KAIWEETS KM401

KAIWEETS KM401 Digital Multimeter User Manual

Model: KM401
Brand: KAIWEETS

1. Introduction

The KAIWEETS KM401 is a versatile and accurate digital multimeter designed for a wide range of electrical measurements. It features True RMS, 4000 counts display, and auto-ranging capabilities, making it suitable for electricians, automotive technicians, and DIY enthusiasts. This manual provides detailed instructions for safe and effective use of your KM401 multimeter.

Figure 1: KAIWEETS KM401 Digital Multimeter with included accessories.

2. Safety Information

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

- The KM401 is IEC-61010-1 CAT. IV 600V and CAT. III 1000V certified, ensuring high safety standards.
- Do not exceed the maximum input values specified for each measurement range.
- Ensure the test leads are properly connected and in good condition before each use.
- Do not use the multimeter if it appears damaged or if the test leads are frayed.
- Avoid touching exposed wires or circuit components while taking measurements.
- Always turn off the power to the circuit before connecting or disconnecting test leads for current measurements.
- Be cautious when working with voltages above 30V AC RMS, 42V peak, or 60V DC, as these pose a

shock hazard.

3. Package Contents

Verify that all items are present in the package:

- 1 x KAIWEETS KM401 Digital Multimeter
- 1 x Pair of Test Leads (Red and Black)
- 1 x Thermocouple (for temperature measurement)
- 3 x 1.5V AAA Batteries (pre-installed or included separately)
- 1 x User Manual (this document)

4. Setup

4.1 Battery Installation

The KM401 multimeter requires 3 AAA batteries for operation. If the batteries are not pre-installed, follow these steps:

1. Ensure the multimeter is turned off.
2. Locate the battery compartment cover on the back of the unit.
3. Use a screwdriver to loosen the screw(s) and remove the cover.
4. Insert the 3 AAA batteries, observing the correct polarity (+ and -) as indicated inside the compartment.
5. Replace the battery compartment cover and secure it with the screw(s).

4.2 Connecting Test Leads

To prepare the multimeter for measurements:

1. Insert the black test lead into the "COM" (common) input jack.
2. Insert the red test lead into the appropriate input jack based on the measurement type:
    - For Voltage, Resistance, Continuity, Diode, Capacitance, Frequency, NCV, Live, and Temperature measurements, use the "VΩHz" jack.
    - For Current measurements up to 400mA, use the "mA" jack.
    - For Current measurements up to 10A, use the "10A" jack.

5. Operating Instructions

5.1 Power On/Off and Auto Shut Off

- To power on the multimeter, rotate the rotary dial from the "OFF" position to any desired function.
- To power off, rotate the dial back to the "OFF" position.
- The multimeter features an Auto Power Off function to conserve battery life. It will automatically shut off after a period of inactivity.
- To deactivate Auto Shut Off, press and hold the 'FUNC' button while turning on the meter.

5.2 Function Selection

Rotate the central dial to select the desired measurement function. For functions with multiple modes (e.g., AC/DC Voltage, Diode/Continuity), press the **FUNC** button to cycle through the available modes.

Figure 2: The KM401 offers multiple measurement functions.

5.3 Measurements

5.3.1 AC/DC Voltage Measurement

Set the rotary dial to the V~ (AC Voltage) or V- (DC Voltage) position. Connect the test leads in parallel to the circuit or component to be measured. The display will show the voltage reading.

