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KAIWEETS KM602

KAIWEETS KM602 Smart Multimeter User Manual

Model: KM602

1. INTRODUCTION

The KAIWEETS KM602 is a smart, rechargeable digital multimeter designed for precise electrical measurements. It features both automatic and manual modes, a large full-screen display, and robust safety features, making it suitable for automotive, industrial, and household electrical diagnostics.

2. SAFETY INFORMATION

Your safety is paramount when using electrical testing equipment. Please adhere to the following guidelines:

- The KAIWEETS KM602 multimeter is rated IEC CAT.III 1000V and CAT.IV 600V. Always ensure the multimeter's rating is appropriate for the circuit being tested.
- It is equipped with double fuse anti-burn and overload protection. However, always exercise caution and avoid exceeding the specified limits.
- Never attempt to measure voltage or current on circuits exceeding the maximum rated values.
- Ensure test leads are properly connected to the correct input jacks before making any measurements.
- Do not use the multimeter if it appears damaged or if the test leads are compromised.
- Always disconnect power to the circuit before connecting or disconnecting test leads, especially when measuring current or resistance.
- Be aware of live circuits and potential electrical shock hazards. Use appropriate personal protective equipment (PPE).

3. KEY FEATURES

- **Auto & Manual Mode:** Features a SMART mode for automatic measurement of voltage, resistance, and continuity, and a manual mode for precise control over AC/DC voltage, resistance, continuity, current, capacitance, frequency, diodes, duty cycle, temperature, NCV, and live wires.
- **Rechargeable & Convenience:** Equipped with a built-in rechargeable 1200 mAh battery for extended use. Includes Min/Max/Average recording, analog bar display, real-time temperature display, low battery alerts, and data hold.
- **Full-Screen & Easy Reading:** Large full-screen display with a built-in flashlight ensures clear visibility of measurements in various lighting conditions.
- **Safety First:** IEC CAT.III 1000V and CAT.IV 600V ratings with double fuse anti-burn and overload protection. CE and RoHS certified.

4. SETUP AND INITIAL USE

4.1 Unpacking

Upon receiving your KAIWEETS KM602 Smart Multimeter, carefully unpack all components. The package typically includes:

- 1x KAIWEETS KM602 Multimeter
- 1x Storage Bag
- 2x Test Leads (Red and Black)
- 1x Charging Cable
- 1x Thermocouple (for temperature measurement)
- User Manual

4.2 Charging the Multimeter

The KM602 features a built-in rechargeable 1200 mAh battery. Before first use, or when the low battery alert is displayed, charge the device using the provided charging cable.

1. Locate the charging port on the multimeter.
2. Connect the charging cable to the multimeter and a suitable USB power source.
3. The display will indicate charging status. Ensure the device is fully charged for optimal performance.



Figure 4.2.1: The KAIWEETS KM602 Multimeter being charged via its USB port, indicating the built-in 1200mAh Li-ion battery.

4.3 Connecting Test Leads

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

1. Insert the black test lead into the 'COM' (Common) jack.
2. Insert the red test lead into the 'INPUT' jack for most voltage, resistance, and continuity measurements.
3. For current measurements, refer to the specific current jacks (e.g., 10A or mA/uA) and connect the red lead accordingly.



Figure 4.3.1: Close-up view of the KAIWEETS KM602 Multimeter's input jacks, labeled 'COM' and 'INPUT', for connecting test leads.

5. OPERATING MODES AND MEASUREMENTS

5.1 Power On/Off

Press and hold the power button to turn the multimeter on or off. The device features an auto power-off function to conserve battery life after a period of inactivity.



Figure 5.1.1: The KAIWEETS KM602 Multimeter highlighting its auto power-off feature, which helps conserve battery life.

5.2 Smart Mode (Auto Ranging)

In SMART mode, the KM602 automatically identifies the type of measurement (voltage, resistance, or continuity) and selects the optimal range for accurate and quick readings. This mode simplifies operation for general electrical tasks.



Figure 5.2.1: The KAIWEETS KM602 Multimeter illustrating the distinction between its automatic Smart Mode for quick recognition and Manual Mode for professional, specific measurements.

