Clarke®

OPEN JAW DIGITAL MULTIMETER

MODEL NO: CDM85

PART NO: 8133826

USER INSTRUCTIONS

UK CA CE

ORIGINAL INSTRUCTIONS

DL0421 - Rev 2

INTRODUCTION

Thank you for purchasing this CLARKE CDNM85 Digital Multimeter. Before attempting to use this product, please read these instructions carefully. In doing so you will ensure your safety 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.

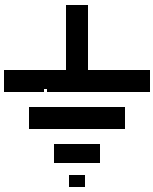
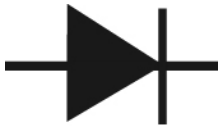
This guarantee is invalid if the product is found to have been abused or tampered with in any way, or not used for its intended purpose. Faulty goods should be returned to their place of purchase, no product can be returned to us without prior permission.

This guarantee does not effect your statutory rights.

SAFETY INFORMATION

This clamp meter has been designed according to IEC-61010 concerning electronic measuring instruments with a measurement category (CAT II 600 V).

ELECTRICAL SYMBOLS

	AC (Alternating Current)		DC (Direct Current)
	Dangerous voltage may be present		Important safety information. Refer to the manual
	Earth Ground		Double Insulated
	Diode		

OVERVIEW

	Description
1	**Clamp Jaw**: Used to clamp the conductor to be measured. to get more accurate reading, the conductor should be in the centre of the jaws.
2	**Trigger**: Used to open and close the jaws for AC current measurement.

	Description
5	**"V Q -0+" Jack**: Plug0in jack for the red (Positive) test lead.
6	**Rotary Switch**: Used to select desirable function and range as well as to turn the meter on/off.

	Description
3	**Display**: 3 1/2" LCD, with a max. reading 1999.
4	**"COM" Jack**: Plug-in jack for the black (Negative) test lead.

	Description
7	**"Hold" Button**: After pressing the button, the present reading is held on the display, meanwhile "HOLD" is displayed on the LCD as an indicator. To exit, press the button again.

SPECIFICATIONS

Display	3 1/2" Digit LCD
Overrange Indication	"1" Shown on LCD
Sampling Rate	Approximate 3 Times per Second
Jaw Opening Capability	27mm
Max. Measurable Conductor	25mm
Battery	3V, CR2032, 3 Batteries
Operation Temperature	0°C -40°C <75%RH
Storage Temperature	-20°C -60 °C, <85%RH
Dimensions	151mm x 65mm x 34mm
Weight	127g (including Batteries)

WARNING

To avoid possible electric shock or personal injury, follow these guidelines:

- Do not use the meter if it is damaged. Before you use the meter, inspect the case. Pay particular attention to the insulation surrounding the connectors.
- Inspect the test leads for damaged insulation or exposed metal. Check the test leads for continuity. Replace damaged test leads before you use the meter.
- Do not use the meter if it operates abnormally. Protection may be impaired. When in doubt, have the meter serviced.
- Do not operate the meter around explosive gas, vapor, or dust.
- Do not apply more than the rated voltage, as marked on the meter, between terminals or between any terminal and earth ground.
- Before use, verify the meter's operation by measuring a known voltage.
- When servicing the meter, use only specified replacement parts.
- Use with caution when working above 30V ac rms, 42V peak, or 60V dc. Such voltages pose a shock hazard.
- When using the probes, keep your fingers behind the finger guards on the probes.
- Connect the common test lead before you connect the live test lead. When you disconnect test leads, disconnect the live test lead first.

- Remove the test leads from the meter before you open the battery door or measure AC current.
- Do not operate the meter with the battery door or portions of the case removed or loosened.
- To avoid false readings, which could lead to possible electric shock or personal injury, replace the batteries as soon as the low battery indicator appears.
- Before using the clamp jaws to clamp the conductor to be measured, make sure that all the test leads have been removed from the clamp meter.
- Remove test leads from the meter and remove the clamp jaw from the clamped conductor before opening the meter case or the battery door.
- Remaining endangerment: When an input terminal is connected to dangerous live potential it is to be noted that this potential at all other terminals can occur!
- CATII - Measurement Category II is for measurements performed on circuits directly connected to low voltage installation. (Examples are measurements on household appliances, portable tools and similar equipment.) Do not use the meter for measurements within Measurement Categories III and IV.

