

DIGITAL EARTH TESTERS

DET4TC2 and DET4TCR2 Digital Ground Testers

DESCRIPTION

Megger's DET4 family of ground testing instruments offers a comprehensive solution to your ground stake and soil resistivity testing needs.

The standard instrument comes with test leads, stakes, terminal adaptors for bare wire, batteries and calibration certificate are delivered in a tough carry case which has space to accommodate all the instrument accessories - everything you need to start testing in one kit.

- IP54 rated
- 2, 3 and 4 point testing
- Attached Rod Technique (ART)
- Stakeless measurements
- User selectable test frequency
- Dry cell or rechargeable versions
- User selectable output voltage
- Simple one button operation
- Robust carry case
- Backlit display
- Delivered with calibration certificate

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The DET4TC2 and DET4TCR2 are designed for extended temperature range use with an IP54 rated enclosure making them genuinely outdoor instruments. The instrument provides all the functions required for ground system testing: variable frequency 2 pole, 3 pole, 4 pole, Attached Rod Technique (ART), stakeless, leakage current and ground noise voltage measurement.

The instrument is easy to use with a large rotary selector switch and one-press test button, both of which permit operation with gloved hands. Unlike some instruments, the design negates the need for a shorting link when making two pole measurements.

There are no hidden functions with the instrument: clearly labelled auxiliary controls are used to select the test frequency (94 Hz, 105 Hz, 111 Hz and 128 Hz), output voltage (50 V or 25 V where local standards apply) and to switch the backlight on or off. The optional MCC CLAMP augments the traditional fall-of-potential measurement method with ART (Attached Rod Technique) which allows electrode testing without disconnection and also leakage current measurements down to 1 mA. A second optional clamp, the MVC CLAMP, enables true stakeless measurements to be made in situations where driving stakes is not practical. The clear, easy-to-read display provides excellent contrast and viewing angle making the instrument ideally suited to outdoor use.

The display is backlit, extending the operational environment of the instrument to cable cellars and other dark locations.

DATASHEET

3.3

EARTH TESTERS



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Ingress protection

IP54

C stake, P stake and Noise check

Automatic

Noise rejection

40 V pk to pk

2-wire, 3-wire, 4-wire test

Yes, no shorting links required

No disconnect testing (ART)

Yes, with MCC CLAMP

Stakeless measurement

Yes, with MCC CLAMP and MVC CLAMP

Instrument output

Voltage: ± 25 V or ± 50 V at 94 Hz, 105 Hz, 111 Hz and 128 Hz

Current: 4.5 mA or 0.45 mA or 0.045 mA

Ground current range with clamp

0.5 mA to 19.9 A

Ground current accuracy

5% ± 3 digits

Ground voltage range

0 to 100 V ac

Ground voltage accuracy

2% ± 2 V

Resistance ranges

2, 3, 4 pole: 0.01 Ω to 200 k Ω

ART: 0.01 Ω to 200 k Ω

Stakeless: 0.01 Ω to 200 Ω

Resistance accuracy

2P measurements: 2% ± 3 digits

3P measurements: 2% ± 3 digits

4P measurements: 2% ± 3 digits

ART measurements: 5% ± 3 digits

Stakeless measurements: 7% ± 3 digits

Maximum probe resistance

R_p limit: 200 k Ω (50 V output voltage)

R_c limit: 200 k Ω (50 V output voltage)

Limits reduced to 100 k Ω for 25 V output voltage

Limits reduced to 5 k Ω for 0.01 Ω resolution

Display

3½ digit high contrast liquid crystal, backlight

Battery type

DET4TC2: 8 off AA (LR6) cells

DET4TCR2: 8 off AA (LR6) NiMH rechargeable cells

Operating temperature range

-15 °C to +55 °C / 5 °F to 131 °F

Storage temperature range

-40 °C to +70 °C / -40 °F to 158 °F

Safety

Complies with the requirements of IEC61010-1 100V CAT IV between terminal pairs.*

EMC

In accordance with IEC61326-1

Standards Compliance

Complies with the requirements of KEMA K85B

Complies with the following parts of EN61557, "Electrical safety in low voltage distribution systems up to 1000 V a.c. and 1500 V d.c. - Equipment for testing, measuring or monitoring of protective measures".

Part 1 - General requirements

Part 5 - Resistance to earth

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The instrument offers a wide measurement range of 0.01 Ω a to 200 k Ω , ground noise voltage measurement from 1 V to 100 V and ground current from 1 mA to 20 A. Accurate results can be obtained in electrically noisy environments since the instrument is capable of rejecting noise voltages of 40 V peak to peak and the user can select different test frequencies to minimise the effect of interference. The DET4TC2 digital ground tester is powered from 8 AA batteries which are widely available and deliver excellent testing time. The DET4TCR2 is powered from rechargeable AA cells. The battery charger is built in and the instrument is supplied with an AC/DC adaptor. For both instruments, the battery status is display using a bar-graph. The Megger ground testers comply with stringent safety standards and are rated to 100 V CAT IV. They also have selectable 25 V or 50 V output for compliance with IEC 61557-5.

Dimensions

203 mm x 148 mm x 78 mm (8 in x 5.8 in x 3 in)

Weight

1kg (2.2lb) *The CAT IV 100 V rating is dependant on the use of a lead set of at least this rating, for example the optional two wire leadset part number 1001-



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