

Aexit TY960

TY960 Analogue Multimeter Instruction Manual

Model: TY960
Brand: Aexit

1. INTRODUCTION

The Aexit TY960 Analogue Multimeter is a versatile and reliable instrument designed for measuring AC/DC voltage, DC current, and resistance. It also features specialized functions for dB testing, diode polarity testing, AF output testing, battery testing, and transistor DC parameter measurement. This manual provides detailed instructions for the safe and effective use of your multimeter.

2. SAFETY INFORMATION

WARNING: Always observe safety precautions when using electrical testing equipment. Failure to do so may result in injury or damage to the instrument.

- Do not exceed the maximum input values for any range.
- Ensure the test leads are in good condition and properly connected before making any measurements.
- Never measure voltage on a circuit with the function switch set to current, resistance, or diode mode.
- Be cautious when working with live circuits. Use appropriate personal protective equipment (PPE).
- If the multimeter is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
- Always turn off the circuit power and discharge high-voltage capacitors before measuring resistance or continuity.

3. PRODUCT OVERVIEW

The TY960 Analogue Multimeter features a clear analog display, a rotary function switch, and input jacks for test leads. Familiarize yourself with the components before operation.

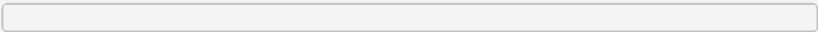


Figure 3.1: Front view of the TY960 Analogue Multimeter, showing the analog display, rotary switch, and input terminals with red and black test leads connected.

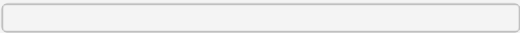


Figure 3.2: Back view of the TY960 Analogue Multimeter, showing the battery compartment cover and product label.

4. SPECIFICATIONS

Parameter	Value
Product Name	Analog Multitester
Model	TY960
AC Voltage (Sensitivity)	10V/50V/250V/1000V, $\pm 4\%$, 9K ohm/V
DC Voltage (Sensitivity)	0.1V/0.25V/2.5V/10V/50V, $\pm 5\%$ 20K ohm/V; 250V/1000V, $\pm 3\%$, 9K ohm/V
DC Current (Sensitivity)	50uA, $\pm 3\%$, 0.1V; 2.5mA/25mA/250mA, $\pm 3\%$, 0.25V; 2.5A, $\pm 5\%$, 0.25V
Resistance	Rx1/Rx10/Rx100/Rx1K/Rx10K, $\pm 10\%$ Center Value 20
Meter Size	14.8 x 10 x 3.8 cm / 5.8" x 3.9" x 1.5" (L*W*T)
Material	Plastic, Electronic Parts
Main Color	Black, White
Total Weight	289g (10.19 ounces)
Power Source	Battery Powered
Measurement Type	Multimeter

5. SETUP

5.1 Battery Installation

The TY960 Multimeter requires batteries for operation. To install or replace batteries:

1. Ensure the multimeter is turned off and test leads are disconnected.
2. Locate the battery compartment on the back of the unit (refer to Figure 3.2).
3. Open the battery compartment cover.
4. Insert the required batteries, observing correct polarity (+/-).
5. Close the battery compartment cover securely.

5.2 Connecting Test Leads

Connect the test leads to the appropriate input jacks:

- Insert the black test lead into the 'COM' (Common) jack.
- Insert the red test lead into the 'V Ω mA' jack for voltage, resistance, and current measurements (up to 250mA). For higher current (2.5A), use the dedicated 2.5A jack if available and specified on the meter.

6. OPERATING INSTRUCTIONS

Before taking any measurement, ensure the function switch is set to the correct range and type of measurement

(ACV, DCV, DCA, Ω , etc.).

6.1 AC/DC Voltage Measurement

1. Connect the test leads as described in Section 5.2.
2. Set the rotary switch to the desired ACV (AC Voltage) or DCV (DC Voltage) range. Start with the highest range if the voltage is unknown.
3. Connect the test probes in parallel across the circuit or component to be measured.
4. Read the voltage value from the corresponding scale on the analog display.

6.2 DC Current Measurement

CAUTION: Never connect the multimeter in parallel for current measurement. It must be connected in series with the circuit.

1. Disconnect power to the circuit.
2. Break the circuit at the point where current is to be measured.
3. Set the rotary switch to the desired DCA (DC Current) range.
4. Connect the multimeter in series with the circuit, ensuring the current flows through the meter.
5. Apply power to the circuit and read the current value.

6.3 Resistance Measurement

1. Ensure the circuit or component is de-energized and any capacitors are discharged.
2. Set the rotary switch to the desired Ω (Ohms) range (Rx1, Rx10, etc.).
3. Before measuring, short the test leads together and adjust the ' 0Ω ADJ' knob until the needle points to zero on the resistance scale.
4. Connect the test probes across the component to be measured.
5. Read the resistance value from the resistance scale.

6.4 dB Test

The dB test function allows for relative sound level measurements. Refer to the specific scale on the meter face for dB readings.

1. Set the rotary switch to the dB range.
2. Connect the test leads to the audio circuit or source.
3. Read the dB value from the designated scale.

6.5 Diode Polarity Test

This function allows for testing the forward and reverse bias of diodes.

1. Set the rotary switch to the diode test function (often combined with resistance).
2. Connect the red lead to the anode and the black lead to the cathode for forward bias. Note the reading.
3. Reverse the leads for reverse bias. A healthy diode will show a low resistance in one direction and high resistance in the other.

6.6 AF Output Test

The AF (Audio Frequency) output test allows for checking audio signal levels.

1. Set the rotary switch to the AF Output range.
2. Connect the test leads to the audio output source.
3. Read the output level from the meter.

6.7 Battery Test

This function allows for quick testing of common battery voltages.

1. Set the rotary switch to the BATT (Battery) test range (e.g., 1.5V, 9V).
2. Connect the red lead to the positive terminal of the battery and the black lead to the negative terminal.
3. Read the battery voltage from the corresponding scale.

6.8 Transistor DC Parameter Measurement

The multimeter can measure certain DC parameters of transistors (e.g., hFE). Refer to the specific markings on your meter for transistor testing terminals (e.g., PNP/NPN, EBC) and follow the instructions on the meter face.

1. Set the rotary switch to the transistor test function.
2. Insert the transistor leads into the appropriate sockets on the meter.
3. Read the parameter value from the display.

7. MAINTENANCE

7.1 Cleaning

Wipe the case with a damp cloth and mild detergent. Do not use abrasives or solvents. Ensure the unit is dry before use.

7.2 Battery Replacement

Replace batteries when the low battery indicator appears or when the meter's readings become erratic. Follow the instructions in Section 5.1.

7.3 Storage

If the multimeter is not used for an extended period, remove the batteries to prevent leakage. Store the unit in a cool, dry place away from direct sunlight and extreme temperatures.

8. TROUBLESHOOTING

- **No Display/Power:** Check battery installation and charge. Ensure the rotary switch is not in the 'OFF' position.
- **Incorrect Readings:** Verify the correct function and range are selected. Check test lead connections and ensure they are not damaged. Calibrate the zero-ohm adjustment for resistance measurements.
- **Needle Not Moving:** Ensure the circuit is live (for voltage/current) or the component is not open (for resistance). Check for blown fuses if applicable (internal fuse protection).
- **Intermittent Readings:** Check for loose connections at the test leads or within the circuit being tested.

9. WARRANTY & SUPPORT

This Aexit TY960 Analogue Multimeter is designed for reliable performance. For any issues or support inquiries, please refer to your purchase documentation or contact the seller directly. Keep your proof of purchase for warranty claims.

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