

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 multimeter as well as the potential hazards.  
*IF IN ANY DOUBT CONSULT A QUALIFIED ELECTRICIAN.*
- ✓ When the meter is connected to a circuit, do not touch unused meter terminals.
- ✓ When the value scale to be measured is unknown, set the range selector to the highest value.
- ✓ Before rotating the range selector to change functions, disconnect test leads from the circuit under test.
- ☐ **WARNING!** *Never perform resistance 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.

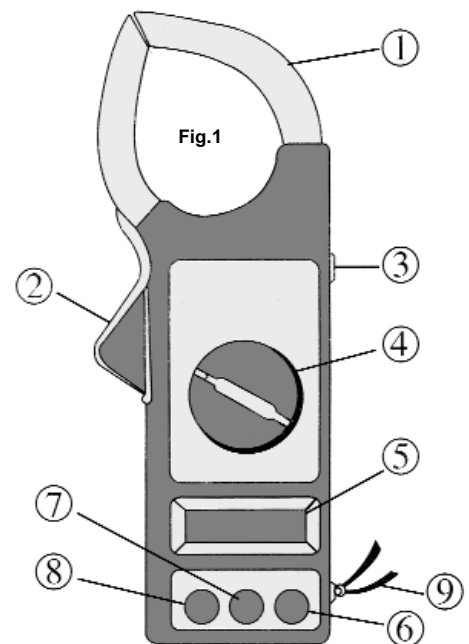
## 2. FEATURES

Durable composite case with integral AC current test clamp, suitable for the toughest workshop conditions. Four digit, large and clear, 12mm LCD display. Features push-button data hold and five function, eight range, rotary selection switch. Supplied with probe test leads, wrist strap and carry case.

### Layout: (Fig.1.)

- |              |                           |                     |
|--------------|---------------------------|---------------------|
| 1. Jaws      | 4. Rotary Function Switch | 7. COM input        |
| 2. Trigger   | 5. Display                | 8. V $\Omega$ Input |
| 3. Data Hold | 6. EXT Input              | 9. Wrist Strap      |

AC Voltage	1 - 750V
DC Voltage	1 - 1000V
AC Current	0.1A - 1000A
Resistance	100m $\Omega$ - 20K $\Omega$
Audible Continuity	50 $\pm$ 25 $\Omega$ with audible tone
Insulation Test	100K $\Omega$ - 2000M $\Omega$ (with optional insulation test unit)



## 3. OPERATION

- ☐ **WARNING!** Ensure that you read, understand and apply the safety and operational instructions before connecting the multimeter. Only when you are sure that you understand the procedures is it safe to proceed with testing.  
 Operating temperature range 0°C to 40°C.  
 Relative humidity: Maximum 80%.

### 3.1. Rotary Function Switch.

- 3.1.1. Rotate this switch to select the desired function ranges for AC/DC voltage, AC current, resistance, audible continuity and insulation tester.

### 3.2. Data-hold Button.

- 3.2.1. Press this button to hold the last reading in the display. The display will remain held until you either press the data-hold button again or switch the meter off.

### 3.3. Measuring AC Current.

- 3.3.1. Set the rotary function switch to the 1000A position.
- 3.3.2. Press the trigger to open the transformer jaws and clamp over one conductor only.  
*Note: It is not possible to take a reading from more than one conductor at a time.*
- 3.3.3. Keep the conductor as close to the centre of the jaws as possible to improve the accuracy.
- 3.3.4. If the reading is less than 200A turn the rotary switch to the 200ACA position to improve the accuracy.

### 3.4. Measuring Voltage

- 3.4.1. Connect the black test lead to the COM input socket and the red test lead to the V/ $\Omega$  input socket.
- 3.4.2. Set the rotary switch to the required V --- (dc) or V ~ (ac) range and connect test leads across the source or load under measurement.