CAUTION

To avoid possible damage to the meter or to the equipment under test, follow these guidelines:

- Disconnect circuit power and discharge all high-voltage capacitors before testing resistance,diode and continuity.
- Use the proper function and range for your measurements.
- Before moving the rotary switch to change functions, disconnect test leads from the circuit under test and remove the clamp jaws from the clamped conductor.

OPERATING INSTRUCTIONS

MEASURING DC VOLTAGE

1. Insert the plug of the black test lead to the "COM" jack, the plug of the red test lead to the `V Ω →| ' jack.
2. Set the rotary switch to "600V position.
3. Connect the test leads to the source or load to be measured.
4. Read the voltage value on the LCD. The polarity of the red test lead connection will be indicated as well.

MEASURING AC VOLTAGE

1. Insert the plug of the black test lead to the "COM" jack, the plug of the red test lead to the `V Ω →| ' jack.
2. Set the rotary switch to "600V ~position.
3. Connect the test leads to the source or load to be measured.
4. Read the voltage value on the LCD.

MEASURING AC CURRENT

1. Set the rotary switch to the desired AC current range position.
2. Press the trigger and clamp the conductor to be measured with the jaws.
3. Make sure that the jaws are perfectly closed.

NOTE:

a. Each time only one conductor should be clamped.

b. The conductor should be in the center of the area closed by the jaws in order to get an accurate reading.

c. Don't touch the conductor with your hand or skin.

4. Read the reading on the display.

MEASURING RESISTANCE

1. Insert the plug of the black test lead to the "COM" jack, the plug of the red test lead to the `V Ω →| ' jack.
2. Set the rotary switch to the desired resistance range position ("2000Ω" or "200kΩ").
3. Connect the test leads across the load to be measured.
4. Read the reading on LCD.

Note:

a. The built-in buzzer will sound when the resistance being measured is less than about 30Ω with the rotary switch in "2000?" position.

b. Before you do in-circuit resistance measurement, make sure that the power of the circuit has been disconnected and all the capacitors have been discharged.

MEASURING FOR CONTINUITY

1. Insert the plug of the black test lead to the "COM" jack, the plug of the red test lead to the `V Ω ⊣▶⊢' jack.
2. Set the rotary switch to the " •))) " position.
3. Connect the test leads across the load to be measured.
4. When the resistance being measured is less than about 30?, the buzzer will sound.

MEASURING DIODE

1. Insert the plug of the black test lead to the "COM" jack, the plug of the red test lead to the `V Ω ⊣▶⊢ ' jack. (the polarity of the red test lead is "+").
2. 2 Set the rotary switch to the " ⊣▶⊢ " position.
3. Connect red test lead to the anode of the diode, black test lead to the cathode of the diode.
4. Read the approximate forward voltage on LCD.

NOTE: Reading's unit is "mV".

TEST RANGE SPECIFICATION

Accuracy specifications take the form of:
±(% of Reading+number of least significant digits).

AC VOLTAGE

Range	Resolution	Accuracy	Overload Protection
600V	1V	±(1.2%+3)	DC 600V AC 600Vrms

Input impedance: 9MΩ
Frequency Response: 40Hz~400Hz
Maximum permited input voltage: 600Vrms

DC VOLTAGE

Range	Resolution	Accuracy	Overload Protection
600V	1V	±(1.0%+2)	DC 600V AC 600Vrms

Input impedance: 9MΩ
Maximum permited input voltage: 600Vrms

RESISTANCE

Range	Resolution	Accuracy	Overload Protection
2000Ω	1Ω	±(1.2%+2)	DC 250V AC 250Vrms
200kΩ	100Ω	±(1.5%+2)	DC 250V AC 250Vrms

AC CURRENT

Range	Resolution	Accuracy	Overload Protection
20A	10mA	±(3.0%+5)	500A (30 Seconds)
200A	100mA	±(2.5%+5)	500A (30 Seconds)
400A	1A	±(2.5%+5)	500A (30 Seconds)

