

# DET4TC & DET4TCR

## Digital Ground Testers



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

### DESCRIPTION

The new Megger ground testing instrument family offers a comprehensive solution to your ground stake and soil resistivity testing needs. The complete kit comprising the instrument, test leads, stakes, 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.

The DET4TC and DET4TCR 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: 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 output voltage (50 V or 25 V where local standards apply) and to switch the backlight on or off.

The optional ICLAMP 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 VCLAMP, 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.

The instrument offers a wide measurement range of 0.01  $\Omega$  to 20 k $\Omega$ , 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.

The DET4TC Digital Ground tester is powered from 8 AA batteries which are widely available and deliver excellent testing time. The DET4TCR 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.

**SPECIFICATIONS****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 ICLAMP

**Stakeless measurement**

Yes, with ICLAMP and VCLAMP

**Instrument output**Voltage:  $\pm 25$  V or  $\pm 50$  V at 128Hz

Current: 4.5 mA or 0.45 mA

**Ground current range with clamp**

0.5 mA to 19.9 A

**Ground current accuracy**5%  $\pm 3$  digits**Ground voltage range**

0 to 100 V ac

**Ground voltage accuracy**2%  $\pm 2$  V**Resistance range**0.01  $\Omega$  to 20 k $\Omega$ **Resistance accuracy****2P measurements:** 2%  $\pm 3$  digits**3P measurements:** 2%  $\pm 3$  digits**4P measurements:** 2%  $\pm 3$  digits**ART measurements:** 5%  $\pm 3$  digits**Stakeless measurements:** 7%  $\pm 3$  digits**Maximum probe resistance****R<sub>p</sub> limit:** 100 k $\Omega$  (50 V output voltage)**R<sub>c</sub> limit:** 100 k $\Omega$  (50 V output voltage)Limits reduced to 50 k $\Omega$  for 25 V output voltageLimits reduced to 5 k $\Omega$  for 0.01  $\Omega$  resolution**Display**

3 1/2 digit high contrast liquid crystal, backlit

**Battery type****DET4TC:** 8 off AA (LR6) cells**DET4TCR:** 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 EN61010-1 100V CAT IV between terminal pairs.

**EMC**

In accordance with IEC61326 including amendment No.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

**Dimensions**

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

**Weight**

1kg (2.2lb)

**ORDERING INFORMATION**

Item	Order Code.	Item	Order Code.
Digital 2, 3 and 4 terminal ground tester	DET4TC	<b>Spares</b>	
Rechargeable digital 2, 3 and 4 terminal ground tester and external AC/DC adaptor	DET4TCR	Replacement hard carry case	5410-429
Professional digital ground tester kit (DET4TC, VCLAMP and ICLAMP, field calibration check for instrument and CLAMPS, right angled adaptor kit)	DET4TC-KIT	Replacement calibration check PCB (two-clamp measurements)	6220-831
Professional digital ground tester kit (DET4TCR, VCLAMP and ICLAMP, field calibration check for instrument and CLAMPS, right angled adaptor kit)	DET4TCR-KIT	Replacement ground test stakes (x2) for included kit (200mm, 8mm dia)	6220-804
<b>Included Accessories</b>		Replacement ground test leads (x4) for included kit (15m, 10m, 10m, 3m)	6220-806
Hard carry case		Replacement auger stake for professional kit	6220-839
Stake and wire kit (15m, 10m, 10m, 3m)		Replacement cable reel (50m, red cable) for professional kit	6220-840
External AC/DC adaptor (DET4TCR only)		Replacement cable reel (50m, black cable) for professional kit	6220-841
<b>Optional Accessories</b>		Replacement cable reel (30m, green cable) for professional kit	6220-843
Current measuring clamp and connecting lead	ICLAMP	Replacement cable reel (30m, yellow cable) for professional kit	6220-842
Voltage inducing clamp, calibration check PCB (two-clamp measurements) and connecting lead	VCLAMP	Replacement external AC/DC adaptor (DET4TCR only)	6280-370
Calibration check box	6220-824		
Right angled terminal adaptor set	6220-803		
Black crocodile clip (1)	6220-850		
Professional ground testing kit (2x 50m, 2x30m, 4 auger stakes, carry case)	6320-245		
Auxilliary 12V socket charger (DET4TCR only)	6280-375		
'Getting down to earth'			
A Megger guide to earth testing	21500-072		