

DET2/3

Advanced Earth (Ground) Tester



- **High resolution of 1 mΩ, ideal for large earth (ground) systems**
- **Versatile test modes**
- **High accuracy for earth (ground) electrode grid and soil resistivity tests**
- **Rechargeable battery power that can last all day with a fast re-charge (up to 10 hours)**
- **Robust instrument with IP65 protection**
- **Automatic test frequency selection, with filters and high current features**
- **Diagnostic trace display**
- **Data storage**
- **Large colour display that shows numeric and graphical results**

DESCRIPTION

The Megger® DET2/3 automatic earth (ground) test instrument is robust, compact and designed to measure earth Electrode Resistance and Soil Resistivity. It provides a full range of test methods and excels at the four terminal method of measurement, which eliminates the resistance of the current circuit from the measurement.

The DET2/3 is a reliable instrument for use on large or more complex earth systems, which include communications earth systems and difficult test environments. It can be used to test in accordance with BS 7430 (earthing / grounding), BS-EN-62305 (Lightning Protection), IEEE Standard 81 and Railway Applications.

Soil Resistivity measurements are used to establish the optimum electrode design and site, as well as archaeological and geological investigations.

FEATURES

High accuracy earth (ground) measurements

The DET2/3 provides accurate 1 mΩ resolution measurements of earth (ground) electrode resistance.

With its microprocessor controlled system it provides a flexible and 'user-friendly' approach to earth tests by the provision of excellent error detection capabilities and full test information shown on a large colour display.

Test frequency, test voltage and filtering can be quickly and easily adjusted so that adverse conditions, which can influence the test, can be overcome.

A wide band of test frequencies, with a resolution of 0.5 Hz, can be used to eliminate errors caused by noise in the earth.

The DET2/3 also includes an automatic frequency selection feature that scans for frequencies with the lowest noise level and then runs a test at that frequency.

Continuity measurements and bonding

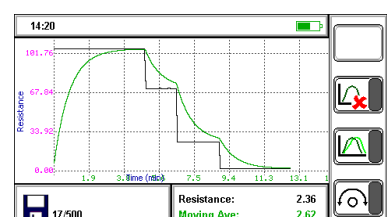
- **Single resistance range:** One fully automatic range from 0.01 Ω to 1.0 kΩ
- **Display:** Three digit display
- **Accuracy:** ±3% (±2 digits)
- **Short circuit current:** 200 mA continuity test currents
- **Lead null:** Lead resistance compensation (NULL) operates with a lead resistance up to 10 Ω

Trace display and data storage

Utilising the latest processors, the DET2/3 can provide a live trace of its measurements, which graphically shows the amount of noise from the system under test - a powerful diagnostic tool for the expert earth (ground) test engineer.

Use of the latest processors and a large internal memory allows for immediate calculations of resistivity (Wenner or Schlumberger method) and the ability to save a complete day's worth of test results.

Test result data can be downloaded directly through a USB flash drive or straight to a Windows PC running PowerDB™ software.



DET2/3

Advanced Earth (Ground) Tester

Weatherproof and rugged

The DET2/3 is sealed to IP54 standard, which provides weatherproofing during operation (case lid open). When the case lid is closed its protection standard is to IP65 (water and dust damage).

The case is made of a tough and light copolymer polypropylene, which can withstand the rough and tumble of outdoor use.

Portable power

An internal Li-ion battery provides for a full day of tests.

The Li-ion battery has a fast recharge facility that allows a flat battery to provide an afternoon of tests, if charged during a lunch break.

The DET2/3 can also operate from a standard 12 V DC battery supply.

SPECIFICATION

2, 3 and 4 pole resistance measurements

| | |
|-----------------|--|
| Range | 0.001 Ω to 20.00 kΩ auto range |
| Display | Four digit display |
| Accuracy | at 23 °C ±0.5% of reading ±2 digits |
| 3P | ±10 mΩ |
| 2P | ±20 mΩ |

| | |
|--------------------------------|--|
| Operational uncertainty | ±2% of reading, ±2 digits (meets IEC61557 operational uncertainty requirement with readings over 10 mΩ) when spike resistances are below 100 Ω ±5% of reading, ±2 digits ±10 mΩ (meets IEC61557 operational uncertainty requirement with readings over 50 mΩ) |
|--------------------------------|--|

