



# MINI AC/DC CLAMP METER

MODEL NO: **MM405**

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. KEEP THESE INSTRUCTIONS SAFE FOR FUTURE USE.



Refer to instruction manual



Electrical shock hazard

## 1. SAFETY

### 1.1. PERSONAL PRECAUTIONS

- ✓ When using this meter, please observe all normal safety rules concerning:
- ✓ Protection against the dangers of electrical current.
- ✓ Protection of the meter against misuse.

### 1.2. GENERAL SAFETY

- ✓ Familiarise yourself with the application and limitations of the meter as well as the potential hazards.
- ✓ **IF IN ANY DOUBT CONSULT A QUALIFIED ELECTRICIAN.**
- ▲ **USE EXTREME CAUTION** when working with high voltages.
- ✓ When the magnitude of the value to be measured is unknown, set the range selector to the highest value available.
- ✓ Take care when working with voltages above 35V DC or 25V AC rms. These voltages are considered a shock hazard.
- ✓ **NEVER** operate the meter unless the back cover and the battery door is in place and fastened securely.
- ✓ If any abnormal readings are observed, the meter must be checked out by an authorised technician.
- ✓ When not in use, store the multimeter carefully in a safe, dry, childproof location out of direct sunlight.
- ✓ Storage temperature range -20°C to 60°C.
- ✓ **ALWAYS** turn off the power before replacing the battery.
- ☐ **WARNING! NEVER** apply current to the meter that exceeds the specified maximum as shown below:
- ▲ **WARNING! USE EXTREME CAUTION** when working with high voltages.

**NOTE:** The warnings, cautions and instructions referred to in this manual cannot cover all possible conditions and situations that may occur. It must be understood that common sense and caution are factors which cannot be built into this product, but must be applied by the operator.

## 2. INTRODUCTION

Durable composite housing with rubber grip around handle for comfort and control. Designed to verify the presence of AC and DC current and with non-contact voltage detection, with flashlight and non-contact frequency measurement. Perfect for the automotive electrician. Features a backlit LCD display and an LED light at the front of the unit for working in dark areas. Comes complete with carry case.

## 3. SPECIFICATION

Model No: **MM405**

| Input limits |               |
|--------------|---------------|
| Function     | Maximum input |
| AC Current   | 200A          |
| DC Current   | +/-200A       |
| Frequency    | 1kHz          |

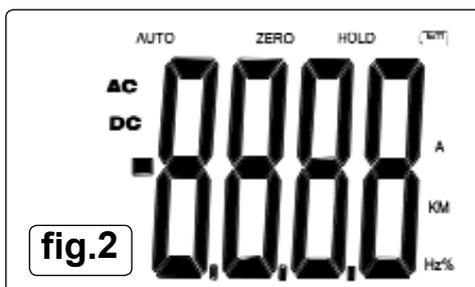
- Clamp size ..... Opening 18mm approx.
- Low Battery Indication ..... "BAT" is displayed.
- Overrange Indication ..... "OL" is displayed.
- Measurements Rate ..... 2 per second, nominal.
- Display ..... 3-2/3 digits (2400 counts) LCD.
- AC Current bandwidth ..... 50/60Hz (AAC).
- Operating Temperature ..... 14 ~ 122°F (10 ~ 50°C).
- Storage Temperature ..... -14 ~ 140°F (-25 ~ 60°C).
- Relative Humidity ..... 90% (0° - 30°C), 75% (30° - 40°C), 45% (40° - 50°C).
- Altitude ..... Operating: 3000m, storage 10,000m.
- Over Voltage ..... Category II 600V.
- Battery ..... Two 1.5V "AAA" Batteries.

- Auto OFF ..... Approx. 7 minutes.
- Dimensions/Weight .....164x65x32mm/175g.
- Safety ..... For indoor use and in accordance with Overvoltage Category II  
 .....Pollution Degree 2. Category II includes local level,  
 .....appliance, portable equipment, etc, with transient  
 .....overvoltage less than Overvoltage Category II.

| Function                    | Range       | Resolution | Accuracy   |
|-----------------------------|-------------|------------|--|
| AC Current                  | 0 - 200A    | 0.1A       | ±(3.0% reading + 8 digits)                                       |
| DC Current                  | 0 - ±200A   | 0.1A       | ±(2.8% reading + 8 digits)                                       |
| Frequency<br>(Auto-ranging) | 40-51Hz     | 0.01Hz     | ±(1.2% reading + 5 digits)<br>Input sensitivity: 2.5A AC RMS min |
|                             | 51-510Hz    | 0.1Hz      |  |
|                             | 0.51 - 1kHz | 0.001Hz    |  |

Layout: (Refer to fig.1)

1. Current clamp.
2. Flash light button.
3. Rotary function switch.
4. Data hold and backlight button.
5. LCD display.
6. Clamp trigger.
7. Zero button.



Display: (Refer to fig.2)

- AC DC .....AC (alternating current) and DC (direct current).
- .....Minus sign.
- 0000 .....2400 count (0 to 2400) measurement reading.
- AUTO .....AutoRange mode.
- HOLD..... Data Hold mode.
- BAT .....Low Battery icon.
- Hz% .....Frequency measurement.

## 4. OPERATION

- ❑ **WARNING!** Read and understand all warnings and precaution statements listed in the safety section of this operation manual prior to using this meter. Set the function select switch to OFF position when meter not in use.

### 4.1. AC Current Measurements.

- 4.1.1. Set the Function switch to the ACA range.
- 4.1.2. Press the trigger to open the jaw. Fully enclose one conductor (fig.3) to be measured.
- 4.1.3. The clamp meter LCD will display the reading.

