



INSTRUCTIONS FOR:
INSULATION TESTER ACCESSORY
MODEL: MM404.261

Thank you for purchasing a Sealey product. Manufactured to a high standard this product will, if used according to these instructions and properly maintained, give you years of trouble free performance.



IMPORTANT: PLEASE READ THESE INSTRUCTIONS CAREFULLY. NOTE THE SAFE OPERATIONAL REQUIREMENTS, WARNINGS & CAUTIONS. USE THE PRODUCT CORRECTLY AND WITH CARE FOR THE PURPOSE FOR WHICH IT IS INTENDED. FAILURE TO DO SO MAY CAUSE DAMAGE AND/OR PERSONAL INJURY AND WILL INVALIDATE THE WARRANTY. PLEASE KEEP THESE INSTRUCTIONS SAFE FOR FUTURE USE.

1. SAFETY INSTRUCTIONS

1.1. PERSONAL PRECAUTIONS

- ✓ When using this meter, please observe all normal safety rules concerning:
 - Protection against the dangers of electric current.
 - Protection of the meter against misuse.
- ✓ Full compliance with safety standards can only be guaranteed if used with the test leads supplied. If necessary, they must be replaced with genuine Sealey leads with the same electronic ratings. Failure to do so will invalidate the warranty.
- x **DO NOT** use leads if damaged or if the wire is bared in any way.

1.2. GENERAL SAFETY INSTRUCTIONS

- ✓ Familiarise yourself with the application and limitations of the insulation tester as well as the potential hazards.
 - IF IN ANY DOUBT CONSULT A QUALIFIED ELECTRICIAN.*
- ✓ When the insulation tester is connected to a circuit, do not touch unused terminals.
- ✓ When the value scale to be measured is unknown, set the range selector to the highest value.
- ☐ **WARNING!** *Never perform insulation measurements on live circuits.*
- ✓ Always be careful when working with voltages above 60Vdc or 30Vac rms. Keep your fingers behind the probe barriers while measuring.
- ✓ When not in use, store the multimeter carefully in a safe, dry, childproof location. Storage temperature range - 10°C to 50°C.

2. FEATURES

Suitable for use with MM404 Digital Clamp Multimeter.
 This insulation tester unit makes use of a DC-DC converter to 500V DC.
 A two range insulation resistance tester (20MΩ and 2000MΩ) . Powered by four type AA cells, providing up to 30 operating hours, depending on type of battery and usage. Featuring a rugged design and ease of use.

Range: 20MΩ (±2%), 2000MΩ (±4%).
 Rated Voltage: 500V DC.
 Test Leads (pair).
 Low battery indication: Yellow LED lamp lighted.
 Operating temperature range: 0°C to 50°C. Relative humidity: Maximum 80%.

Range	Measurement Range	Accuracy
20MΩ	100KΩ - 19.99MΩ	± 2% of reading ± 2 digit
2000MΩ	10MΩ - 2000MΩ	± 4% of reading ± 2 digit for 500MΩ and below. For others ± 5% of reading ± 2 digit

Fig.1



3. OPERATION

- ☐ **WARNING!** Ensure that you read, understand and apply the safety and operational instructions before connecting the insulation tester. Only when you are sure that you understand the procedures is it safe to proceed with testing.
 Operating temperature range: 0°C to 50°C.
 Relative humidity: Maximum 80%.
- 3. Check Internal Battery.**
 - 3.1. Set the power switch to 'ON'.
 - 3.2. Depress the insulation resistance pushbutton switch.
 - 3.3. The 500V ON LED lamp should light, indicating normal operation from the internal batteries.
 - 3.4. If the 500V ON LED fails to light the batteries are exhausted. Remove the rear cover by unscrewing the centrally located case mounted screw and insert four new batteries observing the correct polarity.
 - 3.5. Repeat the process 3.1. to 3.3. and turn the power switch to the OFF position having confirmed the battery condition as good.
- 4. Insulation Resistance Measurements**
 - 4.1. Connect the insulation tester terminals E, L and G to the meter terminals VΩ, COM and EXT respectively.
 - 4.2. Set the meter switch to the insulation tester function and 2000MΩ range position.
 - 4.3. Connect a test probe to the L terminal and another to the E terminal on the insulation tester.
 - 4.4. Connect one lead to one end of the circuit to be measured and the other lead to the other end.
 - 4.5. Set the power switch to ON and the range to 2000Ω position.
 - 4.6. Press the insulation resistance pushbutton. The 500V LED lamp will light and the resistance value will be displayed on the meter.
 - 4.7. For open circuits or values of resistance over 2000MΩ, the meter will treat the resistance value as infinite and display a '1' only.
 - 4.8. When measuring values of resistance below 10MΩ on the 2000MΩ range, the measurement error will be greater. Set the insulation tester and the coupled meter to the 20MΩ position, and press the resistance pushbutton again to gain a new reading.
 - 4.9. After completing your measurements return the insulation tester power switch to the OFF position.

