DCM300E Earth Leakage Clamp Meter

Safety Warnings

- **Do not** take measurements beyond maximum selected range.
- Take extreme care and keep hands behind the hand guard when taking measurements above 30 V RMS.
- **Do not** operate the instrument with the battery cover removed.
- **Do not** operate the instrument if any part of it is damaged.
- **Do not** operate the instrument in environments subject to high temperature, damp, humidity or excessive vibration.
- Safety Warnings **must** be read and understood before the instrument is used, and **observed** during use.

NOTE

THE INSTRUMENT MUST ONLY BE USED BY SUITABLY TRAINED AND COMPETENT PERSONS

General Description

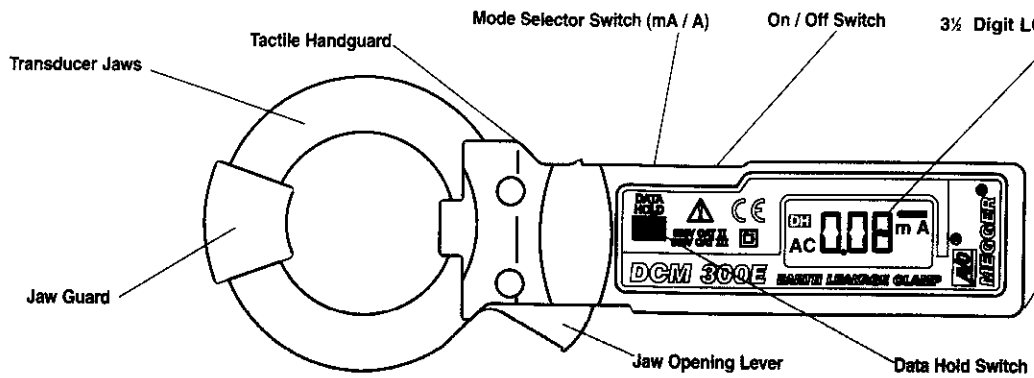
The ***DCM300E*** is a rugged lightweight pocket size clamp meter designed to measure a.c. earth leakage currents. This enables earth leakage faults to be detected and located without having to isolate and disconnect circuit wiring. Additionally, the ***DCM300E*** measures a.c. circuit currents up to 300 Amps.

Powered by two LR44 or SR44 cells, the instrument design takes full advantage of microprocessor technology and features a clear 3½ digit LCD combining digital and bar-graph analogue readings.

The two position mode switch provides 4 ranges; 30 mA, 300 mA, 30 A and 300 A, with minimum resolution of 0,01 mA on the 30 mA range.

To conserve battery power, **Auto shut off** operates after a period of 10 minutes of inactivity by the instrument. The instrument can be switched back on by selecting **Off** and then **On** again.

Features and Controls



Battery Cover Screw

The correct size screw must be used and fitted to ensure battery cover security, and safe operation.

Measurement of Leakage Current

Earth Conductors

1) Set the range selector switch to the 30 /300 mA position.
2) Set the Power switch to **On**.
3) Ensure that the Data hold switch is **Off**. DH is **not** displayed.
4) Clamp the jaws around the earth conductor.
5) If necessary, press the Data hold switch. DH is displayed.
6) Take the reading from the Digital and/or Bar-graph display.

Single phase or 3 phase conductors

1) Set the range selector switch to the 30 /300 mA position.
2) Set the Power switch to **On**.
3) Ensure that the Data hold switch is **Off**. DH is **not** displayed.
4) Clamp the jaws around the two single phase conductors, or the 3 conductors in the case of 3 phase.
5) If necessary, press the Data hold switch. DH is displayed.
6) Take the reading from the Digital and/or Bar-graph display.

Measurement of Line Current

1) Set the range selector switch to the 30 /300 mA position.
2) Set the Power switch to **On**.
3) Ensure that the Data hold switch is **Off**. DH is **not** displayed.
4) Clamp the jaws around **one** conductor of the circuit under test.
5) If necessary, press the Data hold switch. DH is displayed.
6) Take the reading from the Digital and/or Bar-graph display.

