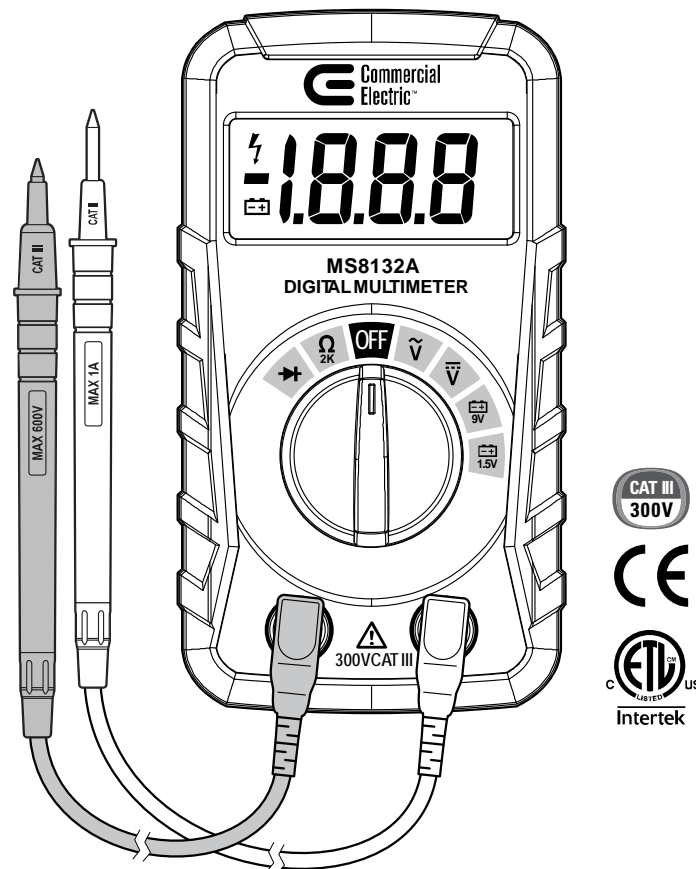


USE AND CARE GUIDE

DIGITAL MULTIMETER



Questions, problems, missing parts? Before returning to the store,
call Commercial Electric Customer Service
8 a.m. – 7 p.m., EST, Monday – Friday, 9 a.m. – 6 p.m., EST, Saturday

1-877-527-0313

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THANK YOU

We appreciate the trust and confidence you have placed in Commercial Electric through the purchase of this digital multimeter. We strive to continually create quality products designed to enhance your home. Visit us online to see our full line of products available for your home improvement needs. Thank you for choosing Commercial Electric!

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Safety Information








Please read this manual carefully and pay attention to related safe working standards before using this meter. Protection provided by the instrument will be impaired if used in a manner not specified by the manufacturer.

The digital multimeter is designed and manufactured according to safety requirements of EN 61010-1:2010, EN 61010-2-030, EN 61010-2-033, on electronic measuring instruments and hand held digital multipurpose meters. This multimeter also conforms to UL STD.61010-1, 61010-2-030, 61010-2-033, Certified to CSA STD.C22.2 NO.61010-1, 61010-2-030, and 61010-2-033. The product meets with the requirements of 300V CAT III and pollution degree 2. The meter can be used for measuring DC voltage, AC voltage, resistance, diode and batteries.

Use the meter strictly according to the provisions of this manual. Otherwise, the warranty for the meter may become invalid. The warnings in the user manual are used to remind users of possible danger or dangerous action. The notes in the user manual are used to remind users of possible meter damage or a condition or action of the measured object.

This device enters shutdown mode when the battery voltage is lower than 2V.

SAFETY SYMBOLS

Symbol	Definition
	Indicates important safety information.
	Alternating current (AC).
	Direct current (DC).
	The fuse must be replaced with the rating specified in this manual.
	Equipment protected throughout by DOUBLE INSULATION or REINFORCED INSULATION.
	Conforms to UL STD. 61010-1, 61010-2-030 and 61010-033. Certified to CSA STD C22.2 NO. 61010-1, 61010-2-030, and 61010-033.
	Accord with the related EU laws and regulations.
CAT III	Measurement Category III is applicable to test and measuring circuits connected to the distribution part of the building's low-voltage MAINS installation.

Safety Information (continued)

PRECAUTIONS



WARNING: Measure known voltage with the meter to verify that the meter is working properly. If the meter is working abnormally, stop using it immediately. A protective device may be damaged. If there is any doubt, have the meter inspected by a qualified technician.



WARNING: Do not use the meter or test leads if they look damaged. Check to see if the test wire has insulation damage or bare metal. Check test wire continuity. If the wire is damaged, replace it with a new one before using the meter.



