

Ethos 9150 PAT Tester

The Ethos 9150 is an advanced portable appliance tester which performs test on class 1 or class 2 equipment. These tests are Earth Bond Resistance and Insulation Resistance as required by the Electricity at Work Regulations 1989. Another test, the substitute Leakage, is also included to provide an alternative to the Insulation test. The equipment is controlled by solid-state electronics and enables the user to easily select and perform the required tests.

Particular features of the specification are:

- Tests Class 1 and Class 2 equipment.
- Allows Earth Bond measurements to be controlled at low currents (100mA).
- Earth Bond currents are electronically controlled for accuracy and safety.
- Clear digital display with electronic hold of last reading at end of test.
- Additional BS4343 socket for testing 110V appliances.



Layout - **VERY EASY TO USE AND FAST**

The Ethos 9150 is contained in a robust ABS/Polycarbonate injection-moulded case which accommodates all the high voltage, power and control components in the base section and the measurement and display electronics in the lid section. The lid section features a large LCD for the display of measurements and OVERFLOW and FUSE OK LED indicators. The OVERFLOW indicator will illuminate when the measurement exceeds the maximum display range on the LCD display. A sturdy zip pouch located at the rear of the instrument contains all the necessary test leads and the mains supply connector. Access is also available to additional test sockets for 4 wire Earth Bond tests and remote Insulation Resistance measurements. The base control panel of the instrument features a rotary switch for test selection and a push button test switch with associated LED indicators.

A number of safety features are included in the instrument design and these include;

- Fuse protection.
- Thermal trip on electronic components to prevent failure due to over heating of unit.
- Fail-safe crowbar system to prevent internal test relays from being continuously powered in the remote possibility of failure of the control electronics.

The use of the Ethos 9150 is straightforward and involves connecting the tester to a mains supply which powers the electronic circuitry. Plug the appliance under test into the instrument socket outlet and connect the test leads appropriate to the insulation class of the appliance.

Applications

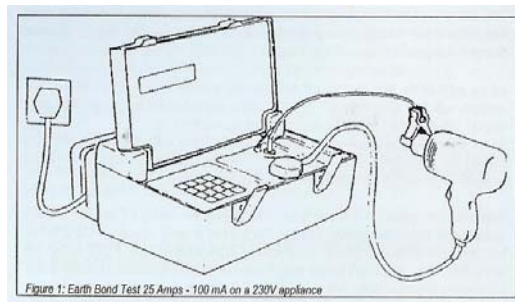
The Ethos 9150 is designed to check the electrical safety of portable appliances and its use allows for appliances of class 1 and class 2 to be checked.

As a guide BS and IEC standard define these two categories of insulation as follows;

Class 1 – Appliances which have Basic Insulation throughout and have exposed conductive (typically metal) parts connected to earth. These are often described as earthed appliances.

Class 2 – Appliance which is protected by Double Insulation can be identified by the symbol.

Different regulations and standards describe a variety of tests for electrical appliances and in general cover approval tests. Such testing involves prolonged sophisticated tests. It is generally recognised that for periodic inspection to ensure the safety of the appliance is maintained, tests of the types performed by the Ethos 9150 are realistic and satisfactory and are described in the IEE code of practice for in-service inspection and testing of Electrical Equipment.



Specification

Earth Bond Test

AC Test Currents.....	6A, 12A, 20A, 25A @ 6V RMS (nominal) Corresponds to Type A earth continuity tester as defined in Electricity at Work Regulations 1989.
.....	100mA @ 500mV RMS (nominal) Corresponds to Type B earth continuity tester as defined in Electricity at Work Regulations 1989.
.....	Electronically controlled constant current to $\pm 20\%$ accuracy. Note: the current will only be controlled within an acceptable test load impedance.
Display Range.....	$0 > 1.999\Omega$
Measuring Range.....	$\pm 10\% \pm 3$ counts.
Accuracy.....	Note: Impedance of the earth connector will be significant at low impedances.
Resolution.....	$1m\Omega$
Test Duration.....	6 seconds nominal

Fuse Test

AC Test Current.....	30 mA max, 9V o/c
Display.....	LED Indicator
Display Indication.....	$\leq 1 K\Omega$
Protection.....	Internal Fuse

Insulation Test

DC Test Voltage.....	480V min, 600V max off load
Display Range.....	$10k\Omega$ to $19.99M\Omega$
Measuring Range.....	$10k\Omega$ to $15.00M\Omega$
Accuracy.....	$\pm 5\% \pm 2$
Resolution.....	$10k\Omega$
Test Duration.....	6 seconds nominal

Substitute Leakage

AC Test Voltage.....	50VRMS min, 250VRMS max off load
Display Range.....	$10\mu A$ to $19.99mA$
Measuring Range.....	$250\mu A$ to $5.00mA$
Accuracy.....	$\pm 10\% \pm 2$ counts
Resolution.....	$10\mu A$
Test Duration.....	6 seconds nominal

Supply Voltage

AC Supply.....

230V ± 10% @ 50Hz

Note: Some readings and specification figures are related to supply voltage variation**Physical Data**

Dimensions.....

250mm x 200mm x 150mm (approx)

Weight.....

4 kilo (approx)

Temperature Range.....

0° to 40°C (operating), -10° to 70°C (Storage)

Thermal cut-out will operate when internal components attain 70°C in order to prevent damage.

Relative Humidity.....

Max 80% up to 31°C; 50% to 40°C

Altitude.....

Indoor use
up to 2000 metres**REPLACEMENT PARTS**

Earth Lead.....

Insulation Probe.....

207A915

207A918

FUSES

Plug Fuse.....

5A to BS 1362

There are no user serviceable parts within the unit.

Due to a policy of continuous development MTi reserves the right to alter equipment specification and description outlined in this publication without prior notice and no part of this publication shall be deemed to be part of any contract for the equipment unless specifically referred to as an inclusion within such contract.

Ethos 9150 Manual Portable Appliance Tester £599 +VAT

Ethos 9150 Certification Pack £90 +VAT

(Includes Calibration Certificate, Certificate of Conformity and PAT Certificate)

3 Phase Adaptors £37.50 +VAT each

We also hire out PAT Test equipment. A quotation will be provided on your actual requirements.

For further information on Ethos 9150 PAT Testers please contact:

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