



DRAPER®

POCKET DIGITAL MULTIMETER

52320



IMPORTANT: Please read these instructions carefully to ensure the safe and effective use of this product and save these instructions for future reference. This manual has been compiled by Draper Tools and is an integrated part of the product with which it is enclosed and should be kept with it for future references.

This manual describes the purpose for which the product has been designed and contains all the necessary information to ensure its correct and safe use. We recommend that this manual is read before any operation or, before performing any kind of adjustment to the product and prior to any maintenance tasks. By following all the general safety instructions contained in this manual, it will ensure both product and operator safety, together with longer life of the product itself.

All photographs and drawings in this manual are supplied by Draper Tools to help illustrate the operation of the product. Whilst every effort has been made to ensure accuracy of information contained in this manual, the Draper Tools policy of continuous improvement determines the right to make modifications without prior warning.

1. TITLE PAGE

1.1 INTRODUCTION:

USER MANUAL FOR:

POCKET ANALOGUE MULTIMETER

Stock no. 52320.

Part no. DMM7.

1.2 REVISIONS:

Date first published March 2017

As our user manuals are continually updated, users should make sure that they use the very latest version.

Downloads are available from: <http://www.drapertools.com/manuals>

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1.3 UNDERSTANDING THIS MANUALS SAFETY CONTENT:

WARNING! Information that draws attention to the risk of injury or death.

CAUTION! Information that draws attention to the risk of damage to the product or surroundings.

1.4 COPYRIGHT © NOTICE:

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3. GUARANTEE

3.1 GUARANTEE

Draper tools have been carefully tested and inspected before shipment and are guaranteed to be free from defective materials and workmanship.

Should the tool develop a fault, please return the complete tool to your nearest distributor or contact Draper Tools Limited, Chandler's Ford, Eastleigh, Hampshire, SO53 1YF. England.

Telephone Sales Desk: (023) 8049 4333 or Product Helpline (023) 8049 4344.

A proof of purchase must be provided with the tool.

If upon inspection it is found that the fault occurring is due to defective materials or workmanship, repairs will be carried out free of charge. This guarantee period covering parts/labour is 12 months from the date of purchase except where tools are hired out when the guarantee period is 90 days from the date of purchase. This guarantee does not apply to normal wear and tear, nor does it cover any damage caused by misuse, careless or unsafe handling, alterations, accidents, or repairs attempted or made by any personnel other than the authorised Draper warranty repair agent.

Note: If the tool is found not to be within the terms of warranty, repairs and carriage charges will be quoted and made accordingly.

This guarantee applies in lieu of any other guarantee expressed or implied and variations of its terms are not authorised.

Your Draper guarantee is not effective unless you can produce upon request a dated receipt or invoice to verify your proof of purchase within the guarantee period.

Please note that this guarantee is an additional benefit and does not affect your statutory rights.

Draper Tools Limited.

4. INTRODUCTION

4.1 SCOPE

A device to allow simple measurement of voltage, current and resistance.

4.2 SPECIFICATION

Stock no..... 52320
Part no DMM7
Dimensions (W x H x D) 55 x 112 x 40mm
Battery type 1 x 12V (Type 23A)
Weight 70g
Fuse and diode protected.

Warning: To avoid electrical shock remove test leads before opening battery cover. To prevent risk of fire only use the correct size/type fuse, as fitted.

AC Voltage Input impedance: 450K, Input protection: 500V RMS,
Frequency Range: 40Hz-400Hz.

Range	Accuracy
200V	± 2.0% rdg ± 5 dgts
500V	

DC Current Overload protection: 200mA/250V fuse.

Range	Accuracy
2000A	± 2.0% rdg ± 4 dgts
20mA	
200mA	

Resistance

Range	Accuracy
200	± 1.5% rdg ± 4 dgts
2000	
20k	
200k	
2000k	

DIODE CHECK Test current 1.6mA typical.

Range	Accuracy
3.2V DC Typical	~

reading = accuracy of the measurement circuit

digits = accuracy of the analogue to digital conversion

WARNING: Ensure the test leads are fully engaged prior to carrying out any measurements, to avoid an electric shock.

5. HEALTH & SAFETY INFORMATION

5.1 SAFETY PRECAUTIONS

This instrument complies with IEC1010 (International Electrotechnical Commission promulgated safety standards). Design and production using the pollution level 2 safety requirements.

 **Warning**

To avoid electrical shock or personal injury.

Please read the safety information and “warnings and precautions” before use.

Warning: When measuring voltage above 30V, current above 10ma, AC power with an inductive load. Use caution not to touch exposed contacts due to the risk of electric shock, only use approved probes or clamps.