WARNING: When testing voltage that exceeds 30V AC or 60V DC, be particularly careful to avoid electric shock.



WARNING: When measuring, use the correct jack, and select the proper function and measuring range.



WARNING: When making connections, connect the common test lead before connecting the live test lead. When disconnecting, disconnect the live test lead before disconnecting the common test lead.



WARNING: Do not use under direct sunlight or high temperatures.



WARNING: Disconnect power to the circuits and discharge all high-voltage capacitors before testing resistance, continuity, diodes, or capacitance.



WARNING: Before measuring current, check the meter's fuse and turn off power to the circuit before connecting the meter to the circuit.



WARNING: Do not measure voltages exceeding the rated voltage marked on the meter.



WARNING: Do not operate the meter with any part removed or damaged.



WARNING: When the battery low voltage indicator illuminates, replace the battery immediately. A low battery will cause meter reading errors and may result in electric shock or personal injury.



WARNING: Do not operate the meter around explosive gas, vapor, or dust.



CAUTION: Pay attention to the battery polarity when changing the battery.



CAUTION: When maintaining the meter, use replacement parts specified by the factory.



CAUTION: To avoid damage to the meter, do not exceed the maximum limits of the input values shown in the Specification tables.



CAUTION: Before changing functions, disconnect the test leads from the circuit under test.



NOTE: Keep your fingers behind the protection guards while measuring.

