

HIGHVOLT Prüftechnik Dresden GmbH

Marie-Curie-Straße 10
01139 Dresden, Germany
Phone +49 351 8425-700
Fax +49 351 8425-679
E-mail sales@highvolt.de
Website www.highvolt.de



Data Sheet 5.85-25/1

Earth Resistance Tester, Type DET4TCR2

Application

Earth resistance testers allow the measurement of earth or ground electrode resistance and soil resistivity. Such measurements are necessary to ensure an adequate low resistance ground connection which is essential to both the protection and performance of any electrical system. Proper earthing provides many benefits to both people and equipment. It helps to prevent injury due to faulty installation and protects sensitive equipment against electromagnetic interference.

Earthing systems can degrade or become ineffective for several reasons and have to be checked reliably. Earth resistance testing should be performed both upon installation, to meet design specification, and periodically thereafter for the purpose of maintenance.

Description

The earth resistance tester is a rechargeable, battery powered 4-terminal tester with multiple user-selectable test frequencies. Measurements can be executed as 2, 3 and 4-pole testings.

The earth resistance tester is rated IP54 and is designed to meet stringent safety standards.

One-button operation guarantees simplicity of use. A large rotary switch allows to select between 2, 3 or 4-pole testing. Coming with a large, clear and easy-to-read LCD display the earth resistance tester is suited to various site conditions of earth testing and for use outdoors. In addition to this warning indicators prevent test failure.

Advantages

The earth resistance tester includes a current measuring function for Attached Rod Technique (ART) testing capabilities. With this added function, on-site earthings can be tested separately without having to remove the utility connection.

The earth resistance tester also provides stakeless testing capability. This method allows the operator to use the instrument like a clamp-on earth tester for measurements without auxiliary earth stakes.

The earth resistance tester automatically checks the connection and conditions of the P spike, C spike, and also the level of ground noise, indicating the status on the display. It also includes a voltmeter for measurement of ground voltage.

Table 1: Technical Data

| Technical Data | unit | Type DET4TCR2 |
|------------------------------------|----------|-----------------------------|
| Output | | |
| Test Frequency | Hz | 94, 105, 111 or 128 |
| Test Voltage | V | 25 or 50 |
| Test Current | mA | 4.5 (@25V) |
| Performance | | |
| <i>Ground Resistance Meter</i> | | |
| Measurement Range | Ω | 0.01 to 200k |
| Accuracy (4P measurements) | % | ± 2 ± 3 digits |
| Resolution | digits | 3½ |
| <i>Ground Voltage Meter</i> | | |
| Measurement Range | V | 0 to 100 |
| Accuracy | % | ± 2 $\pm 2V$ |
| Resolution | digits | 3½ |
| <i>Ground Ampere Meter</i> | | |
| Measurement Range | A | 0.005 to 19.9 (with ICLAMP) |
| Accuracy | % | ± 5 ± 3 digits |
| Resolution | digits | 3½ |
| Features | | |
| Intended Use | | Mobile |
| Tests | | |
| 2-pole measurement | | Yes |
| 3-pole measurement | | Yes |
| 4-pole measurement | | Yes |
| Stakeless test (clamp-on) | | Yes |
| Attached rod technique (ART) | | Yes |
| Ground voltage | | Yes |
| Ground current | | Yes |
| Display | | backlight LCD |
| Memory | | No |
| Interface | | No |
| Internal printer | | No |
| Rugged case | | Yes |
| Battery | | 8x 1.5V AA rechargeable |
| Dimension and weights | | |
| Length | mm | 148 |
| Width | mm | 203 |
| Height | mm | 78 |
| Weight | kg | 1 |
| Normal operating conditions | | |
| Rated power supply voltage | V(DC) | 12 (8x 1.5V AA cells) |
| Batterie life | h | 3 |

| | | |
|---------------------------------|-------------|-------------------------|
| Technical Data | unit | Type DET4TCR2 |
| Environmental conditions | | |
| Temperature | °C | -15 to 55 |
| Humidity | %r.H. | < 95, non condensing |
| Ingress protection | | IP54 |
| Accessories | | |
| Test leads and spikes | pcs. | 4 |
| Length | m | 3, 5, 10, 15 |
| Right-angle terminal adapters | pcs. | 4 |
| AC/DC adapter | | Yes |
| Rugged case | | Yes |