

# 3 Wire Earth Resistance Tester



## 1120 ER

The 1120 ER is a professional instrument suitable for testing single earth electrodes such as lightning conductors and other small earthing systems. The unit can also measure the resistance of conductors such as continuity and conduit coupling joints.

Earth resistance can be measured directly from 0.01 ohms up to 1999 ohms. The reading is displayed on a large, easy-to-read digital display. The reading can be adjusted to 0Ω as a baseline control reading when short-circuiting all of the test leads.

The 1120 ER makes measurements by passing a constant current through the device being tested and measuring the voltage across it. The earth resistance is then calculated by Ohm's Law.


The advanced circuitry of 1120 ER permits the instrument to operate with minimal influence from earth voltage and earth resistance of the auxiliary spikes. The instrument is powered by 8 x 1.5 volt manganese-alkaline AA batteries. The calibration of the instrument is performed with the included test leads. When using all three test leads in the three-terminal method, accuracy is assured for most common applications. Alternatively, two-terminal measurements, though generally less accurate than three-terminal measurements, are also possible by shorting the P and C terminals or by using the simplified measurement probe.

The test frequency of 820Hz avoids stray currents at power frequencies and their harmonics. Additionally, the 1120 ER utilizes a built-in filter to reject unwanted signals. The batteries are constantly being checked while in use. The rugged case is ideal for outdoor work. Earth electrode testing, which is an important part of electrical installation and maintenance procedures, is made easy with the 1120 ER. It can be used by electrical contractors or maintenance engineers to check the effectiveness of their earth electrode systems.

## FEATURES

- Waterproof: IP54
- Capable of measuring earth resistance and earth voltage
- 2mA measuring current permits the testing of earth resistance without tripping earth leakage current breakers in the circuit under test
- The test leads are supplied as standard accessories for simplified two-wire measuring system
- 0Ω adjustment
- Battery operated
- Data hold function
- Low battery indication
- Calibration performed with supplied test leads

## SPECIFICATIONS

Measuring ranges	Earth resistance 0-20Ω / 0-200Ω / 0-2000Ω Earth voltage 0-200 Vac(40-500Hz) Earth resistance $\pm(2\%rdg+2dgt)$ or $\pm 0.1\Omega$ , which is greater Earth voltage $\pm(1\%rdg+2dgt)$
Accuracy	
Earth resistance resolution	0-20Ω : 0.01Ω 0-200Ω : 0.1Ω 0-2000Ω : 1Ω
Measuring system	Earth Resistance by constant current inverter 820Hz approx. 2mA.
Display	3½ digit (2000 counts)
0Ω adjustment	✓
Open circuit indication	LED will be unlit
Low battery indication	"  "symbol appears on the display
Data hold indication	" <b>HOLD</b> " symbol appears on the display
Over range indication	"1"(MSD)
Dimensions	175(L) × 85(W) × 75(D)mm
Weight (battery included)	Approx. 600g
Power source	1.5V (AA) × 8
Safety standard	EN IEC 61010-1 CAT III 200V IEC 61557-1 IEC 61557-5 EN IEC 61326-1
Accessories	Instruction manual Test leads (red-15m, yellow-10m, green-5m) Auxiliary earth spikes Simplified measurement probe Soft pouch Shoulder belt Batteries