

Clarke®



DIGITAL MULTIMETER

MODEL NO: CDM15C

PART NO: 4501145

OPERATING INSTRUCTIONS



GC0415

INTRODUCTION

Thank you for purchasing this CLARKE product.

Before attempting to use this product, please read this manual thoroughly and follow the instructions carefully. In doing so you will ensure the safety of yourself and that of others around you, and you can look forward to your purchase giving you long and satisfactory service.

GUARANTEE

This product is guaranteed against faulty manufacture for a period of 12 months from the date of purchase. Please keep your receipt which will be required as proof of purchase.

This guarantee is invalid if the product is found to have been abused or tampered with in any way, or not used for the purpose for which it was intended.

Faulty goods should be returned to their place of purchase, no product can be returned to us without prior permission.

This guarantee does not effect your statutory rights.

ENVIRONMENTAL RECYCLING POLICY



Through purchase of this product, the customer is taking on the obligation to deal with the WEEE in accordance with the WEEE regulations in relation to the treatment, recycling & recovery and environmentally sound disposal of the WEEE.

In effect, this means that this product must not be disposed of with general household waste. It must be disposed of according to the laws governing Waste Electrical and Electronic Equipment (WEEE) at a recognised disposal facility.

SAFETY INFORMATION



WARNING: TAKE CARE WHEN USING THIS METER. IMPROPER USE CAN RESULT IN ELECTRIC SHOCK OR DAMAGE TO THE METER. TAKE ALL NORMAL SAFETY PRECAUTIONS AND FOLLOW THE SAFEGUARDS SUGGESTED IN THIS MANUAL.

BEFORE USE

1. When using the meter, the user must observe all normal safety rules concerning:
 - General protection against electric shock
 - Protection of the meter against misuse.
2. When the meter is delivered, confirm it has not been damaged in transit.
3. The test leads must be kept in good condition. Before using, check that the insulation on the test leads has not been damaged or any wire exposed.
4. Use only the test leads supplied to ensure operational safety. If necessary, they must be replaced with test leads of the same model or class.





DURING USE

1. Do not take measurements that exceed the maximum values for this meter.
2. Do not touch the metal probes of the test leads when the meter is connected to the circuit being measured.
3. Do not take voltage measurements if you suspect the value exceeds 600V.
4. If the appropriate value range is unknown, select the highest range on the scale.
5. Disconnect the test leads from the circuit under test before turning the rotary function selector.
6. Do not measure the resistance, diode or continuity of live circuits.
7. Do not connect the meter to any voltage source while the rotary selector is in the Current, Resistance, Diode or Continuity range.
8. Do not use the meter near explosive gases or steam.
9. Stop using the meter if any abnormalities or faults are observed.
10. Do not use the meter unless its rear case and battery cover is correctly and securely fastened.

11. Do not store or use the meter in areas exposed to direct sunlight, at high temperature or with high relative humidity.
12. To avoid false readings, replace the batteries as soon as the Low Battery indicator appears.
13. Before use, verify the meter operation by measuring a known voltage.
14. Never touch exposed wiring, connections or any live circuit while taking any measurements.
15. Keep your body isolated from ground by using dry clothing, rubber shoes, rubber mats or any approved insulating material.

SAFETY SYMBOLS

Please read all of the safety and operating instructions carefully before using this product. The following safety symbols may be found on the product.

	General hazard warning		Class II cabling without earth conductor.
	Earth		Falls under WEEE directive for disposal of electrical goods

FEATURES



FEATURES OF THE METER

1. LCD Display
2. Range Switch
 - Selects different ranges
3. Function Switch
 - Select different functions and range
4. Test Leads
 - Red test lead for positive/ black test lead for negative

MEASUREMENT FEATURES OF THIS METER

- AC Voltage measurement:- \tilde{V}
- DC voltage measurement:- \bar{V}
- DC current measurement:- **A**
- Resistance measurement:- Ω
- Diode measurement:- $\rightarrow|+$
- Continuity:- $\bullet||)$

ITEMS SUPPLIED

- Multi-meter with pair of test lead/probes (1 red/1 black)

SPECIFICATION

Model Number	CDM15C
Product Dimensions: (D x W x H)	21 x 70 x 122 mm
Weight	104 g
Test leads length (inc probes)	470 mm
Max voltage between input & earth	CATII 600V
Fuse	FF 200mA/600V
Power	12V battery
Maximum display value	1999
Over-range indication	"1"
Polarity Display	"-" for negative polarity
Detects and measures voltages	DCV $2 \pm 0.5\%$, 20/200/ 500 $\pm 0.8\%$ ACV 200, 500: $\pm 1.2\%$
Detects and measures resistance	Ohm 2k/20k/200k/2000k $\pm 1.0\%$,
Detects and measures current	DCA: 200m $\pm 2\%$
Operating Temperature	0-40°C
Storage temperature	-10°C to 50°C

OPERATING VALUES

Before taking the measurement of voltage with the probe, make sure there is no electronic device connected to the test socket of the instrument.