| | |
|-----------------------|--|
| Test standards | BS 7430 (Earthing) BS 62305 (Lightning) BS EN50122 (Railway) IEEE Standard 81 |
|-----------------------|--|

| | |
|---|------------------------------------|
| Test frequency 2P, 3P & 4P resistivity | 10 Hz to 200 Hz in steps of 0.5 Hz |
|---|------------------------------------|

| | |
|---|-----------------------------------|
| Test frequency dual clamp, 3p ART & 4P ART | 70 Hz to 200 Hz (steps of 0.5 Hz) |
|---|-----------------------------------|

| | |
|-------------------------------|---------------------|
| Test current | 50 mA max. |
| Maximum output voltage | Less than 50 V rms |
| Maximum interference | Up to 50 V pk to pk |

3 and 4 pole ART (selective) resistance measurements

| | |
|-----------------|--|
| Range | 0.01 Ω to 10.00 kΩ Auto range |
| Accuracy | ±5% of reading ±3 digits at 23 °C ±2 °C |

Stakeless resistance measurement

| | |
|-----------------|----------------------------------|
| Range | 0.01 Ω to 200 Ω |
| Accuracy | ±7% accuracy, ±3 digits @ 128 Hz |

Continuity

| | |
|---------------------|---------------------------|
| Range | 0.01 Ω to 1 kΩ (3 digits) |
| Accuracy | ±3% (±2 digits) |
| Test Current | 12 V, 205 mA |
| Lead Null | < 10 Ω |

Leakage current

| | |
|-----------------|------------------|
| Range | 0.00 A to 2.00 A |
| Accuracy | ±5% (±3 digits) |

Instrument specifications

| | |
|----------------|---|
| Display | 5.25 inch QWVGA, daylight viewable backlit colour |
|----------------|---|

| | |
|---|-------------------------------------|
| Operating temperature and humidity | -10 to 40 °C 90% RH max at 40 °C |
|---|-------------------------------------|

| | |
|--------------------------------|------------------------------------|
| Storage temperature | -20 to 60 °C |
| Temperature coefficient | < ±0.1% per °C over operating temp |

| | |
|------------------|---|
| Altitude | Up to 2000 m above sea-level. |
| IP rating | IP54 operational (lid open), IP65 storage (lid closed) |

| | |
|----------------------------------|-------------------------------|
| Measurement rating | CAT IV 300 V |
| Measurement output rating | 50 V, 50 mA ac (Switching dc) |

| | |
|---------------------|--|
| Power supply | Internal Li-ion battery or external 12-18 V, 65 W, DC supply |
|---------------------|--|

| | |
|------------------------------|---|
| Battery life | Up to 10 hrs use |
| Battery charging time | Fast recharge to 50%, 3 hrs for 100% |

| | |
|---|-----------|
| Ambient temperature (battery charge) | 0 - 40 °C |
|---|-----------|

| | |
|---------------|-----------------|
| Safety | Meets IEC 61010 |
|---------------|-----------------|

| | |
|------------|-----------------|
| EMC | Meets IEC 61326 |
|------------|-----------------|

| | |
|-------------------|--|
| Dimensions | L 315 x W 285 x H 181 mm (12.4 x 11.2 x 7.1 in) |
|-------------------|--|

| | |
|---------------|-----------------|
| Weight | 4.5 kg (9.9 lb) |
|---------------|-----------------|

| | |
|----------------------|-----------------------|
| Data download | To PC through USB 2.0 |
|----------------------|-----------------------|

| | |
|---------------------|---|
| Data storage | On board 500 record storage downloadable as *.txt |
|---------------------|---|

| | |
|-------------------|----------------------------|
| USB type A | Data download to USB drive |
|-------------------|----------------------------|

| | |
|-------------------|---------------------|
| USB type B | Data download to PC |
|-------------------|---------------------|

| | |
|--------------------------------------|----------------------------|
| Secondary measurement display | Noise, voltage and current |
|--------------------------------------|----------------------------|

| | |
|--------------------------------|--|
| Resistivity calculation | Wenner: $PE = 2 \pi a R_w$ Schlumberger: $PE = \pi \frac{b(b+a)}{a} R$ |
|--------------------------------|--|

| | |
|-------------------|---|
| Test modes | Internally set 2P, 3P, ART (Selective), 4P, Stakeless (clamp) modes |
|-------------------|---|

| | |
|-------------------|------------------|
| Aux inputs | MCC1010, MVC1010 |
|-------------------|------------------|

| | |
|-----------------------|-----|
| RoHS compliant | Yes |
|-----------------------|-----|

