UOFKIPBA DT-118

UOFKIPBA DT-118 Digital Multimeter Instruction Manual

Model: DT-118

1. Safety Information

Please read and understand all safety information before operating this multimeter. Failure to follow these instructions may result in electric shock, fire, or damage to the meter or the equipment under test.

- Always ensure the test leads are in good condition and properly connected.
- Do not apply voltage or current that exceeds the maximum rated values for the meter.
- Use caution when working with voltages above 30V AC RMS, 42V peak, or 60V DC. These voltages pose a shock hazard.
- Before measuring current, ensure the circuit is de-energized and the meter is connected in series.
- Before changing functions, disconnect the test leads from the circuit under test.
- Do not operate the meter if it appears damaged or if the battery cover is not properly closed.
- Replace the battery immediately when the low battery indicator appears.
- Adhere to local and national safety codes.

2. Product Overview

The UOFKIPBA DT-118 is a compact, auto-ranging digital multimeter designed for high-precision measurements in industrial, automotive, and household applications. It features an automatic digital display and a durable design.

2.1 Components

Familiarize yourself with the main components of your DT-118 multimeter:

- **LCD Display:** Shows measurement readings, units, and function indicators.
- **Function Rotary Switch:** Used to select the desired measurement function (Voltage, Current, Resistance, etc.) and to turn the meter OFF.

- **Input Jacks:** Terminals for connecting test leads.
- **MODE Button:** Toggles between different measurement modes within a function (e.g., AC/DC voltage).
- **HOLD Button:** Freezes the current display reading.
- **Backlight Button (Light Bulb Icon):** Activates or deactivates the display backlight.

Figure 2.1: Front view of the UOFKIPBA DT-118 Digital Multimeter, showing the display, rotary switch, and function buttons.

Figure 2.2: The DT-118 multimeter displaying "0.00 mA", highlighting its automatic digital display capability for household use.

Figure 2.3: The DT-118 multimeter emphasizing its features: small size, easy to carry, flashlight function, and overload prompt for accurate, fast, and secure measurements.

3. Setup

3.1 Battery Installation

The DT-118 multimeter requires batteries for operation. Follow these steps to install or replace the batteries:

1. Ensure the multimeter is turned OFF and disconnect all test leads.
2. Locate the battery compartment cover on the back of the meter.
3. Use a screwdriver to loosen the screw(s) securing the cover.
4. Remove the cover and insert new batteries, observing the correct polarity (+ and -).
5. Replace the battery compartment cover and tighten the screw(s).

3.2 Connecting Test Leads

Proper connection of test leads is crucial for accurate and safe measurements.

- Insert the black test lead into the "COM" (Common) input jack.
- For most measurements (Voltage, Resistance, Diode, Continuity, small Current), insert the red test lead into the "VΩmA" input jack.
- For high current measurements (if applicable and supported by the model), refer to the specific input jack labeled for higher current (e.g., "10A" or "20A"). The DT-118 typically uses a single mA input for current.

Figure 3.1: The DT-118 multimeter with its red and black test leads properly connected to the input jacks, ready for use.

4. Operation

This section describes how to use the DT-118 multimeter for various measurements.

4.1 Measuring DC Voltage (V=)

1. Turn the rotary switch to the "V" position. The meter will automatically select DC voltage. If it defaults to AC, press the MODE button to switch to DC.
2. Connect the red test lead to the positive (+) side of the circuit and the black test lead to the negative (-) side.
3. Read the voltage value on the LCD display.

4.2 Measuring AC Voltage (V~)

1. Turn the rotary switch to the "V" position. The meter will automatically select AC voltage. If it defaults to DC, press the MODE button to switch to AC.
2. Connect the test leads across the circuit or component to be measured.

3. Read the voltage value on the LCD display.

4.3 Measuring Resistance (Ω)

1. Ensure the circuit is de-energized before measuring resistance.
2. Turn the rotary switch to the "Ω" position.
3. Connect the test leads across the component whose resistance you want to measure.
4. Read the resistance value on the LCD display.