Warranty

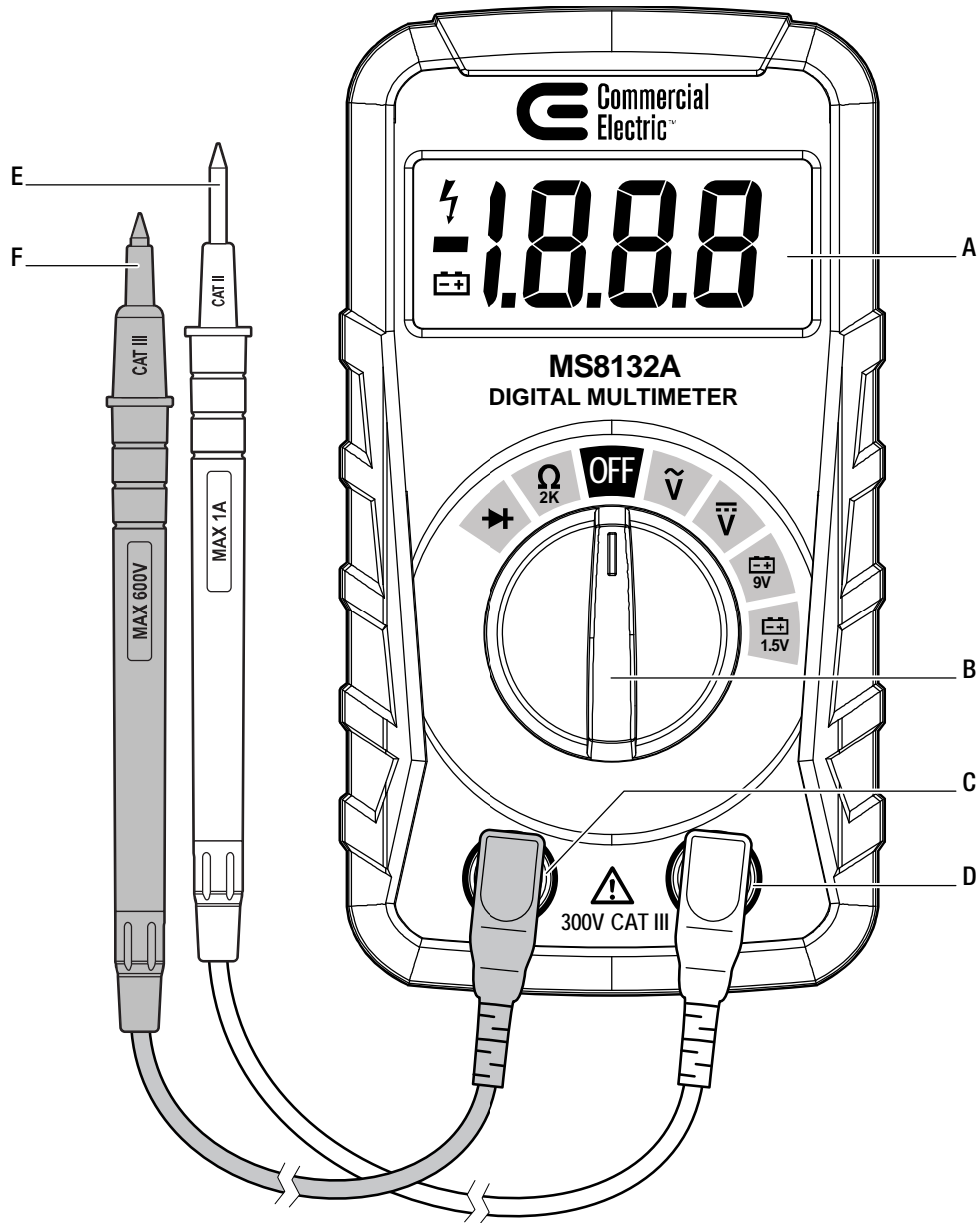
WARRANTY: 12 months

For one year from the date of purchase, this product is warranted against any defects in material or workmanship. This warranty is void if this product is ever used while providing commercial services or if rented to another person.

Contact the Customer Service Team at 1-877-527-0313 or visit www.HomeDepot.com.

Pre-Operation

PRODUCT DESCRIPTION



Part	Name	Description
A	LCD display	Displays the measured readings.
B	Select switch	Rotate to select a measurement mode.
C	Common input jack	Connect to the black test lead.
D	Positive input jack	Connect to the red test lead to measure DC voltage, AC voltage, resistance, diode and batteries.
E	Red test lead	
F	Black test lead	

Pre-Operation (continued)

LCD DISPLAY DEFINITIONS



LCD Term	Description
1	High voltage indicator
2	Numerical value polarity indicator (negative sign)
3	Battery low voltage indicator
4	Measurement display value

ACCURACY

Function	Range	Accuracy
ACV	1V-300V	±(2.0% of reading +10 digits)
DCV	1V-300V	±(2.0% of reading +8 digits)
Resistance	2KΩ	±(2.0% of reading +10 digits)
Diode	Displays the appropriate diode positive voltage	
Battery test	1.5V	1.350 – 1.650V
	9V	8.450 – 9.550V

Pre-Operation (continued)

PRODUCT SPECIFICATIONS

Component	Specification
Altitude	Up to 2000 meters
Battery	2 x AAA 1.5V batteries
Fuse protection	F 250mA H 300V
Display	3-1/2 digits LDC display, low voltage display
Full range	1999 counting
Over range indication	LCD displays "1"
Safety class	EN61010-1, CAT III 300V
Operating environment	0°C - 40°C (32°F - 104°F), 80% relative humidity
Storage temperature	-10°C - 50°C (14°F - 122°F), <80% relative humidity
Size	114 x 64 x 32 mm
Weight	Approximately 142g

Operation

1 Completing an AC or DC voltage measurement

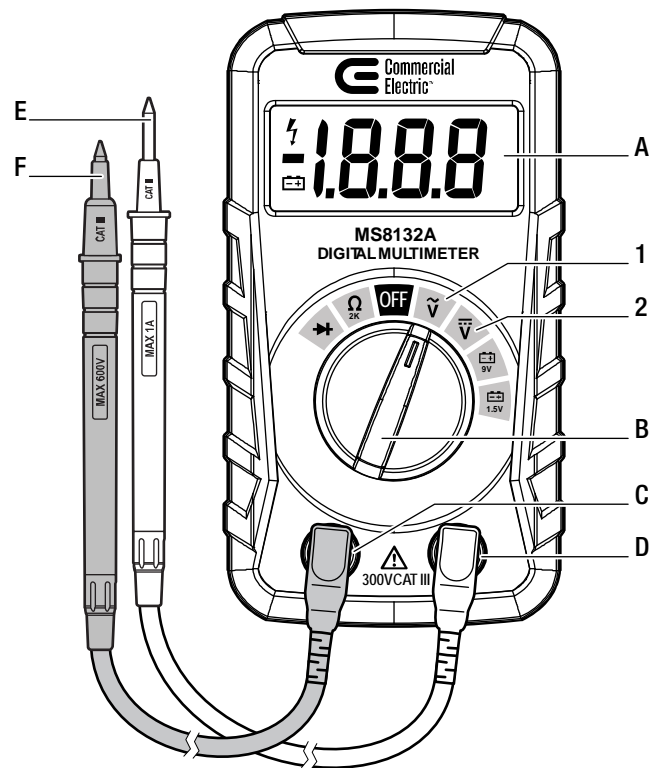


CAUTION: To avoid electrical shock and/or damage to the meter, do not attempt to take any voltage measurement that might exceed 300V DC or AC rms.



CAUTION: Do not measure AC/DC voltages if a monitor on the circuit is being switched ON or OFF. Large voltage surges may occur that can damage the meter.