Battery Replacement

1) When the symbol ▬ appears on the display, the two 1,5 V button cells must be replaced.
2) Switch the ***DCM300E*** Off.
3) Loosen the **small cross head** screw securing the battery cover, and remove the cover. **Take care not to lose the small screw**.
4) Remove both exhausted cells and carefully fit two new cells into the recess. Position both cells +ve side up.
5) Replace the battery compartment cover and re-secure with the small cross head screw.

Specification

Display:	3½ digit L.C.D.
Maximum Indication:	3200.
Over Range Indication:	OL
Data Hold Indication:	HOLD
Low Battery Indication:	2.5 V ~ 2,7 V
Auto Shut-Off:	Operates after approximately 10 minutes of instrument inactivity.
Accuracy:	(23 °C ± 5 °C and 80% R H non-condensing).

Range	Min. Resolution	Accuracy
30 / 300 mA	0,1 mA	± 1,2% of reading ± 5 digits.
30 / 300A	0,01 mA	0 - 200A ± 1,2% of reading ± 5 digits.
		200 - 250A - 3,0% of reading ± 5 digits.
		250 - 300A ± 5,0% of reading ± 5 digits.

Limitation of Circuit Voltage:	Less than 600 V a.c.
Sampling Time:	Digital - Approx 2 x per second.
	Analogue - Approx 12 x per second.
Operating Temperature:	0°C - 40°C, <80% RH (Non condensation).
Storage Temperature:	-10°C - 60°C, <70% RH (Non condensation).
Power Source:	2 x 1,5 V Button battery type LR44 or SR44.
Power Consumption:	Approx 5 mW.
Battery Life:	Typically 50 hours.
Flash Test:	3700 V a.c. / 1 minute max (Between CT core and housing).

Safety: Meets the requirements for double insulation to IEC 1010-2-032, IEC1010-1 (1995), EN 61010-1 (1995) installation Category II*, 600 Volts phase to earth, Category III** 300 V phase to earth, 500 Volts phase to phase.

E.M.C: The instrument meets EN 50081-1 and EN 50082-1 (1992).

Jaw Opening Capability: 40 mm diameter.

Dimensions: 64 mm x 176 mm x 23 mm

Weight: Approximately 125 gm.

Cleaning: Wipe with a clean cloth damped with soapy water or Isopropyl Alcohol (IPA).

* Relates to transient overvoltage likely to be found in portable equipment and appliances.

** Relates to transient overvoltage likely to be found in fixed installation wiring.

Repair and Warranty

The instrument circuit contains static sensitive devices, and care must be taken in handling the printed circuit board. If the protection of an instrument has been impaired it should not be used, and be sent for repair by suitably trained and qualified personnel. The protection is likely to be impaired if, for example, the instrument shows visible damage, fails to perform the intended measurements, has been subjected to prolonged storage under unfavourable conditions, or has been exposed to severe transport stresses.

New Instruments are Guaranteed for 1 Year from the Date of Purchase by the User.

Note: Any unauthorized prior repair or adjustment will automatically invalidate the Warranty.

Instrument Repair and Spare Parts

For service requirements for ***MEGGER***® Instruments contact :-

AVO INTERNATIONAL
Archcliffe Road
Dover
Kent, CT17 9EN
England
Tel: +44 (0) 1304 502243
Fax: +44 (0) 1304 207342

or

AVO INTERNATIONAL
510 Township Line Road
Bluebell
PA 19422-2795
U.S.A.
Tel: +1 (215) 646-9200
Fax: +1 (215) 643-7215

or an approved repair company.

Approved Repair Companies

A number of independent instrument repair companies have been approved for repair work on most ***MEGGER***® instruments, using genuine ***MEGGER***® spare parts. Consult the Appointed Distributor / Agent regarding spare parts, repair facilities and advice on the best course of action to take.

Returning an Instrument for Repair

If returning an instrument to the manufacturer for repair, it should be sent freight pre-paid to the appropriate address. A copy of the Invoice and of the packing note should be sent simultaneously by airmail to expedite clearance through Customs. A repair estimate showing freight return and other charges will be submitted to the sender, if required, before work on the instrument commences.

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