CM500
Multifunction Insulation Tester

- **Combines the functions of several Instruments in one package**

- **Non-tripping Loop Test range for tests on RCD protected circuits**

- **RCD ramp test features actual tripping current**

- **Stores approximately 750 different test results in internal memory**

- **Recall results to the display for manual certificate completion**

- **Direct printer output for on-site printing of test results**

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 non-tripping Loop Test guaranteed not to trip any RCD rated 30 mA or above. Its memory and storage capability offers all data to display, download to a PC and a unique on-site print facility.

FEATURES

- Storage of test results
- Recall of test results to instrument display
- Direct serial printer output via RS232 port
- Connect to IBM compatible PC for storage of results
- Ramp Test for measuring RCD actual trip currents
- Variable RCD test current for programmable devices
- Designed and manufactured in accordance with International Safety Standards
- Insulation tests at 250 V, 500 V & 1000 V with 1 mA output
- Continuity tests with 200 mA short circuit capability
- Phase-Phase, Phase-Neutral, Phase-Earth Loop Tests
- High current Loop Testing with 0,01 Ω resolution
- Prospective Earth Fault and Short Circuit Current

- Low current Loop Test for non-tripping of RCDs
- Earth Electrode Resistance Test for simple systems
- No-trip, Trip and Fast Trip RCD testing
- Tests d.c. Sensitive, Selective and General Type RCDs
- Supply voltage, polarity and frequency indication
- Phase sequence indication using optional leads
- Complete with Carry Case, Test Leads and Certificate of Test

Tests in accordance with International Standards and National Wiring Regulations including BS7671 (16th edition wiring regulations) and Euro Standard EN61557.

Test lead resistances can be nulled and a continuity buzzer is incorporated for rapid identification of open and short circuits. Settable automatic polarity reversal and result averaging.

Loop tests are performed to a resolution of 0,01 Ω with direct display of PEFC and PSCC.

A unique low current Loop Test with 0,1Ω resolution for testing circuits protected by an RCD rated at 30 mA or above, without tripping the RCD, including the newer electronic ones.

Auto-ranging earth resistance function enables measurement of earth electrode resistance on TT systems.

Verification of the correct operation of RCDs rated between 10 mA and 1000 mA with trip timing up to 2000 ms. A ramp test indicate actual trip current to aid in fault diagnosis and variable test current function enables

the testing of programmable and specialist devices.

Upon connection to the mains supply the polarity and voltage are displayed to show correct wiring of the socket under test and warn of live voltages. Supply frequency is indicated at the touch of a button.

Approximately 750 different results may be saved into internal memory for use later on.

Stored results may be recalled to the CM500 display to enable reviewing and facilitate the manual recording and completion of test reports and certificates.

Test results may be printed directly on site by simply connecting an appropriate serial printer to the RS232 port.

A standard RS232 serial port enables test results to be downloaded to a PC for later use. The ultimate solution is provided with the use of PowerSuite™ for Windows™.

Meets or exceeds the requirements of EN61010-1 Category III 480 V (max) phase-phase.

SPECIFICATION

Supply Voltage measurement
25 to 500 V ±2% ±2 digits

Supply Frequency Measurement
d.c., 16,0 to 460 Hz ±0,1% ±1 digit

Insulation Test Ranges
250, 500 & 1kV d.c. into 1 mA load

1 kΩ to 99,9 MΩ @ 250 V

1 kΩ to 299 MΩ @ 500 V

1 kΩ to 499 MΩ @ 1k V

±2% ±2 digits (up to 99 MΩ)

Continuity & 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 - 5 V d.c.

Test current   200 - 250 mA up to 2 Ω

Loop & Earth Resistance Ranges Line / Earth & Earth 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 (15mA) Supply
100 to 280 V 45 to 65 Hz

0,2 Ω to 200 kΩ ±3% ±0,3 Ω

200 to 1,99 kΩ ±5% ±5 Ω

Noise immunity 1s within ±0,3 Ω

PEFC
Calculated from nominal supply voltage divided by loop resistance.

RCD Test Ranges
Supply 100 to 280 V 45 to 65 Hz

IDn – 10, 30, 100, 300, 500,

1000 mA & variable test current

10 mA to 1 A

Current accuracy

No Trip (**1/2 IDn**) -8% to 2% Trip (**I, 5I** 150 mA fast trip) +2% to +8% Ramp test ±3%

RCDs
Trip timing 0,1 to 1999 ms   ±1% ±1 ms

Contact voltage   0,1 to 90,0 V +10% -0% ±5 digits

Auto Sequence   150 mA 40 ms test

Power Supply
8 x 1,5V Alkaline cells type LR6 or 1,5V nickel cadmium rechargeable cells.

A new set of alkaline battery cells will typically give more than 4500 insulation or 3250 continuity tests.

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, 230V phase-ground, 440V phase-phase.

E.M.C.
In accordance with IEC61326 including Amendment No.1

EN61557
Complies with the following parts of EN61557, electrical safety in low volatge ystems upto 1000 V a.c. and 1500 V d.c. - Equipment for testing, measuring or monitoring of protective measures:-
Part 1- General requirements

Part 2- Insulation resistance

Part 3- Loop resistance

Part 4- Continuity

Part 6- Residual current devices (RCD)

Part 10- Combined measuring equipment

Dimensions
245 mm x 200 mm x 95mm

Weight 1.35 kg

ORDERING INFORMATION

Item	Order Code
Multifunction Tester (UK)	CM500UK
Multifunction Tester (German)	CM500GM
Multifunction Tester (French)	CM500FR
Multifunction Tester (Dutch)	CM500NL
Multifunction Tester (Czech)	CM500CZ
Multifunction Tester (Finnish)	CM500FL
Multifunction Tester (Swedish)	CM500SW
Multifunction Tester (Italian)	CM500IT
Multifunction Tester (Spanish)	CM500SP
Multifunction Tester (Euro)	CM500EU
Included Accessories	
Instruction Book	
Test/Carry pouch	
Mains Lead	
Carrying Strap	
Crocodile clips (red & black)	
2 wire test lead set	6231-631
Optional Accessories	
3 wire test lead set for phase rotation indication	6231-632
2 wire test lead set	6231-631
2 wire test lead set with test switch in probe	6231-636
2 wire lead set with 5 metre length	6231-637
Test lead with Schuko plug	6231-635
Test lead with UK mains plug	6231-633
Earth bond test lead set	6231-634
Printer connection lead	25955-026
Computer connection lead	25955-025
Fused prod and clip set	6180-405