- Set the switch (B) to the AC (1) or DC (2) position.
- Connect the black test lead (F) to the common jack (C) and the red test lead (E) to the positive jack (D).
- Connect the test leads (E and F) to the circuit being measured.
- Read the value on the LCD display (A). The polarity of the red test lead (E) connection will be indicated when making a DCV measurement.



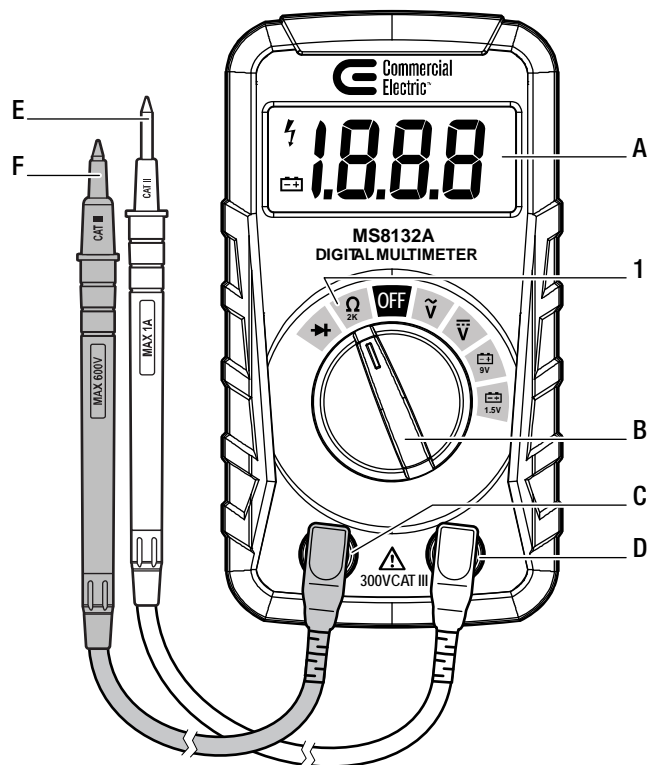
Operation (continued)

2 Completing a resistance measurement



WARNING: To avoid damage to the meter or equipment being measured, cut off all power supply to the measured circuits and discharge all high voltage capacitors before measuring resistance.

- Set the switch (B) to the Ω position (1).
- Connect the black test lead (F) to the common jack (C) and the red test lead (E) to the positive jack (D).
- Connect the test leads (E and F) to the circuit being measured.
- Read the measured resistance value on the display (A).

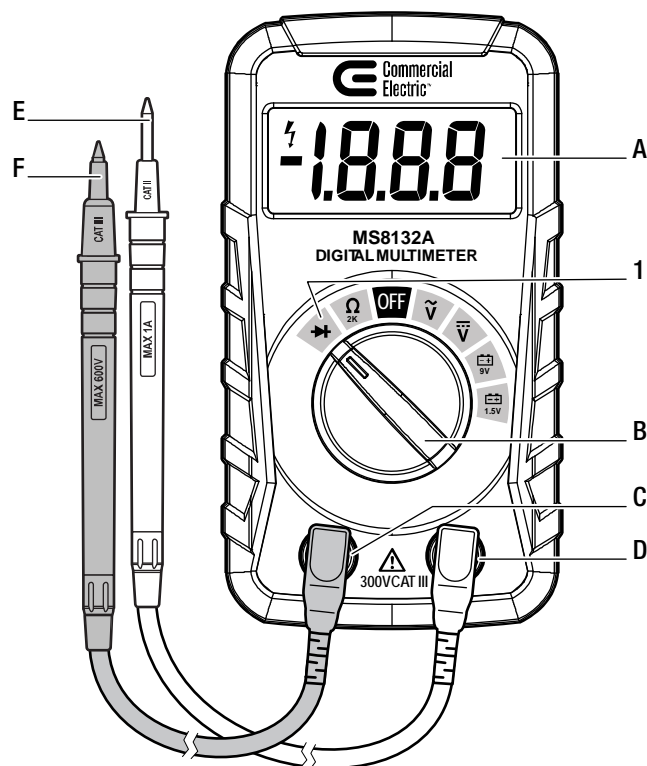


3 Completing a diode measurement



WARNING: To avoid damage to the meter or equipment being measured, cut off all power supply to the measured circuits and discharge all high voltage capacitors before measuring diode.

- Set the switch (B) to the diode position (1).
- Connect the black test lead (F) to the common jack (C) and the red test lead (E) to the positive jack (D).
- Separately connect the black test lead (F) and the red test lead (E) to the negative pole and positive pole of the measured diode.
- The display (A) shows the forward bias value of the measured diode. If the poles of the test leads are connected inversely, the meter displays "OL".