**NOTE: DO NOT** enclose more than one conductor at any time (fig.4).

### 4.2. DC Current Measurements.

- 4.2.1. Set the Function switch to the DCA range.
- 4.2.2. Press the trigger to open the jaw. Fully enclose one conductor (fig.3) to be measured.
- 4.2.3. Press the Zero button to zero the meter in the DCA mode only.
- 4.2.4. The clamp meter LCD will display the reading.

**NOTE: DO NOT** enclose more than one conductor at any time (fig.4).

### 4.3. Frequency Measurements.

- 4.3.1. Set the rotary function switch to the "Hz" position.
- 4.3.2. Press the trigger to open the jaws. Fully enclose one conductor (fig.3) to be measured.
- 4.3.3. Read the frequency on the display.

**NOTE: DO NOT** enclose more than one conductor at any time (fig.4).

### 4.4. Data Hold.

- 4.4.1. To freeze the LCD meter reading, press the data hold button. While data hold is active, the HOLD display icon appears on the LCD. Press the data hold button again to return to normal operation.

**NOTE:** The HOLD feature will activate when the Backlight is turned on. Press the hold key again to exit hold.

### 4.5. Backlight.

- 4.5.1. The backlight function illuminates the display and is used when the ambient light is low to permit viewing of the displayed reading.

### 4.6. Zero Button.

- 4.6.1. For DCA Zero & Offset adjustment.

### 4.7. Voltage Detection.

- 4.7.1. Intended to check for the presence of AC voltage, signalling the user with RED LIGHT illuminating between the clamp jaws.

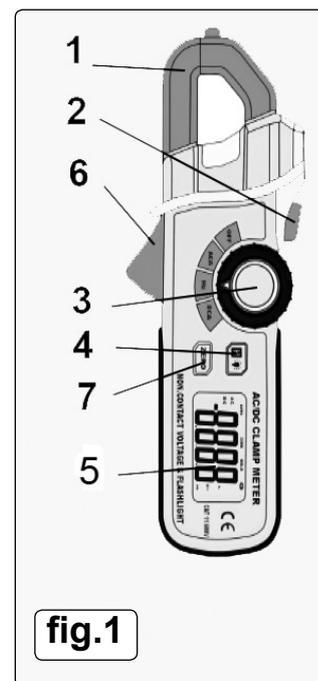
- ❑ **WARNING!** The voltage detector is intended to check for the presence of AC voltage, not to prove that a power circuit is dead.

### 4.8. Flash Light.

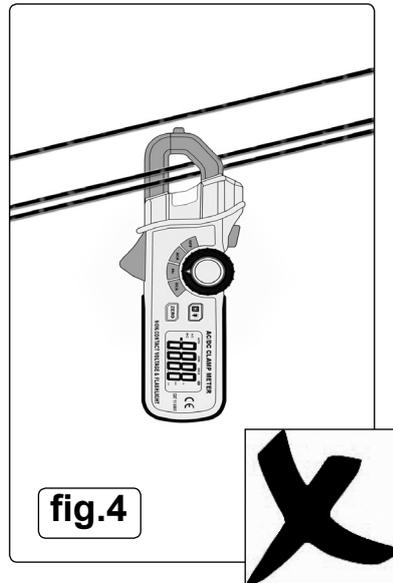
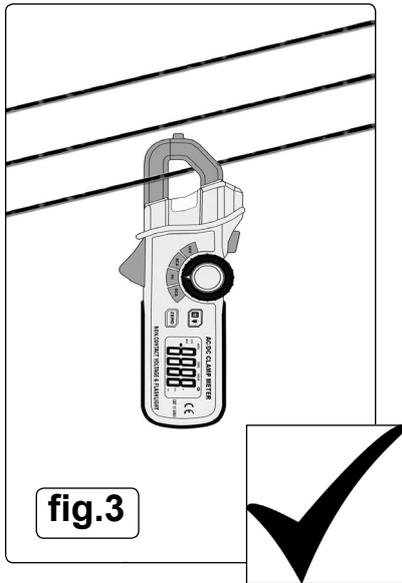
- 4.8.1. Press and hold the red button on the upper side of the meter, this will light the lamp near the clamp and provide illumination on the work subject.
- 4.8.2. Release the button and the light will turn off.

### 4.9. Battery Replacement.

- 4.9.1. Remove the cross head screw from the battery cover on the rear of the clamp meter.



- 4.9.2. Open the battery compartment.
- 4.9.3. Replace the two AAA batteries.
- 4.9.4. Re-assemble the meter.



**WEEE REGULATIONS**

Dispose of this product at the end of its working life in compliance with the EU Directive on Waste Electrical and Electronic Equipment (WEEE). When the product is no longer required, it must be disposed of in an environmentally protective way. Contact your local solid waste authority for recycling information.



**BATTERY REMOVAL - SEE SECTION 1.2**

Under the Waste Batteries and Accumulators Regulations 2009, Jack Sealey Ltd are required to inform potential purchasers of products containing batteries (as defined within these regulations), that they are registered with Valpak's registered compliance scheme. Jack Sealey Ltd Batteries Producer Registration Number (BPRN) is BPRN00705.



**ENVIRONMENT PROTECTION**

Recycle unwanted materials instead of disposing of them as waste. All tools, accessories and packaging should be sorted, taken to a recycling centre and disposed of in a manner which is compatible with the environment. When the product becomes completely unserviceable and requires disposal, drain any fluids (if applicable) into approved containers and dispose of the product and fluids according to local regulations.

**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 product.

**Warranty:** Guarantee is 12 months from purchase date, proof of which is required for any claim.

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