contractors to perform loop tests without the fear of prematurely aging UPS systems or interrupting the customer's supply.

## SPECIFICATIONS

**Supply Voltage Measurement**
25 to 500 V ±2% ±2 digits

**Supply Frequency Measurement**
dc 16.0 to 460 Hz ±0.1% ±1 digit

**Insulation Test Ranges**
250, 500 and 1 kV dc into 1 mA load
1 kΩ to 99.9 MΩ at 250 V
1 kΩ to 200 MΩ at 500 V
1 kΩ to 499 MΩ at 1 kV
±2% ±2 digits (up to 99 MΩ)

**Continuity and Resistance Ranges**
0.01 Ω to 99.9 Ω ±2% ±2 digits
100 Ω to 99.9 kΩ ±5% ±2 digits

**Open Circuit Voltage**
4 to 5 V dc

**Test Current**
200 to 250 mA up to 2 Ω

**Loop and Ground Resistance Ranges Line/Ground and Ground Electrode**
Supply: 100 to 280 V, 45 to 65 Hz
0.01 Ω to 9.99 Ω ±5% ±0.03 Ω
10.0 Ω to 89.9 Ω ±5% ±0.5 Ω
90 Ω to 899 Ω ±5% ±5 Ω
900 Ω to 3.00 kΩ ±5% ±20 Ω

**Line/Line (Phase/Phase)**
Supply: 100 to 480 V, 45 to 65 Hz

0.01 Ω to 19.99 Ω ±5% ±0.03 Ω

**Low Current Loop Test (15 mA)**
Supply: 100 to 280 V, 45 to 65 Hz
0.1 Ω to 200 kΩ ±3% ±0.03 Ω
200 to 1.99 kΩ ±5% ±5 Ω

Noise Immunity: 1 σ within ±0.3 Ω

**Prospective Short Circuit Current (PSCC)**
Calculated from measured supply voltage

**GFCI Test Ranges**
Supply: 100 to 280 V, 46 to 65 Hz
$I_{\Delta n}$ – variable test current 5 mA to 1 A

Current accuracy: ±3%

No Trip (1 & 1/2 $I_{\Delta n}$), Trip $I_{\Delta n}$, $5I_{\Delta n}$

General, dc and selective GFCIs trip timing 0.1 ms to 10 s ±1% ±1 ms

Auto sequence testing facility

**Power Supply**
8 x 1.5 V Alkaline cells type AA or 1.5 V nickel-cadmium rechargeable cells.

**Fuses**
Replaceable 500 mA (F) HBC 10 kA 500 V.
Non-replaceable 7 A (SIBA 70-065-63)

**Safety**
Double insulated to IEC1010-1 (1995), EN61010-1 (1995) Installation Category III, 230 V phase-ground, 440 V phase-phase

**EMC**
Meets EN50081-1, EN50082-1 and IEC1326-1

**Dimensions**
9.65 x 7.87 x 3.74 in. (245 x 200 x 95 mm)

**Weight**
2.98 lb (1.35 kg)

## ORDERING INFORMATION

| Item | Cat. No. |
|---|---|
| MEGGER® Multifunction Installation Tester | CM500 |
| **Included Accessories:** | |
| Power cord | EV6220-654 |
| Two-wire test lead set, includes 2-wire test lead and probes (red and black) | EV6231-631 |
| Test and carry case | EV6420-114 |
| Test and carry case strap | EV6220-611 |
| (8) Size "AA" batteries | EV25511-841 |
| Alligator clip (red) | EV6280-283 |
| Alligator clip (black) | EV6280-284 |
| Setup and download software (3.5-in. disk) | EV6220-629 |
| Instruction manual | EV6172-403 |

| Item | Cat. No. |
|---|---|
| **Optional Accessories:** | |
| Three-wire lead set | EV6231-632 |
| SP2 switched probe kit | EV6231-636 |
| Fused prod and clip set | EV6180-405 |
| PC download lead | EV25955-025 |
| Printer download lead | EV25955-026 |
| Ground testing spike | EV5152-253 |
| Ground testing wire on winder, 30 m | EV6231-148 |
| Two-wire test lead set, 5 m | EV6231-637 |

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