

# Clarke®

## ***DIGITAL MULTIMETER***

Model No: CDM 15

## OPERATING INSTRUCTIONS



0507



**When disposing of this product, do not dispose of with general waste. It must be disposed of according to the laws governing Waste Electrical and Electronic equipment, at a recognised disposal facility.**

## INTRODUCTION


Congratulations on the purchase of your new CLARKE compact digital multimeter.

This instrument is designed to measure AC and DC voltages, DC current, Resistance, Diode, and to perform continuity checks with accuracy and ease.

## GUARANTEE

This product is guaranteed against faults in manufacture for 12 months from purchase date. Keep your receipt as proof of purchase. This guarantee is invalid if the product has been abused or tampered with in any way, or not used for the purpose for which it is intended. The reason for return must be clearly stated. This guarantee does not affect your statutory rights.

## SPECIFICATIONS

Measuring Method .....	Dual integration mode
Display .....	3.5 digit LCD
Polarity .....	Auto. negative polarity indicated
Sampling Rate .....	2 - 3 times per second
Low Battery Indication .....	 displayed on the left of LCD
Operating Temperature ..	0EC 40EC, less than 80% RH
Dimensions .....	70 (W) x 120 (H) x 18 (D) mm
Weight .....	Approx 110g (Incl. batteries)
Battery .....	9 - 12V, GP23A or equivalent.
Accessories .....	Carrying case. Operating manual.

## DC VOLTAGE (1 year 18°C - 28°C)

Range	Resolution	Accuracy
2V	1mV	± 0.5% of rdg ± 1 digit
20V	10mV	± 0.8% of rdg ± 1 digit
200V	0.1V	± 0.8% of rdg ± 1 digit
500V	1V	± 0.8% of rdg ± 1 digit

Maximum allowable input: 500V DC

## AC VOLTAGE (1 year 18°C 28°C)

Range	Resolution	Accuracy
200V	0.1V	± 1.2% of rdg 10 digits
500V	1V	± 1.2% of rdg 10 digits

Frequency Range: 45 - 1000Hz

Maximum allowable input: 500V rms AC

Response: Ave. - rms of sine wave

## DC CURRENT (1 year 18°C 28°C)

Range	Resolution	Accuracy
200mA	0.1mA	± 2.0% of rdg 2 digits

Overload Protection: 200mA/250V fuse.

## RESISTANCE

(1 year 18°C 28°C)

Range	Resolution	Accuracy
2kohm	1 ohm	$\pm 1.0\%$ of rdg $\pm 2$ digits
20kohm	10 ohm	$\pm 1.0\%$ of rdg $\pm 1$ digits
200kohm	100 ohm	$\pm 1.0\%$ of rdg $\pm 1$ digits
2000kohm	1 kohm	$\pm 1.0\%$ of rdg $\pm 1$ digits

Maximum Open Circuit Voltage: 0.65V

Overload Protection: 250V rms AC

## DIODE

Resolution	Test Current (Max)	Open Circuit Voltage
1mV	0.8mV	3.2V

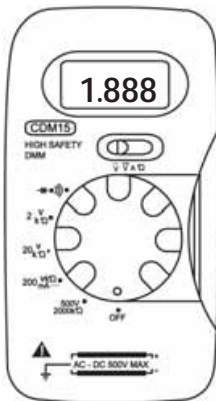
Overload Protection: 250V rms AC

## AUDIBLE CONTINUITY TEST

Resolution	Description
1 ohm	Built in buzzer sounds when resistance is less than 50 ohms

Overload Protection: 250V rms AC

## DESCRIPTION OF PANEL



1. Power Switch/Range Selector. For selecting measurement ranges and switching Power ON
2. Function Switch. Switch for selecting functions.
3. Display 3.5 digit LCD from 0 to 1999 counts.
4. Test Leads. Red test lead for positive (+) polarity, Black test lead for negative (-) polarity.

