OPERATING INSTRUCTIONS

4 Function, 15 Range Digital Multi-Meter
GDT-3200

Read this owner's manual thoroughly before use and save.

1.0 METER FUNCTIONS



1. 2000 count digital display
2. 7 position Function Dial
3. AC Volts
4. DC Volts
5. Resistance
6. Continuity/Diode Test
7. Temperature (32°F - 482°F, 0°C - 250°C)
8. Battery Test
9. Backlight Button
10. Low Battery Indicator
11. Common Input Jack
12. Positive Input Jack
13. Protective Rubber Boot and Tilt-Out Stand
14. Mode Select Button
15. Off Dial Selection

1.1 METER FUNCTIONS

Meter Type:	Manual
Functions:	7
Ranges:	6
Display Count:	2000
Input Impedance:	10 Meg Ohm
AC Volt Ranges:	500 (0.8% + 5 digits)
DC Volt Ranges:	600 ±(0.5% + 5 dgts)
Resistance Ranges:	20MΩ <1MΩ(0.8% + 5dgts) ≥ 1MΩ±(2% + 5dgts)
Continuity/Diode Function:	Selectable
Temperature Range:	32°F - 482°F
Battery Test Ranges:	1.5V
Auto Off:	15 minutes
Operating Environment Indoor Use	
Operating Temperature:	0°C – 40°C
Storage Temperature:	-10°C – 50°C
Relative Humidity:	0% – 75%RH (0°C – 31°C)
Altitude:	0% – 50%RH (31°C – 40°C)
Battery Type:	2-AAA
Battery Life:	100 hours with carbon-zinc cells, 200 hours with alkaline cells under normal conditions.
Overrange Indication:	"OL" is displayed at the left when the range capacity is exceeded by the input.
Polarity Indication:	Negative displayed, positive implied
Size (LxWxH):	5.51" x 2.83" x 1.26"
Weight:	Approximately 110g (without batteries)
Agency Approvals:	ETL, CAT III 600V

Note: Accuracy is given for one year at 23°C ± 3°C rH<70%

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2.0 READ FIRST: IMPORTANT SAFETY INFORMATION

Read this operators manual thoroughly before using this multimeter. This manual is intended to provide basic information regarding this meter and to describe common test procedures which can be made with this unit. Many types of appliance, machinery, and other electrical circuit measurements are not addressed in this manual and should be handled by experienced service technicians. **The marking "⚠" on the equipment represents Caution, risk of electric shock.**

The marking " ⚠ " on the equipment represents Caution, risk of danger.

The marking " ⏚ " on the equipment represents Functional earth terminal.

The marking " ▣ " on the equipment represents Equipment protected by DOUBLE INSULATION or REINFORCED INSULATION.

Use extreme caution when using this multimeter. Improper use of this meter can result in severe damage to property, severe personal injury or death. Follow all instructions and suggestions in this operators manual as well as observing normal electrical safety precautions. Do not use this meter if you are unfamiliar with electrical circuits and proper test procedures.

2.1 SAFETY WARNINGS

- This instruction manual contains warnings and safety rules which must be observed by the user to ensure safe operation of the instrument and retain it in safe condition.
- Read through and understand the instructions contained in this manual before using the instrument.
- Keep the manual at hand to enable quick reference whenever necessary.
- The instrument is to be used only in its intended applications.
- Understand and follow all the safety instructions contained in the manual.
- It is essential that all safety instructions are adhered to.
- Failure to follow the safety instructions may cause injury, instrument damage

The symbol ⚠ indicated on the instrument means that the user must refer to the related parts in the manual for safe operation of the instrument. It is essential to read the instructions wherever the symbol appears in the manual.

⚠DANGER is reserved for conditions and actions that are likely to cause serious or fatal injury.

⚠WARNING is reserved for conditions and actions that can cause serious or fatal injury.

⚠CAUTION is reserved for conditions and actions that can cause injury or instrument damage.

⚠ DANGER

- Never make measurement on a circuit in which voltage over 1000V exists.
- Do not exceed the CAT rating of the measuring device
- Do not attempt to make measurement in the presence of flammable gases. The use of the instrument may cause sparking, which can lead to an explosion.
- Never use the instrument if its surface or your hand is wet.
- Do not exceed the maximum allowable input of any measuring range.
- Never open the battery cover during a measurement.
- The instrument is to be used only in its intended applications or conditions.
- Use in other than as intended may cause instrument damage or serious personal injury.

⚠ WARNING

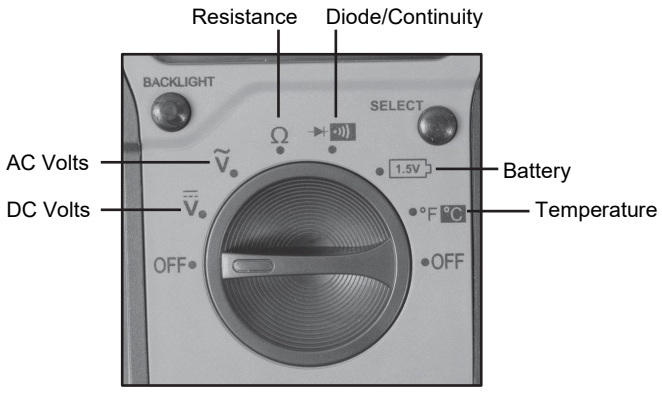
- Never attempt to make any measurement if any abnormal conditions are noted, such as broken case,cracked test leads and exposed metal part.
- Do not turn the function selector switch with plugged in test leads connected to the circuit under test.
- Do not install substitute parts or make any modification to the instrument.Return the instrument to your distributor for repair or recalibration.
- Do not try to replace the batteries if the surface of the instrument is wet.
- Always switch off the instrument before opening the battery compartment cover for battery replacement.