1. Before measuring, check whether the measurement function switch is in the correct position, check whether the test probe is connected correctly to avoid electric shock.
2. The meter is only to be used in conjunction with the supplied test leads to comply with safety standards. If the test leads are broken or damaged, replace the test leads of the same type or the same electrical specifications.
3. Do not use an unapproved fuse to replace the fuse inside the meter. Only replace with the same model or the same specifications of the fuse. Before changing, remove the test leads to ensure that there is no signal input.
4. Do not use unapproved batteries to replace the battery inside the meter. Replace only with the same model or the same electrical specifications of the battery. Before changing, remove the test leads to ensure that there is no signal input.
5. During electrical measurements, the body must not be directly in contact with the earth, use insulating materials to keep your body insulated from the earth.
6. Do not store or use in high temperature, high humidity, flammable, explosive and strong magnetic field environments.
7. Measurements exceeding the limit values of the instrument may damage the instrument and endanger the safety of the operator.
8. Do not attempt to calibrate or service the instrument.
9. Do not insert the test leads to be inserted into the current terminals to measure the voltage!

6. IDENTIFICATION



- ① Function selector.
- ② Power switch.
- ③ L.C.D. screen.
- ④ Test probe.

- ⑤ V, mA (Voltage, Resistance, Amperage) probe Socket.
- ⑥ Common earth probe socket.

7. UNPACKING & CHECKING

7.1 PACKAGING

Carefully remove the product from the packaging and examine it for any sign of damage caused during shipping. Lay the contents out and check them. If any part is damaged or missing, do not attempt to use the tool and contact the Draper Helpline immediately (see back page for details).

Retain the packaging material at least during the guarantee period: in case the machine needs to be returned for repair.

Warning! Some of the packaging materials used may be harmful to children, keep them out of reach from children.

Disposed of any packaging correctly and according to local regulations.

7.2 HANDLING & STORAGE

Although this machine is small in size, care must still be taken when handling. Dropping this machine will have an effect on the accuracy. This machine is not a toy and must be respected.

The environment will have a negative result on its operation if you are not careful. If the air is damp, components will rust. If the machine is unprotected from dust and debris; components will become clogged: And if not cleaned and maintained correctly or regularly the machine will not perform at its best.

8. OPERATING INSTRUCTIONS

WARNINGS: Each time before you use this analyser, inspect the test leads, connectors and probes for damage, e.g. cracks or breaks in the insulation. Any defective leads should be replaced immediately. If the value to be measured is not known, set the selector switch to the highest range and reduce until a satisfactory reading is obtained.

8.1 VOLTAGE MEASUREMENT:

1. Connect the red test lead to the 'V//mA' probe socket and the black lead to the 'com' probe socket. Ensure the leads are correctly plugged in.
2. Position the selector switch to the desired voltage range and switch the meter 'ON'.
3. Connect the test leads to the circuit to be measured.
4. Turn on the power to the circuit to be measured, the voltage value should appear on the digital display along with the voltage polarity (if reversed only).

8.2 CURRENT MEASUREMENT - FIG.1

1. Connect the red test lead to the 'V//mA' probe socket and the black lead to the 'com' probe socket (max 10A).
2. Position the selector switch to the desired amp range and switch the meter 'ON'.
3. Open the circuit to be measured, and connect the test leads in series to bridge the gap.
4. Turn on the power to the circuit to be measured, the 'current' value should appear on the digital display.

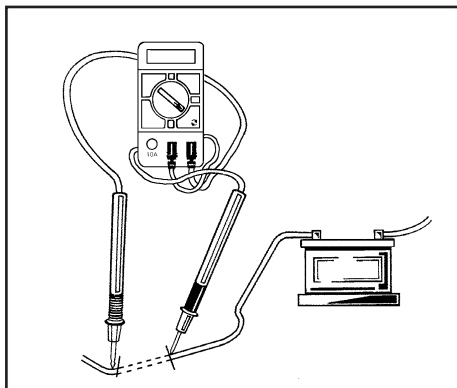


FIG.1

8.3 RESISTANCE MEASUREMENT:

WARNING: If the resistance to be measured is part of a circuit, turn off and disconnect the power and discharge all capacitors before measurement

1. Connect the red test lead to the 'V//mA' probe socket and the black lead to the 'com' probe socket.
2. Position the selector switch to the desired ohm range and switch the meter 'ON'.
3. Connect the test leads to the circuit to be measured.
4. The resistance value should now appear on the digital display.

9. EXPLANATION OF SYMBOLS

9.1 EXPLANATION OF SYMBOLS

Carefully remove the product from the packaging and examine it for any sign of damage



WEEE
Do not dispose of Waste Electrical & Electronic Equipment in with domestic rubbish



Attention.



For indoor use.
Do not expose to rain.



High voltage / current!
Danger.



Class II construction
(Double insulated)



Conforms to all relevant safety standards.



Earth



Fuse



Diode test



Low battery display



Voltage AC



Voltage DC



Warning!
Read instruction manuals before operating and servicing this equipment.



Resistance in Ohms

10.1 DISPOSAL

- At the end of the machine's working life, or when it can no longer be repaired, ensure that it is disposed of according to national regulations.
- Contact your local authority for details of collection schemes in your area.

In all circumstances:

- Do not dispose of power tools with domestic waste.
- Do not incinerate.
- Do not abandon in the environment.
- Do not dispose of WEEE* as unsorted municipal waste.



* Waste Electrical & Electronic Equipment.

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Service/Warranty Repair Agent:

For aftersales servicing or warranty repairs, please contact the
Draper Tools Helpline for details of an agent in your local area.

YOUR DRAPER STOCKIST

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