4.4 Measuring Current (mA)

Caution: Never connect the multimeter in parallel with a voltage source when measuring current, as this can damage the meter and the circuit.

1. Ensure the circuit is de-energized.
2. Turn the rotary switch to the "mA" position. Press MODE to select AC or DC current if necessary.
3. Break the circuit and connect the multimeter in series with the load. The current must flow through the meter.
4. Re-energize the circuit and read the current value on the LCD display.

4.5 Diode Test (→|) and Continuity Test ( )

1. Ensure the circuit is de-energized.
2. Turn the rotary switch to the "Ω" position. Press the MODE button until the diode symbol (→|) or continuity symbol ( ) appears on the display.
3. **Diode Test:** Connect the red lead to the anode and the black lead to the cathode of the diode. A forward voltage drop will be displayed. Reverse the leads; an "OL" (Open Loop) or very high reading indicates a good diode.
4. **Continuity Test:** Connect the test leads across the component or wire. If there is continuity (low resistance), the meter will emit an audible beep.

5. Maintenance

Proper maintenance ensures the longevity and accuracy of your DT-118 multimeter.

5.1 Cleaning

- Disconnect the meter from all circuits and turn it OFF.
- Wipe the case with a damp cloth and a mild detergent. Do not use abrasives or solvents.
- Ensure the meter is completely dry before use.

5.2 Battery Replacement

When the low battery indicator appears on the display, replace the batteries as described in Section 3.1. Always use the specified battery type.

5.3 Fuse Replacement

If the current measurement function stops working, the fuse may need replacement. Refer to the specifications for the correct fuse type and rating. Fuse replacement typically involves opening the back case of the meter (similar to battery replacement) and carefully replacing the blown fuse with a new one of the exact same rating.
Warning: Always replace fuses with those of the specified type and rating to prevent damage to the meter

or personal injury.

6. Troubleshooting

This section addresses common issues you might encounter with your DT-118 multimeter.

Problem	Possible Cause	Solution
Meter does not turn on.	Dead or incorrectly installed batteries.	Check battery polarity; replace batteries.
"OL" (Overload) displayed.	Measurement exceeds meter's range; open circuit.	Select a higher range (if not auto-ranging); check for open circuit in resistance/continuity.
Incorrect readings.	Wrong function selected; poor test lead connection; low battery.	Verify function selection; ensure leads are firmly connected; replace batteries.
Current measurement not working.	Blown fuse; incorrect connection (not in series).	Check and replace fuse (Section 5.3); ensure meter is connected in series with the load.

7. Specifications

The following are the general specifications for the UOFKIPBA DT-118 Digital Multimeter. Specific ranges and accuracies may vary slightly.

- **Model:** DT-118
- **Display:** Automatic Digital Display
- **Safety Rating:** CAT IV 600V
- **DC Voltage:** Range typically up to 600V
- **AC Voltage:** Range typically up to 600V
- **DC Current:** Range typically up to 200mA
- **AC Current:** Range typically up to 200mA
- **Resistance:** Range typically up to 20MΩ
- **Diode Test:** Yes
- **Continuity Test:** Yes (with buzzer)
- **Power:** Battery operated (specific type not provided, assume common multimeter batteries like AAA or 9V)
- **Dimensions:** Approximately 1.18 x 0.79 x 0.39 inches (Package Dimensions, actual product might be slightly different but gives an idea of compact size)
- **Weight:** Approximately 1.76 ounces (50 Grams)
- **Features:** Auto-ranging, Data Hold, Backlight, Auto Power Off, Overload Prompt, Flashlight Function.

8. Warranty & Support

For warranty information or technical support regarding your UOFKIPBA DT-118 Digital Multimeter, please contact the retailer or manufacturer directly. Keep your purchase receipt as proof of purchase.
Manufacturer: UOFKIPBA