DET14C and DET24C
Digital Earth Clamps



- **Elliptical clamp shape improves access to earth cables and straps up to 50 mm**
- **Low maintenance flat jaw interface**
- **Measures ground resistance from 0.05 Ω to 1500 Ω**
- **Measures true RMS ground leakage current from 0.5 mA rms to 35 A rms**
- **CAT IV 600 V safety rating**
- **Backlit LCD Display**

DESCRIPTION

The DET14C and DET24C represent a new generation of earth/ground clamp-on resistance testers. These instruments induce a test current into earth systems and measure ground resistance in multi ground installations without needing to disconnect the ground. They offer market leading access, advanced features, simple operation and CAT IV 600 V safety protection.

Designed with flat core ends they prevent dirt build up, ensuring measurement integrity and improved reliability over products with interlocking teeth. Other enhancements over current generation products include improved accuracy and up to 300% increase in battery life. In electrically noisy environments the built-in filter function offers increased noise immunity.

DET14C and DET24C also offer a true RMS AC current measurement facility up to 35 Amps. The instrument's ability to measure current flowing in an earth cable is a useful safety feature, especially if the earth cable has to be disconnected. A high current flow to earth could draw an arc on dis-connection with potentially severe consequences.

The elliptical shaped head design offers improved access to cables and earth straps in space constrained locations. The clamp head accommodates up to 37 mm diameter cable and 50 mm earth tapes making them suitable for use in power stations, substations, towers and many more facilities. Operation in dark and restricted areas is facilitated by a display with backlight and an audible tone associated with the hold key. Optimised jaw opening mechanism ensures proper jaw closure without excessive use of force when opening the jaws.

The DET14C offers storage of results for later on-screen recall and the DET24C supports a download of results via Bluetooth® into PowerDB and PowerDB Lite, Megger's acceptance and maintenance test data management software. Stored data is indexed using a sequential serial number together with a time and date stamp for each record.

APPLICATION

The earth resistance clamp meters are particularly suitable for measuring earth resistance in various installations such as buildings, pylons and RF transmitter sites without system disconnection. In addition, they can be used for the inspection and verification of lightning protection systems and virtually any installation where a current loop can be generated.

FEATURES AND BENEFITS

- Auto-current measurement safety feature
- Memory to record and view results
- Automatic self calibration
- Auto ranging
- High and low alarms
- Real time clock for date and time stamping of results

DET24C ADDITIONAL FEATURES

- Bluetooth® stored test results transfer to PC
- Advanced memory functionality with download
- Megger PowerDB/PowerDB Lite™ compatible

SPECIFICATIONS

Resistance measurements

Ground resistance	Resolution	Intrinsic range uncertainty
0.05 Ω to 0.99 Ω	0.01 Ω	±1.5% ±0.05 Ω
1.00 Ω to 9.99 Ω	0.01 Ω	±1.5% ± 0.1Ω
10.0 Ω to 99.9 Ω	0.1 Ω ±2%	±0.5 Ω
100.0 Ω to 199.9 Ω	0.1 Ω ±5%	±1 Ω
200 Ω to 400 Ω	1 Ω ±10%	±10 Ω
400 Ω to 600 Ω	1 Ω ±10%	±10 Ω
600 Ω to 1200 Ω	10 Ω	±20%
1200 Ω to 1500 Ω	10 Ω	±35%

Frequency of measurement 1390 Hz.

* Unless otherwise specified, reference conditions are: 20 ±3°C, 50% humidity, centred conductor.

The specification stated above is only maintained if the Jaws of the DET14C and DET24C are kept clean at all times.

Alarm settings

Alarm type	Range	Resolution
Threshold 1	1 Ω to 1500 Ω	1 Ω
Threshold 2	1 Ω to 1500 Ω	1 Ω

Current range

(RMS)

Current range	Resolution	Intrinsic Certainty
0.5 mA to 0.99 mA	0.01 mA	±2% ±0.05 mA
1.00 mA to 9.99 mA	0.01 mA	±2% ±0.05 mA
10.0 mA to 99.9 mA	0.1 mA	±2% ±0.1 mA
100 mA to 999 mA	1 mA	±2% ±1 mA
1.00 A to 9.99 A	0.01 A	±2% ±0.01 A
10.0 A to 35.0 A	0.1 A	±2% ±0.1 A

True RMS readings up to a crest factor of 5.0 (peak current 40 A). Accuracy guaranteed for 50 Hz and 60 Hz.

Measurement over the range 16 Hz to 400 Hz.

Maximum current is 100 A rms continuous and 200 A rms for 60 s max at 50 Hz and 60 Hz

Maximum jaw opening	39 mm
Maximum jaw inner dimensions	39 mm x 55 mm
Display	4 + 6 digit with backlight
Battery type	4 x 1.5 V IEC LR6/AA alkaline
Battery life	24 hours continuous testing - see Note 1 **Note 1:** Whilst measuring a 25 Ω resistance without backlight
Auto power down	300 s (reset by jaw action or button press)
Data logging	DET14C 256 records DET24C 2 k records
Data download	Bluetooth® interface (DET24C only)
Range	Selection: Automatic within each mode
Sampling time	<1 s
Hold function	Yes with visual indicator
Alarm function	Yes with visual indicator
Alarm/warning	Buzzer: Yes
Operating temperature range and humidity	-20 °C to +50 °C, <85% RH
Storage temperature range and humidity	-40 °C to +60 °C, <75% RH
IP rating	IP30 with jaws closed
Safety	EN 61010-2-032 CATIV 600 V Pollution degree 2
EMC	Class B Compliant, IEC 61326, BSEN 61326
Dimensions	248 mm (l) x 114 mm (b) x 49 mm (h)
Weight	985 g

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ORDERING INFORMATION

Description	Order Code
DET14C Digital earth test clamp-on meter	1000-761
DET24C Digital earth test clamp-on meter	1007-331

Description	Order Code
Included accessories for DET14C and DET24C	
Carrying case	1001-715
Carrying strap (wrist loop)	1001-716
User guide CD-ROM	
Calibration check	
Battery AA (Alkaline) (4 required)	

SALES OFFICE
Megger Limited
Archcliffe Road Dover
CT17 9EN England
T +44 (0) 1304 502101
E UKsales@megger.com

DET14C_DET24C_DS_en_V09
www.megger.com
ISO 9001
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