

CLAMP MULTIMETER



IMPORTANT SAFETY INFORMATION

Please read this manual thoroughly before use and store in a safe place for future reference

WARNING

- Do not exceed the maximum allowable input range of any function.
- Do not apply voltage to multimeter when resistance function is selected.
- Set the function switch OFF when the multimeter is not in use.
- Set function switch to the appropriate position before measuring.
- When measuring volts do not switch to current/resistance modes.
- Do not measure current on a circuit whose voltage exceeds 240V.
- When changing ranges using the selector switch always disconnect the test leads from the circuit under test.
- Do not exceed the maximum rated input limits
- Improper use of this multimeter can cause damage, shock, injury, or death.
Read and understand this user manual before operating the meter.
- Always remove the test leads before replacing the battery.
- Inspect the condition of the test leads and the multimeter itself for any damage before operating the multimeter. Repair or replace any damage before use.
- Use great care when making measurements if the voltages are greater than 25VAC RMS or 35VDC. These voltages are considered a shock hazard.
- Remove the battery if the multimeter is to be stored for long periods.
- Always discharge capacitors and remove power from the device under test before performing Diode, Resistance or Continuity tests.
- Voltage checks on electrical outlets can be difficult and misleading because of the uncertainty of connection to the recessed electrical contacts. Other means should be used to ensure that the terminals are not "live".
- If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.



FUNCTIONS

CURRENT MEASUREMENT

Test AC/DC current up to 1000Amps without interfering with test circuit. Test wire up to 30mm in diameter

MULTI-TEST

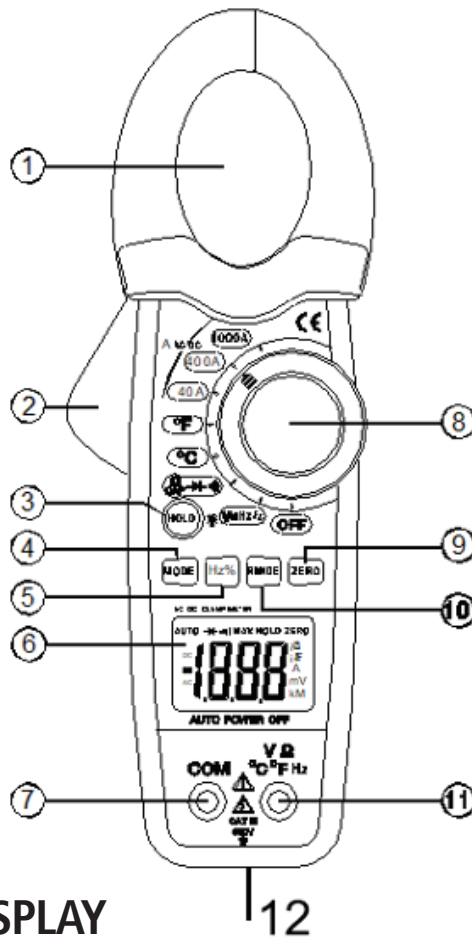
Test everything from voltage and frequency, resistance, and continuity along with the ability to test diodes and temperature

DATA HOLD FUNCTION

Freeze on screen data so you do not lose the recording

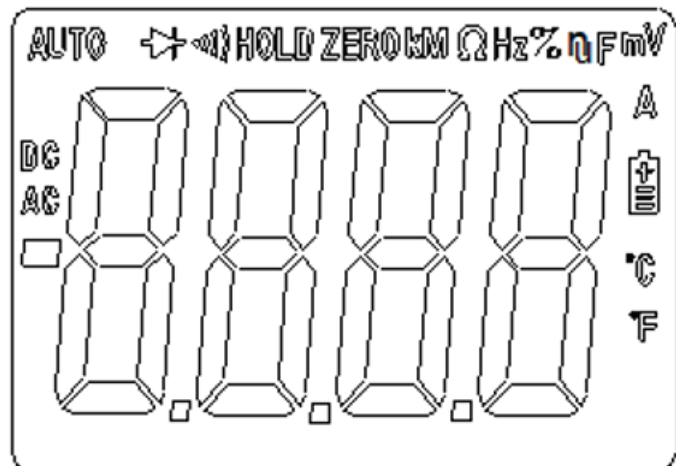
PRODUCT OVERVIEW

1. Current Clamp
2. Clamp Trigger
3. Data Hold/Backlight Button
4. Mode Button
5. Hz/% Button
6. LCD Display
7. COM Input Jack
8. Rotary Function Switch
9. ZERO Button
10. Range Select Button
11. V Ω oC/oF Jack
12. Battery Compartment on Rear



SYMBOLS USED ON LCD DISPLAY

- AC DC Alternating Current or Direct Current
- Minus Sign
- 8.8.8.8 4000 count (0 to 3999) Measuring Reading
- AUTO Auto Range Mode
- Diode Test Mode
- 🔊 Audible Continuity
- HOLD Data Hold Mode
- oC, oF, μ, m, Units of Measure
- V, A, K, M, Ω List



METER FUNCTIONS

DC/AC CURRENT MEASUREMENTS

1. Set the rotary function switch to the 1000A or 400A or 40A ranges.
 - a. If the range of the measured is not known, select the higher range first then move to the lower range if necessary.
2. Select AC or DC with the MODE button.
3. Press the trigger to open jaw and fully enclose one conductor to be measured.
4. The clamp meter LCD will display the reading.