### 3.5. Measuring Resistance

- 3.5.1. Connect the black lead to the COM input socket and the red test lead to the the V/Ω input socket (the polarity of the red lead is '+').
- 3.5.2. Set the rotary switch to the required 'Ω' range and connect the test leads across the resistance under measurement.
- 3.5.3. When checking in-circuit resistance, ensure that the circuit under test has all power removed and all capacitors have been fully discharged.

### 3.6. Continuity Testing

- 3.6.1. Connect the black lead to the COM input socket and the red lead to to the V/Ω input socket (the polarity of the red lead is '+').
- 3.6.2. If the circuit resistance under test is lower than 50Ω, the built-in buzzer will sound.

### 3.7. Insulation Testing (with optional 500V insulation tester unit)

- 3.7.1. Set The rotary switch to the 2000MΩ external unit range. The display value will be unstable until a reading is taken, this is normal in this range.
  - 3.7.2. Insert the three tester unit jacks VΩ, COM and EXT into the MM404 input sockets VΩ, COM and EXT.
  - 3.7.3. Set the insulation tester unit to the 2000MΩ position.
  - 3.7.4. Connect the insulation tester unit's L and E terminals to the installation under test. **(The test installation's power must be off).**
  - WARNING!** Never perform insulation measurements on live circuits.
  - 3.7.5. Set the insulation tester power switch to the on position.
  - 3.7.6. Press the 500V push switch, the red led will light up. The clamp meter will display the insulation value.
  - 3.7.7. If the reading is below 19MΩ, change the MM404 range to the 20MΩ external unit setting to improve the accuracy.
  - 3.7.8. When not in use the tester unit must be switched off and all leads removed.
- For more in depth instructions refer to the manual supplied with your MM404.261 Insulation Tester.

## 4. SPECIFICATION

AC CURRENT		
Range	Accuracy	Resolution
200A	±2% of reading +5 digits	100mA
1000A	±2% of reading +5 digits	1A
for 800A and below		
±3% of reading +5 digits above 800A		
Overload protection: 1200A within 60 seconds		

DC VOLTAGE (auto ranging)		
Range	Accuracy	Resolution
1000V	±0.5% of reading ±1 digit	1V
Input impedance: 9MΩ		
Overload Protection: 1000V DC/peak AC on all ranges		

AC VOLTAGE		
Range	Accuracy	Resolution
750V	±1% of reading +4 digits	1V
Input impedance: 9MΩ		
Overload protection: 750V AC/DC on all ranges		

CONTINUITY TEST	
Range	200Ω
Buzzer Sound	50 ± 25Ω
Overload Protection	500VDC /rms AC

Insulation Test (with optional 500V test unit)		
Range	Accuracy	Resolution
20MΩ	±2% of reading +2 digits	10KΩ
200MΩ	±4% of reading +2 digits	1MΩ
for 500MΩ and below		
±5% of reading +2 digits for greater than 500MΩ		

RESISTANCE.		
Range	Accuracy	Resolution
200Ω	± 1% of reading ±3 digits	0.1Ω
20KΩ	± 1% of reading ±1 digits	10Ω
Overload Protection. 500VDC/rms AC on all ranges.		



## 5. MAINTENANCE

- WARNING!** Before attempting to open the case, ensure that test leads have been disconnected from measurement circuits to avoid electric shock hazard.
- 5.1. If the battery sign  $\text{⊖} \text{+}$  appears on the LCD display, it indicates that the battery should be replaced. Remove the rear cover retaining screw and slide off the back cover. Replace the battery. (9V PP3)
- 5.2. **SPARE PARTS** MM404.01 TEST LEADS

## 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.

**DIGITAL MULTIMETER**  
Model: MM.404

73/23/EEC Low Voltage Directive  
93/68/EEC CE Marking Directive  
89/336/EEC EMC Directive



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.

Signed by Mark Sweetman

1st September 2004

For Jack Sealey Ltd. Sole UK importer of Sealey Professional Tools.

**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.



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