DC VOLTAGE MEASUREMENT

Range	Resolution	Accuracy
2V	1mV	± 0.5% of reading, ± 1 digits
20V	10mV	
200V	100mV	
500V	1V	± 0.8% of reading, ± 1 digit

- Overload protection: 500V DC

DC CURRENT MEASUREMENT

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

- Overload protection: 200mA/600V fuse

AC VOLTAGE MEASUREMENT

Range	Resolution	Accuracy
200V	100mV	± 1.2% of reading, ± 10 digits
500V	1V	


- Overload protection: 500V rms AC
- Frequency range: 45 Hz to 450 Hz
- Response: average responding (calibrated in rms of sine wave)

RESISTANCE

Range	Resolution	Accuracy
2k Ω	1 Ω	$\pm 1.0\%$ of reading, ± 2 digits
20k Ω	10 Ω	
200k Ω	100 Ω	
2000k Ω	1k Ω	$\pm 1.0\%$ of reading, ± 5 digits


- Maximum open circuit voltage: 0.65V
- Overload protection: 250V rms AC

DIODE TEST

Range	Description
	Shows the approx. forward voltage drop of the diode

- Overload protection: 250V rms AC

AUDIBLE CONTINUITY TEST

Range	Description
	Built-in buzzer sounds when resistance is less than 50 Ω

- Overload protection; 250V rms AC

OPERATING INSTRUCTIONS

BEFORE OPERATION

1. Set the function switch to the \bar{V} position.
2. Set the range switch to the desired position. If the magnitude of the voltage to be measured is unknown beforehand, set the range switch to the highest position and then reduce until a satisfactory reading is obtained.
3. Connect the test leads across the source or load being measured. The polarity of the red lead connection will be indicated at the same time as the voltage value.

4. When the range switch is set to the 500V position. The “HV” symbol will appear on the display to remind the user of high voltage measurement and to pay particular attention.

AC VOLTAGE MEASUREMENT

1. Set the function switch to the $\sqrt{\text{V}}$ position.
2. Set the range switch to the desired position. The measurement reading can be obtained at the 2V and 20V positions, but the accuracy is not guaranteed.
3. Connect the test leads across the source of the loads being measured and read the voltage value on the LCD display.
4. When the range switch is set at the 500V position an HV symbol will appear on the display to remind the user of high voltage measurement.

DC CURRENT MEASUREMENT

1. Set the function switch to the “A” position.
2. Set the range switch to the 200mA position. (measurement readings can be obtained at other positions but the decimal point will be in the wrong place.
3. Open the circuit in which the current is to be measured and connect the test leads in series with the circuit.
4. Read the current value on the LCD along with the polarity of the red lead connection.

RESISTANCE MEASUREMENT

1. Set the function switch to the “ Ω ” position. (note:- the polarity of the red lead is positive “+”)
2. Set the range switch to the desired position.
3. Connect the test leads across the resistor being measured and read the LCD display.
4. If the resistor being measured is connected to a circuit, turn off the power and discharge all capacitors before applying the test leads.

DIODE MEASUREMENT

1. Set the function switch to the “ $\rightarrow|+$ ” position. (note:- the polarity of the red lead is positive “+”)
2. Set the range switch to the $\rightarrow|+$ position.
3. Connect the red test lead to the anode of the diode to be tested and the black lead to the cathode of the diode.

4. The approximate forward voltage drop of the diode will be displayed in mv if the connection is reversed. Only the figure “1” will be shown.

AUDIBLE CONTINUITY TEST

1. Set the function switch to the “ Ω ” position.
2. Set the range to the \rightarrow position.
3. Connect the test leads to the two points of the circuit to be tested. If the resistance is less than 50Ω the buzzer will sound.

MAINTENANCE

GENERAL CARE




WARNING: BEFORE REMOVING THE REAR COVER, DISCONNECT THE PROBES FROM THE CIRCUIT TO BE MEASURED. ENSURE THE COVER IS TIGHTLY SECURED BEFORE USING THE INSTRUMENT.

Clean the housing of the meter only with a damp rag dipped in a little detergent but never any chemical solution.

In case of any abnormality, stop using the meter and sent it for maintenance.

REPLACEMENT OF BATTERY AND FUSE

1. If the  symbol appears on the LCD it indicates that the battery should be replaced. Undo the screw on the back of the meter to open the case. The battery for this meter is 12V GP23A and the replacement should be of the same specification.
2. Replacement of the fuse, if necessary is better done by your Clarke Service department using the type listed on page 6.
3. Never use the meter until the rear cover is secured after replacing a battery or fuse.

DECLARATION OF CONFORMITY



Clarke[®]
INTERNATIONAL

Hemndall Street, Epping, Essex CM16 4LG

DECLARATION OF CONFORMITY

This is an important document and should be retained.

We hereby declare that this product(s) complies with the following directive(s):

2004/108/EC Electromagnetic Compatibility Directive.

2006/95/EC Low Voltage Equipment Directive.

2011/65/EU Restriction of Hazardous substances.

The following standards have been applied to the product(s):

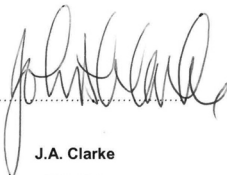
EN 61010-1:2010, EN 61010-2-030:2010, EN 61326-1:2006, EN 61326-2-2:2006

The technical documentation required to demonstrate that the product(s) meet(s) the requirement(s) of the aforementioned directive(s) has been compiled and is available for inspection by the relevant enforcement authorities.

The CE mark was first applied in: 2012

Product Description: Digital multimeter(s)
Model number(s): CDM10C, CDM15C, CDM35C, CDM45C
Serial / batch Number: N/A
Date of Issue: 05/02/2015

Signed:



J.A. Clarke
Director

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