WARNING: Ensure that the test leads are disconnected from the meter before making current clamp measurements.

DC/AC VOLTAGE MEASUREMENTS

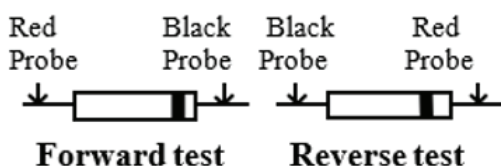
1. Insert the black test lead into the negative COM terminal and the red test lead into the positive V terminal.
2. Set the rotary function switch to the V position.
3. Select AC or DC with the MODE button.
4. Connect the test leads in parallel to the circuit under test.
5. Read the voltage on the display.

RESISTANCE AND CONTINUITY MEASUREMENTS

1. Insert the black test lead into the negative COM terminal and the red test lead into the positive terminal.
2. Set the rotary function switch to the $\rightarrow \Omega$ position.
3. Select Resistance with the MODE button.
4. Touch the test probe tips across the circuit or component under test.
 - a. It is best to disconnect one side of the device under test so the rest of the circuit will not interfere with the resistance reading.
5. For Resistance tests, read the resistance on the LCD display.
6. For Continuity tests, if the resistance is <100 , a tone will sound.

DIODE MEASUREMENTS

1. Insert the black test lead banana plug into the negative COM jack and the red test lead banana plug into the positive diode jack.
2. Set the rotary function switch to the $\rightarrow \Omega$ position.
3. Select \rightarrow with the MODE button.
4. Touch the test probe to the diode under test.
 - a. Forward voltage will indicate 0.4V to 0.7V.
 - b. Reverse voltage will indicate "OL".
 - c. Shorted devices will indicate near 0mV.
 - d. Open devices will indicate "OL" in both polarities.



CAPACITANCE MEASUREMENTS

1. Set the rotary function switch to the CAP position.
2. Insert the black test lead banana plug into the negative COM jack and the red test lead banana plug into the positive V jack.
3. Touch the test leads to the capacitor under test.
4. Read the capacitance value in the display.

WARNING: To avoid electric shock, disconnect power to the unit under test and discharge all capacitors before taking any capacitance measurements. Remove the batteries and unplug the line cords.

FREQUENCY OR % DUTY CYCLE MEASUREMENTS

1. Set the rotary function switch to the V position.
2. Insert the black test lead banana plug into the negative COM jack and the red test lead banana plug into the positive V jack.
3. Select Hz or % duty with the Hz/% button.
4. Touch the test probe tips to the circuit under test.
5. Read the frequency on the display.

TEMPERATURE MEASUREMENTS

1. Set the rotary function switch to the TEMP position.
2. Insert the Temperature Probe into the negative COM jack and the positive V jack, making sure to observe the correct polarity.
3. Select oC or oF with the MODE button.
4. Touch the Temperature Probe head to the part whose temperature you wish to measure. Keep the probe touching the part under test until the reading stabilizes (about 30 seconds).
5. Read the temperature in the display. The digital reading will indicate the proper decimal point and value.



WARNING: To avoid electric shock, disconnect both test probes from any source of voltage before making a temperature measurement.

WARNING: To avoid electric shock, be sure the thermocouple has been removed before changing to another measurement function.

DATA HOLD AND BACKLIGHT BUTTON

- Press the DATA HOLD button to "freeze" the reading on the indicator.
- "HOLD" will appear when the reading has been "frozen"
- Press HOLD button again to return to normal operation.

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


- Press the  HOLD button for 1 second to turn on the Backlight function.
- Press the  HOLD again to turn off the Backlight.

MANUAL RANGING

- Press the RANGE button to go to manual ranging.
- Each press of the RANGE button will step to the next range.
- Range will be indicated by the units and decimal points location.
- Press and hold the RANGE button for 2 seconds to return to normal operation.

NOTE: Manual ranging does not function in the AC Current, Diode and Continuity Check functions.