DET2/3

Advanced Earth (Ground) Tester

ACCESSORIES

MCC1010 and MVC1010

- For Stakeless tests
- For ART tests

Cable reels with spike

- Sturdy handle and a smooth unwind and wind action
- Cable 'feed through'
- 20 m, 30 m, 50 m, 60 m or 100 m cables
- Attachable 25 cm (10") earth spike
- Spike can be hammered into the ground
- Unique daisy-chain feature to create longer lengths

Continuity test cables and clips

- 1.4 m cables
- 2 wire connection cable
- Crocodile clips
- Probes

Accessories bag

- Holds a full suite of accessories
- Water resistant
- Toughened bottom for outdoor use

| | DET2/3 | DET2/3 with ETK50 C | DET2/3 with ETK100 C |
|--|--------|---------------------|----------------------|
| DET2/3 | ■ | ■ | ■ |
| Charger | ■ | ■ | ■ |
| MCC1010, current clamp | | ■ | ■ |
| MVC1010, voltage clamp | | ■ | ■ |
| User guide | ■ | ■ | ■ |
| Calibration checker, instrument | ■ | ■ | ■ |
| Calibration checker, clamps | | ■ | ■ |
| Reel with 50 m test cable (x2) | | ■ | |
| Reel with 30 m test cable (x2) | | ■ | |
| Reel with 100 m test cable (x2) | | | ■ |
| Reel with 60 m test cable (x2) | | | ■ |
| Test spikes (x4) | | ■ | ■ |
| 100 m tape measure | | | ■ |
| 1.4 m leads with connectors and clips (x2) | | ■ | ■ |
| Pouch | ■ | ■ | ■ |
| Carry strap | ■ | ■ | ■ |

DET2/3

Advanced Earth (Ground) Tester

| | | ETK30 1010-176 | ETK50 1010-177 | ETK100 1010-178 | ETK50C 1010-179 | ETK100C 1010-180 |
|--|--------|-------------------|-------------------|--------------------|--------------------|---------------------|
| Test lead on reel | Red | 30 m | 50 m | 100 m | 50 m | 100 m |
| | Yellow | 20 m | 50 m | 100 m | 50 m | 100 m |
| | Black | | 30 m | 60 m | 30 m | 60 m |
| | Green | | 30 m | 60 m | 30 m | 60 m |
| Test lead 2 m with croc clip black | | ■ | | | | |
| Earth test spikes * | | 2 | 4 | 4 | 4 | 4 |
| Interconnection lead (Reel to spike) * | Red | ■ | ■ | ■ | ■ | ■ |
| | Yellow | ■ | ■ | ■ | ■ | ■ |
| | Black | | ■ | ■ | ■ | ■ |
| | Green | | ■ | ■ | ■ | ■ |
| MCC1010 | | | | | ■ | ■ |
| MCC1010 test lead | | | | | ■ | ■ |
| MVC1010 | | | | | ■ | ■ |
| MVC1010 test lead | | | | | ■ | ■ |
| 1.4 m leads with connectors and clips (x2) | | | | | ■ | ■ |
| Measuring tape | | | 100 m | 100 m | 100 m | 100 m |
| Holdall to contain kit | | ■ | ■ | ■ | ■ | ■ |