Response: Average, calibrated in rms od a sine wave
Frequency range: 50 ~ 60Hz

AUDIBLE CONTINUITY

Range	Resolution	Accuracy
	1Ω	When the resistance drops below about 30Ω, the buzzer will sound

DIODE

Range	Resolution	Accuracy	Overload Protection
	1mV	±(3.0%+5)	DC 250V AC 250Vrms

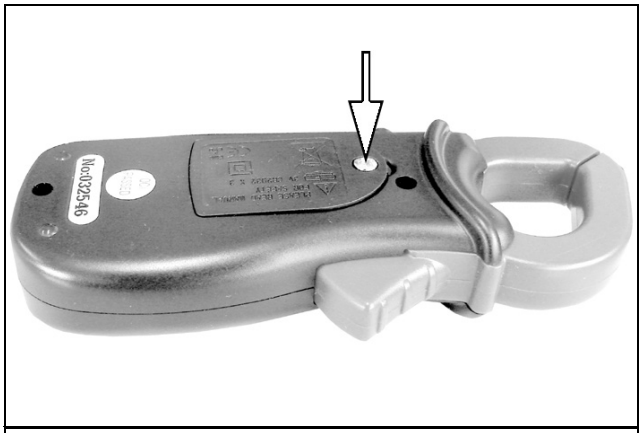
GENERAL MAINTAINANCE

Periodically wipe the case with a damp cloth and mild detergent. Do not use abrasives or solvents.
Dirt or moisture in the jacks can affect readings.
Clean the jacks as follows:

1. Make sure that no object is clamped in the jaws.
2. Turn the meter off and remove the test leads.
3. Shake out any dirt that may be in the jacks.
4. Soak a new swab with alcohol. Work the swab around in each jack.

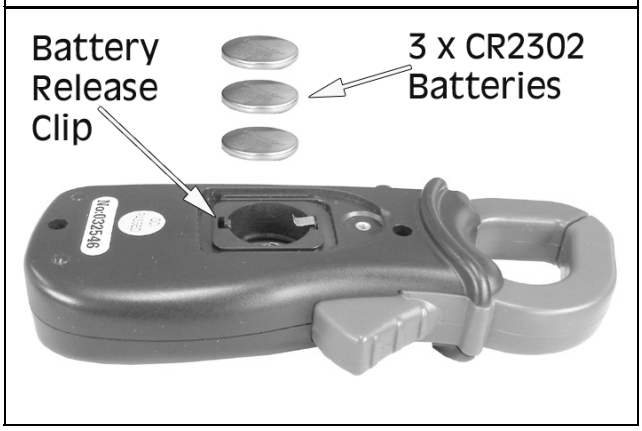
GENERAL MAINTAINANCE

1. Remove the screw from the rear battery cover.
2. Gently pull back the battery release clip and remove the 3 batteries.



3. Replace the 3 batteries, making sure that the positive side is facing upwards on each battery.

NOTE: The batteries required are 3 x CR2032



DECLARATION OF CONFORMITY - UKCA

UK CA

Clarke® INTERNATIONAL

Hemnall 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 UK legislation:

Electromagnetic Compatibility Regulations 2016.

The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012.

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

EN 61326-1:2013, EN 61326-2-2:2013.

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

This product was placed onto the market: 2006

Product Description:	Open Jaw Digital Multimeter
Model number(s):	CDM85
Serial / batch Number:	N/A
Date of Issue:	24/03/2021

Signed:

J.A. Clarke

Director

UKCA (07-0198) CDM85 Digital Multimeter (rv 0)No21-0047UK

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DECLARATION OF CONFORMITY - CE

CE

Clarke®
INTERNATIONAL
Fitzwilliam Hall, Fitzwilliam Place, Dublin 2

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):

2014/30/EU *Electromagnetic Compatibility Directive.*

2011/65/EU *Restriction of Hazardous Substances, (amended by 2015/863).*

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

EN 61326-1:2013, EN 61326-2-2:2013.

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: 2006

Product Description:	Open Jaw Digital Multimeter
Model number(s):	CDM85
Serial / batch Number:	N/A
Date of Issue:	24/03/2021

Signed:

J.A. Clarke
Director

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