GENERAL SPECIFICATIONS

Clamp Size	Opening 1.2" (30mm) approx.
Diode Test	Test current of 0.3mA typical; Open circuit voltage 1.5V DC typical
Continuity Test	Threshold <100Ω; Test current < 1mA
Low Battery Indication	"  " is displayed
Over Range Indication	"OL" is displayed
Measurement Rate	2 per second, nominal
Input Impedance	7.8MΩ (VDC and VAC)
Display	4000 counts LCD
AC Current	50/860Hz (AAC)
AC Voltage Bandwidth	50/60Hz (VAC)
Operating Environment	14 to 122oF (-10 to 50oC)
Storage Environment	-14 to 140oF (-30 to 60oC)
Relative Humidity	90% (0 to 30oC); 75% (30 to 40oC); 45% (40 to 50oC)
Altitude	Operating: 3000m; Storage: 10,000m
Over Voltage	Category III 600V
Battery	1x "9V" Battery
Auto Off	Approx. 35 minutes
Dimensions/Weight	229x80x49mm/303g
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 overvoltages less than Overvoltage Cat. III.

REPLACING THE BATTERY

1. Open the battery door by loosening the screw using a Phillips head screwdriver.
2. Remove the old battery and discard properly.
3. Insert the new "9V" battery into battery holder, observing the correct polarity.
4. Put the battery door back in place. Secure with the screw.

WARNING: To avoid electric shock, do not operate the multi meter until the battery door is in place and fastened securely.

ELECTRICAL SPECIFICATIONS

Function	Range & Resolution	Accuracy (% of reading)
DC Current	40.00 AAC	± (2.8% + 10 digits)
	400.0 AAC	± (2.8 % + 5 digits)
	1000 AAC	± (3.0 % + 5 digits)
AC Current	40.00 AAC	± (3.0% + 10 digits)
	400.0 AAC	± (3.0 % + 5 digits)
	1000 AAC	± (3.0 % + 5 digits)
DC Voltage	400.0 mVDC	± (0.8% + 3 digits)
	4.000 VDC	± (1.5% + 3 digits)
	40.00 VDC	
	400.0 VDC	
AC Voltage	600 VDC	± (2.0% + 3 digits)
	400.0 mVAC	± (0.8% + 20 digits)
	4.000 VAC	± (1.8% + 5 digits)
	40.00 VAC	
	400.0 VAC	
600 VAC	± (2.5% + 5 digits)	
Resistance	400.0 Ω	± (1.0% + 4 digits)
	4.000KΩ	± (1.5% + 2 digits)
	40.00KΩ	
	400.0KΩ	
	4.000MΩ	± (2.5% + 3 digits)
40.00MΩ	± (3.5% + 5 digits)	
Capacitance	40.00nF	± (5.0% reading + 100 digits)
	400.0nF	± (3.0% reading + 5 digits)
	4.000μF	± (3.5% reading + 5 digits)
	40.00μF	
	100.0μF	± (5.0% reading + 5 digits)
Frequency	5.000Hz	± (1.5% reading + 5 digits)
	50.00Hz	± (1.2% reading + 2 digits) Sensitivity: 10Vrms min.
	500.0Hz	
	5.000kHz	
	50.00kHz	
	100.0kHz	
Duty Cycle	0.5 to 99.0%	± (1.2% reading + 2 digits)
	Pulse width: 100μs - 100ms, Frequency: 5.000Hz ~ 100.0kHz	
Temp (type-K) (probe accuracy not included)	-20 to 1000°C	± (3.0% reading + 5°C)
	-4 to 1832°F	± (3.0% reading + 7°F)

NOTE: No Auto Ranging & 400mV AC Voltage Range

WARRANTY STATEMENT

Brown & Watson International Pty Ltd ("BWI") of 1500 Ferntree Gully Road, Knoxfield, Vic., telephone (03) 9730 6000, fax (03) 9730 6050, warrants that all products described in its current catalogue will under normal use and service be free of failures in material and workmanship for a period of three (3) years from the date of the original purchase by the customer as marked on the invoice. This warranty does not cover ordinary wear and tear, abuse, alteration of products or damage caused by the purchaser.

To make a warranty claim the consumer must deliver the product at their cost to the original place of purchase or to any other place which may be nominated by either BWI or the retailer from where the product was bought in order that the warranty assessment may be performed. The consumer must also deliver the original invoice evidencing the date and place of purchase together with an explanation in writing as to the nature of the claim. In the event that the claim is determined to be for a minor failure of the product then BWI reserves the right to repair or replace it at its discretion. In the event that a major failure is determined the consumer will be entitled to a replacement or a refund as well as compensation for any other reasonably foreseeable loss or damage.

This warranty is in addition to any other rights or remedies that the consumer may have under State or Federal legislation.

IMPORTANT NOTE

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

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