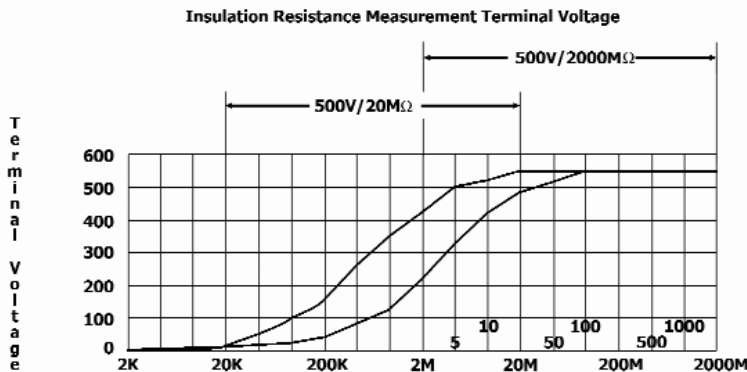
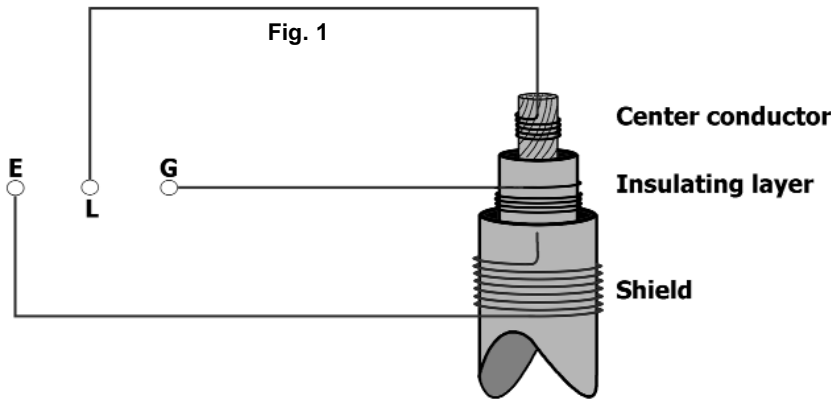
5. Precautions.

5.1. E and L terminals.

If one point of the circuit to be measured is connected to ground, connect that part of the circuit to the E side measurement lead. This is a safety measure. In general however, either terminal of the tester may be used for the ground side connection.

5.2. Using the Guard terminal.

The 'G' terminal on the insulation tester is a guard terminal and used to eliminate the effect of surface leakage on measured values. For example, when measuring the insulation resistance of a cable, a bare wire can be wrapped around the insulating layer (Fig. 1) and connected to the guard terminal, causing the leakage current to flow into the meters terminal, eliminating this cause of error and leaving only the true resistance value to be measured displayed.



6. LO BAT alarm.

The LO BAT, battery alarm may light when measuring very low values of resistance (below 500KΩ). This is due to the large amount of power consumed when measuring such small resistances. When subsequent resistance measurements of high values result in the LO BAT LED disappearing, the meter batteries should be assumed to be normal.

WARNING! When the 500V ON LED is on, 500V are present between E and L terminals. Use caution when handling the instrument in this condition.

7. MAINTENANCE

WARNING! Before attempting to open the case, ensure that test leads have been disconnected from measurement circuits to avoid electric shock hazard.

7.1. To change the batteries remove the rear cover by unscrewing the centrally located case mounted screw and insert four new AA batteries observing the correct polarity.

6. DECLARATION OF CONFORMITY

Declaration of Conformity We, the sole UK importer, declare that the product listed below is in conformity with the following standards and directives.

<p>INSULATION TESTER ACCESSORY Model: MM.404.261</p> <p>73/23/EEC Low Voltage Directive 89/336/EEC EMC Directive 93/68/EEC CE Marking Directive</p>	<p>The construction file for this product is held by the Manufacturer and may be inspected, by a national authority, upon request to Jack Sealey Ltd.</p> <p>Signed by Mark Sweetman 1st September 2004</p> <p>For Jack Sealey Ltd. Sole UK importer of Sealey Professional Tools.</p>
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NOTE: It is our policy to continually improve products and as such we reserve the right to alter data, specifications and component parts without prior notice.

IMPORTANT: No liability is accepted for incorrect use of this equipment.

WARRANTY: Guarantee is 12 months from purchase date, proof of which will be required for any claim.

INFORMATION: For a copy of our latest catalogue and promotions call us on 01284 757525 and leave your full name and address, including postcode.

	<p>Sole UK Distributor Sealey Group, Bury St. Edmunds, Suffolk.</p>	<p>01284 757500 01284 703534</p>	<p>www.sealey.co.uk sales@sealey.co.uk</p>
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