⚠ CAUTION

- Set the Function Switch to an appropriate position before starting measurement.
- Firmly insert the test leads.
- Disconnect the test leads from the instrument for current measurement.
- Do not expose the instrument to the direct sun, high temperature and humidity or dewfall.
- Be sure to power off the instrument after use.
- When the instrument will not be in use for a long period, place it in storage after removing the batteries.
- Use only a soft cloth dampened with water or neutral detergent for cleaning the meter. Do not use abrasives, solvents or harsh chemicals. Allow to dry thoroughly before use.

3.0 OPERATING INSTRUCTIONS

DIAL SETTINGS



3.1 AC VOLTS

There are two ranges for measuring AC voltage: 200 V and 500 V. For more accurate measurements under 200 volts, use the 200 Volt setting.

1. Connect the black test lead to the “COM” terminal and the red test lead to the “V/Ω” input terminal.
2. Set the dial to AC V.
3. Set the function/range switch to the appropriate AC V range. With AC Voltage, the polarity of the test leads is not a factor.

   NOTE: It is best to touch one of the test leads to ground or Neutral first and then touch the 2nd test lead to the hot wire.
4. Read the value of the measurement displayed.
5. Typical AC Voltage measurements include wall outlets, appliance outlets, motors, light fixtures and switches. When measuring outlets the specially spaced lead holders allow for single one hand testing.

3.2 DC VOLTS

1. Connect the black test lead to the “COM” terminal and red the test lead to the “V/Ω” input terminal.
2. Set the dial to DC V.
3. Touch the test leads to the circuit under test. With DC voltage, the polarity of the test leads is a factor.
   Touch the black (common) test lead to the negative DC source first and red (positive) test lead to the "live" source second.
4. Read the value of the measurement displayed. If the leads are reversed a "-" indicator will appear on the display.
5. Typical DC Voltage measurements include car batteries, automotive switches and household batteries.

3.3 RESISTANCE

⚠ WARNING **When measuring resistance always make sure the power is off.**

1. Connect the black test lead to the "COM" terminal and the red test lead to the "V/□" input terminal.
2. Set the dial to resistance (ohms).
3. Touch the test leads to the resistor or non-energized component to be measured.
4. Read the value of the measurement displayed. With resistance measurements, the polarity of the test leads is not a factor.
5. Typical resistance/continuity measurements include resistors, potentiometer, switches, extension cords and fuses.

3.4 DIODE/CONTINUITY TESTING

There is only one range for measuring continuity and diodes. To change between these two functions use the mode select button on the right.

⚠ WARNING **When measuring resistance always make sure the power is off.**

3.4.1 Continuity

1. Connect the black test lead to the "COM" terminal and the red test lead to the "V/Ω" input terminal.
2. Set the function switch to continuity/diode ⊣/•)) position.
3. Select the continuity mode by pushing the mode select button on the right.
4. Touch the test leads to the component or circuit to be tested. Polarity of the test leads is not a factor.
5. Touch the black (common) test lead to the negative (-) terminal and the red test lead to the positive (+) terminal. Read the value of the measurement displayed.

3.4.2 Diodes

1. Connect the black test lead to the "COM" terminal and the red test lead to the "V/Ω" input terminal.
2. Set the function switch to continuity/diode ⊣/•)) position.
3. Select the diode mode by pushing the mode select button on the right.
4. Diodes should be tested with both forward and reverse voltages applied. Touch the test leads to the diode, one lead on the anode and the other on the cathode. The indication of a diode in good condition is a low resistance reading when the red lead is on the anode and the black lead is on the cathode. When the test leads are reversed, a high resistance reading should be displayed.

NOTE: A low resistance in both directions indicates a shorted diode; a high resistance in both directions indicates an open diode.

3.5 TEMPERATURE MEASUREMENTS

NOTE: The standard test leads are not used for temperature measurement and can be removed from the meter.

1. Plug the temperature probe into the input jacks.
2. Set the function select dial to the "˚F/ ˚C" setting. The display should now read the ambient (surrounding) temperature.
3. Touch the temperature probe to the object under test. Hold the probe to the object until a steady reading is maintained on the display.
4. To select between ˚F and ˚C, push the mode select button.

3.6 HOUSEHOLD BATTERY TESTING

There is only one range for measuring common 1.5 Volt household batteries. (AAA , AA , C or D size).

1. Connect the black test lead to the "COM" terminal and the red test lead to the "V/Ω" input terminal.
2. Set the function switch to the battery position.
3. Touch the test leads to the positive and negative terminals on the battery. With DC voltage, the polarity of the test leads is a factor. Touch the black (common) test lead to the negative (-) terminal and the red test lead to the positive (+) terminal.
4. Read the value of the measurement displayed. If the leads are reversed a "-" indicator will appear on the display.

4. BATTERY REPLACEMENT

Note: When the battery’s voltage drops below the operating voltage, the mark “ ” will appear on the LCD to indicate the batteries must be replaced.
Caution: When changing the battery, disconnect the test leads from the circuit completely. Turn the meter off before removing the batteries.

1. Remove protective boot from test unit.
2. Remove the screws in the back cover of the tester and carefully separate the back cover from the front.
3. Remove the battery from the contacts, noting the polarity of the battery terminals and contacts.
4. Replace with one fresh 9 volt battery.

Note: Do not use rechargeable or lithium batteries in this unit.

5. Carefully replace the back cover and tighten the screws. Do not overtighten the screws as this may strip the threads in the tester housing.
6. Replace protective boot.

5. AUTO OFF

1. To turn the meter back on if it turns off because of the auto off function, first turn the dial to the off position.
   Then turn the dial from the off position to any function to turn the meter back on.