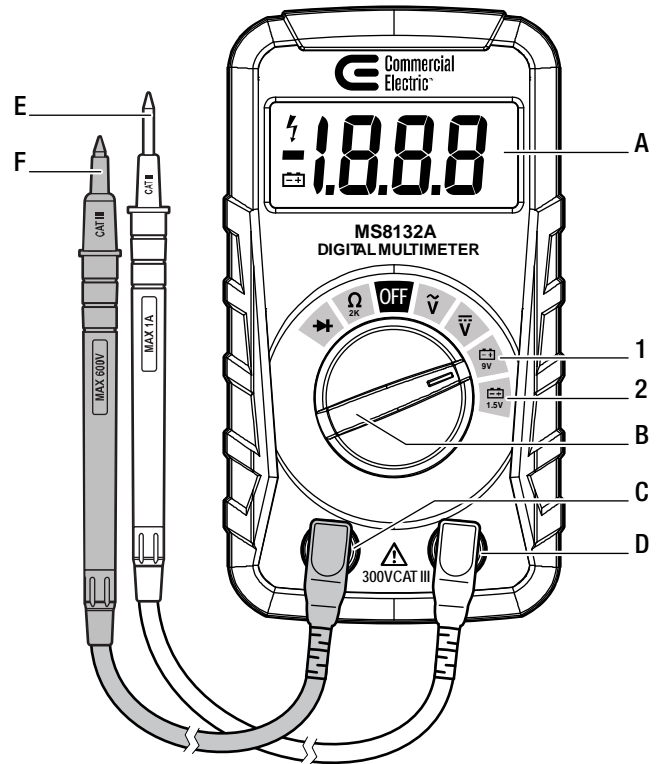
Operation (continued)

4 Testing a battery



WARNING: To prevent injury or damage to the meter, do not connect the meter to a battery with a voltage rating that exceeds 60V AC or 30V DC.

- Set the switch (B) to either the 9V (1) or 1.5V (2) battery position (1).
- Connect the black test lead (F) to the common jack (C) and the red test lead (E) to the positive jack (D).
- Connect the red test lead (E) to the positive (+) end and the black test lead (F) to the negative (-) end of the battery. Read the measurement on the display (A).



Maintenance



WARNING: Before you open the meter, always disconnect it from all sources of electrical current and make sure you are not charged with static electricity, which may destroy the internal components.



WARNING: To avoid injury or damage to the meter, do not wet the inner parts of the meter. Before opening battery cover, remove the connecting cable between the test probe and input signal.



WARNING: Any adjustment, maintenance, or repair work carried out on the meter while it is live should be carried out by a qualified electrician.



WARNING: When you open the meter, remember that some internal capacitors can retain a dangerous voltage level even after the instrument is switched off.



CAUTION: If the meter is not going to be used for a long time, take out the battery and do not store the meter in a high temperature or high humidity environment.

REPLACING THE BATTERY AND FUSE



WARNING: To prevent electrical hazard or shock, turn off the meter and disconnect the test leads and any input signals before removing the battery cover.



WARNING: Change the battery when the battery symbol appears on the LCD in order to avoid incorrect data, which could lead to electric shock or personal injury.



CAUTION: Only use the specified batteries and fuses for replacement. See the Product Specifications section of this manual for more information.



CAUTION: Do not mix old and new batteries. Do not mix alkaline, standard (carbon-zinc), or rechargeable (ni-cad, ni-mh, etc) batteries.

Maintenance (continued)

- Turn the meter off by turning the switch to the OFF position.
- Disconnect the test leads and any connectors from the terminals on the meter.
- Use a screwdriver to unscrew and remove the battery cover located on the back of the meter. If you are replacing the fuse, unscrew all of the screws on the back of the meter.
- Remove the used batteries or damaged fuse.
- Replace with a new battery or fuse.
- Reattach the battery cover and secure with the screws.

TEST LEAD REPLACEMENT

Replacement test leads must meet the manufacturer's specifications (EN 610 10-031 standard, CAT III 600V 10A, or better).

Care and Cleaning

- Periodically wipe the meter with a damp cloth and mild detergent.
- Do not use abrasives or solvents.
- Dirt or moisture in the terminals can affect readings.

To clean the terminals:

- Turn the meter off and remove all test leads.
- Shake out any dirt that may be in the terminals.
- Soak a new cotton swab with a cleaning and oiling agent (such as WD-40).
- Work the swab around in each terminal. The oiling agent insulates the terminals from moisture-related contamination.



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Retain this manual for future use.