# OPERATING INSTRUCTIONS

**WARNING:** Extreme care should be taken when reading high voltages. DO NOT exceed maximum voltage for which the meter is designed.

## DC VOLTAGE MEASUREMENT

1. Set function switch to  $V^{\text{---}}$  position
2. Set range switch to desired position. If magnitude of voltage is unknown beforehand, set the switch to its highest range and then reduce until satisfactory reading is obtained.
3. Connect test leads across the source or load under measurement. The polarity of the RED lead connection will be indicated as well as the voltage.
4. When the range switch is set to the 500V position, "HV" will appear on the display, to remind you of a high voltage measurement. Special care should be taken.

## AC VOLTAGE MEASUREMENT

1. Set function switch to  $V^{\sim}$  position.
2. Set range switch to desired position. Measurement reading can be obtained at 2V and 20V positions, but accuracy is not guaranteed.
3. Connect test leads across load or source under measurement. Read voltage value on display.
4. When the range switch is set to the 500V position, "HV" will appear on the display, to remind you of a high voltage measurement. Special care should be taken.

## DC CURRENT MEASUREMENT

1. Set function switch to A position.
2. Set range switch to 200 mA position. Readings can be taken from other positions, but the decimal point will not be in correct position.
3. Open circuit to be measured, and connect leads in series with the load in which current is to be measured.
4. Read current value on display, along with the polarity.


## RESISTANCE MEASUREMENT

**WARNING:** If resistor to be measured is connected to a circuit, ensure all power to the circuit is OFF, and all capacitors are fully discharged before attaching test leads.

1. Set function switch to  $\Omega$  position.
2. Set range switch to desired position.
3. Connect test leads across resistor to be measured, and read resistance value on display.



## DIODE & CONTINUITY TEST


1. Set function switch to  $\Omega$  position.
2. Set range switch to (  ) position.
3. Connect the red lead to the anode of the diode to be measured, and the black lead to the cathode. Read the forward voltage drop on the display in mV. If the leads are reversed, the figure "1" will be displayed.
4. Connect the test leads to two points of a circuit. The buzzer will sound if the resistance is lower than 50 ohms.

## MAINTENANCE

### CAUTION.

1. Do not operate the instrument unless the back cover is place and fastened.
2. Make sure test leads are disconnected from the test circuit, and range switch is set to OFF before opening case.

## BATTERY REPLACEMENT

1. When batteries become exhausted, or drop below the operating voltage, a  sign will appear on the left of LCD.
2. Turn off meter and remove test leads from all test circuits prior to replacing batteries.
3. Remove the screw from the back cover and open the case. Replace batteries, ensuring proper polarity is observed.

## REPLACEMENT OF FUSE

Proceed as for changing battery, ensuring the fuse replacement is of the same size and rating as the original. Failure to do so may result in serious damage to your meter or possibly even fire.

(Fuse must be no more than - 200mA / 250V)

## REPLACEMENT PARTS.

1. Test Leads (pair)

Part No. CH1501

2. Fuse.

Part No. CH1502

## PARTS & SERVICE CONTACTS

For Spare Parts and Service, please contact your nearest dealer, or CLARKE International, on one of the following numbers.

**PARTS & SERVICE TEL: 020 8988 7400**

**PARTS & SERVICE FAX: 020 8558 3622**

or e-mail as follows:

**PARTS: [Parts@clarkeinternational.com](mailto:Parts@clarkeinternational.com)**

**SERVICE: [Service@clarkeinternational.com](mailto:Service@clarkeinternational.com)**



## NOTES

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A SELECTION FROM THE VAST RANGE OF

# Clarke

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**Clarke**

INTERNATIONAL

For spare parts and servicing, please contact your nearest dealer, or Clarke International on

**020 - 8988 - 7400**

e-mail: [Parts@clarkeinternational.com](mailto:Parts@clarkeinternational.com) e-mail: [Service@clarkeinternational.com](mailto:Service@clarkeinternational.com)

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