5.3 Manual Mode

For specific measurements or when more control is desired, switch to manual mode using the 'FUNC' button. In manual mode, you can select the desired measurement function:

- **AC/DC Voltage:** Measures alternating and direct current voltage.
- **Resistance:** Measures electrical resistance in ohms (Ω).
- **Continuity:** Tests for an unbroken electrical path, typically with an audible alert.
- **Current (AC/DC):** Measures alternating and direct current in amperes (A).
- **Capacitance:** Measures electrical capacitance in farads (F).
- **Frequency:** Measures the frequency of an AC signal in hertz (Hz).
- **Diodes:** Tests the functionality of diodes.
- **Duty Cycle:** Measures the ratio of pulse duration to the period of a waveform.
- **Temperature:** Measures temperature using the provided thermocouple.
- **NCV (Non-Contact Voltage):** Detects AC voltage without direct contact.
- **Live Wire Detection:** Identifies live electrical wires.



V \approx AC/ DC Voltage



A \approx AC/ DC Current



o))) Continuity



°C/°F Thermometer

Figure 5.3.1: The KAIWEETS KM602 Multimeter displaying a DC voltage measurement, indicating its capability to measure direct current voltage.



Figure 5.3.2: The KAIWEETS KM602 Multimeter conducting a continuity test, indicated by the display and the connection of the test leads.



Figure 5.3.3: The KAIWEETS KM602 Multimeter measuring temperature using a connected thermocouple, displaying the reading in Celsius or Fahrenheit.

5.4 Non-Contact Voltage (NCV) Detection

The NCV function allows you to detect the presence of AC voltage without making physical contact with the conductor. This is useful for quickly identifying live wires.

1. Select the NCV function on the multimeter.
2. Bring the top of the multimeter close to the wire or outlet you wish to test.
3. The device will provide visual and/or audible alerts if AC voltage is detected.



Figure 5.4.1: The KAIWEETS KM602 Multimeter performing NCV (Non-Contact Voltage) detection, indicating the presence of an electrical field.

6. MAINTENANCE

- **Cleaning:** Use a soft, dry cloth to clean the multimeter. Do not use abrasive cleaners or solvents.
- **Battery Care:** Recharge the built-in 1200 mAh battery regularly to maintain its lifespan. Avoid fully discharging the battery for extended periods.
- **Storage:** Store the multimeter in its provided storage case in a cool, dry place away from direct sunlight and extreme temperatures.
- **Fuse Replacement:** The device has double fuse anti-burn protection. If a fuse blows, replace it with a fuse of the same type and rating to ensure continued safety and functionality. Refer to the specifications for correct fuse types.

7. TROUBLESHOOTING

If you encounter issues with your KAIWEETS KM602 multimeter, consider the following common troubleshooting steps:

- **No Display/Power:** Ensure the multimeter is fully charged. Check the power button for proper operation.
- **Incorrect Readings:** Verify that the test leads are correctly inserted into the appropriate jacks for the selected measurement function. Ensure the correct mode (SMART or Manual) is selected. Check for damaged test leads.
- **No Continuity Beep:** Confirm the continuity function is selected. Ensure the circuit is not live and the test leads are making good contact.
- **Overload Indication ('OL'):** This indicates that the measured value exceeds the selected range. In manual mode, switch to a higher range. In SMART mode, the device should auto-range, but extreme values may still show 'OL'.
- **Low Battery Indicator:** Recharge the multimeter immediately.

For persistent issues, please contact KAIWEETS customer support.

8. SPECIFICATIONS

Feature	Specification
Model Number	KM602
Measurement Type	Smart Multimeter
Display Counts	6000 Counts TRMS
Safety Rating	IEC CAT.III 1000V, CAT.IV 600V
Power Source	Rechargeable 1200 mAh Li-ion Battery
Item Weight	265 g
Product Dimensions	8.27 x 4.21 x 27.2 cm
Measurement Accuracy	0.1mV/0.001V/0.001mA/0.001A/0.001nF/0.1Ω/0.001Hz
Included Components	Multimeter, Storage Bag, Test Leads, Charging Cable, Thermocouples, User Manual
Certifications	CE, RoHS

9. WARRANTY AND SUPPORT

KAIWEETS offers 3 years of after-sale service and lifetime technical support for the KM602 Smart Multimeter. Should you have any questions or require assistance, please do not hesitate to reach out to KAIWEETS customer service.