* Supplied with reels

ORDERING INFORMATION

Model name Cable Reel Language Plug/Mains lead

D E T 2 3 - E T K - L G - P

SELECT A MODEL

DET2/3

EARTH TESTING KIT









NONE

ETK 50CX

ETK 100C

SELECT A LANGUAGE AND PLUG

Please note only some plug types are available for certain languages - the language you need will determine the mains leads available

| LANGUAGE | | PLUG TYPES AVAILABLE | | | | | | | |
|--------------|-------------------|---|---|---|--|---|---|---|---|
| 3 DIGIT CODE | LANGUAGE INCLUDED |  |  |  |  |  |  |  |  |
| | | UK | EU | US | CH | AUS | IT | IN | UK + US |
| LG1 | EN, DE, FR, NL | P1 | P2 | - | P4 | P5 | - | - | - |
| LG2 | EN, ES, PT, IT | P1 | P2 | P3 | - | - | P6 | - | - |
| LG3 | EN, AR, TR, FR | P1 | P2 | P3 | - | - | - | P7 | - |
| LG4 | EN, CZ, SK, PL | P1 | P2 | - | - | - | - | - | - |
| LG5 | EN, CN, JA, KO | P1 | P2 | P3 | - | - | - | - | P8 |
| LG6 | EN, RU, HU, RO | - | P2 | - | - | - | - | - | - |
| LG7 | EN, NO, SV, FI | - | P2 | - | - | - | - | - | - |

ACCESSORIES

| Optional accessories | Order code | Optional accessories | Order code |
|------------------------|------------|--|------------|
| Cable reel kit ETK30 | 1010-176 | Clamp MCC1010 | 1010-516 |
| Cable reel kit ETK50 | 1010-177 | Clamp MVC1010 | 1010-518 |
| Cable reel kit ETK100 | 1010-178 | 12 VDC power lead | 1004-183 |
| Cable reel kit ETK50C | 1010-179 | Terminal adapter, detachable retro-fit for C1, P1, P2, C2 connectors | 1012-511 |
| Cable reel kit ETK100C | 1010-180 | Power supply 18V73-5A | 1010-793 |

Service van EURO-INDEX

EURO-INDEX verleent service op alle meetinstrumenten uit haar leveringspakket en biedt de faciliteiten, kennis en hoog gekwalificeerd personeel voor (preventief) onderhoud, reparatie en kalibratie van uw meetinstrumenten.

Geautoriseerd Service Centrum

EURO-INDEX is van alle vertegenwoordigde merken een Geautoriseerd Service Centrum.

Dit betekent dat uw instrumenten worden behandeld door goed opgeleid en kundig personeel, dat beschikt over de juiste gereedschappen en software. Er worden uitsluitend originele onderdelen gebruikt en de garantie van uw instrument, evenals de certificering (ATEX, EN50379, etc.) blijven intact.

Service- en kalibratielaboratorium

EURO-INDEX beschikt over een bijzonder modern service- en kalibratielaboratorium met RvA accreditatie naar NEN-EN-ISO/IEC 17025. Deze accreditatie geldt voor verschillende grootheden, zoals gespecificeerd in de scope bij accreditatienummer K105.



KWS®

KWS is een uniek servicesysteem voor uw meetinstrumenten met periodiek onderhoud en kalibratie. Veel zaken worden voor u geregeld, zodat u zonder zorgen gebruik kunt maken van uw meetinstrumenten. De kosten zijn laag en voorspelbaar.

Digitale toegang tot uw kalibratiecertificaten met Mijn KWS

Via het Mijn KWS webportal heeft u altijd en overal toegang tot uw kalibratiecertificaten en gerelateerde documenten.

Verhuur van meetinstrumenten

- Uitgebreid assortiment
- Deskundig advies
- Instrumenten worden geleverd met accessoirepakket en herleidbaar kalibratiecertificaat

EURO-INDEX Academy

- Producttrainingen (individueel en klassikaal)
- Seminars
- Demonstratie- en instructievideo's

Bekijk de video op ons YouTube kanaal en ontdek alles over KWS



Servicebalie



Kalibratie rookgasanalyse



Seminars en workshops



Kalibratie thermografie

Wijzigingen voorbehouden EURO-INDEX® VL 18001

Het Bluetooth® woord- en beeldmerk zijn eigendom van Bluetooth SIG, Inc. Gebruik van deze merken door EURO-INDEX geschiedt onder licentie.



BELGIË
Leuvensesteenweg 607
1930 Zaventem
T: 02 - 757 92 44
F: 02 - 757 92 64
info@euro-index.be
www.euro-index.be

NEDERLAND
Rivium 2e straat 12
2909 LG Capelle a/d IJssel
T: +31 - (0)10 - 2 888 000
F: +31 - (0)10 - 2 888 010
verkoop@euro-index.nl
www.euro-index.nl