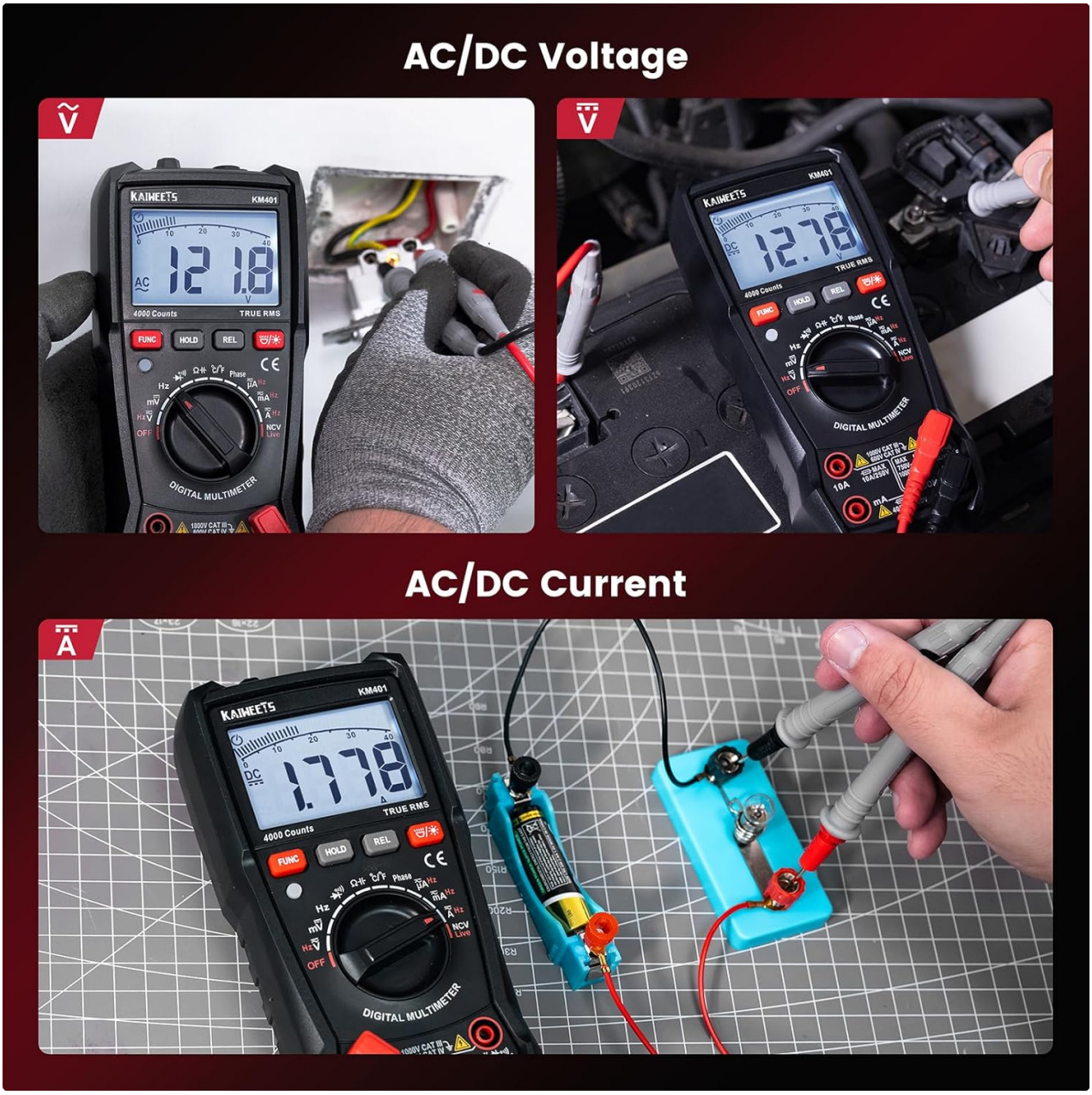


Figure 3: Measuring AC/DC Voltage and Current with the KM401.

5.3.2 AC/DC Current Measurement

Set the rotary dial to the A~ (AC Current) or A- (DC Current) position, selecting either the mA or 10A input jack as appropriate. Connect the multimeter in series with the circuit to measure current. Ensure the circuit power is off before connecting.

5.3.3 Resistance Measurement

Set the rotary dial to the Ω (Resistance) position. Connect the test leads across the component to measure its resistance. Ensure the component is de-energized before measurement.

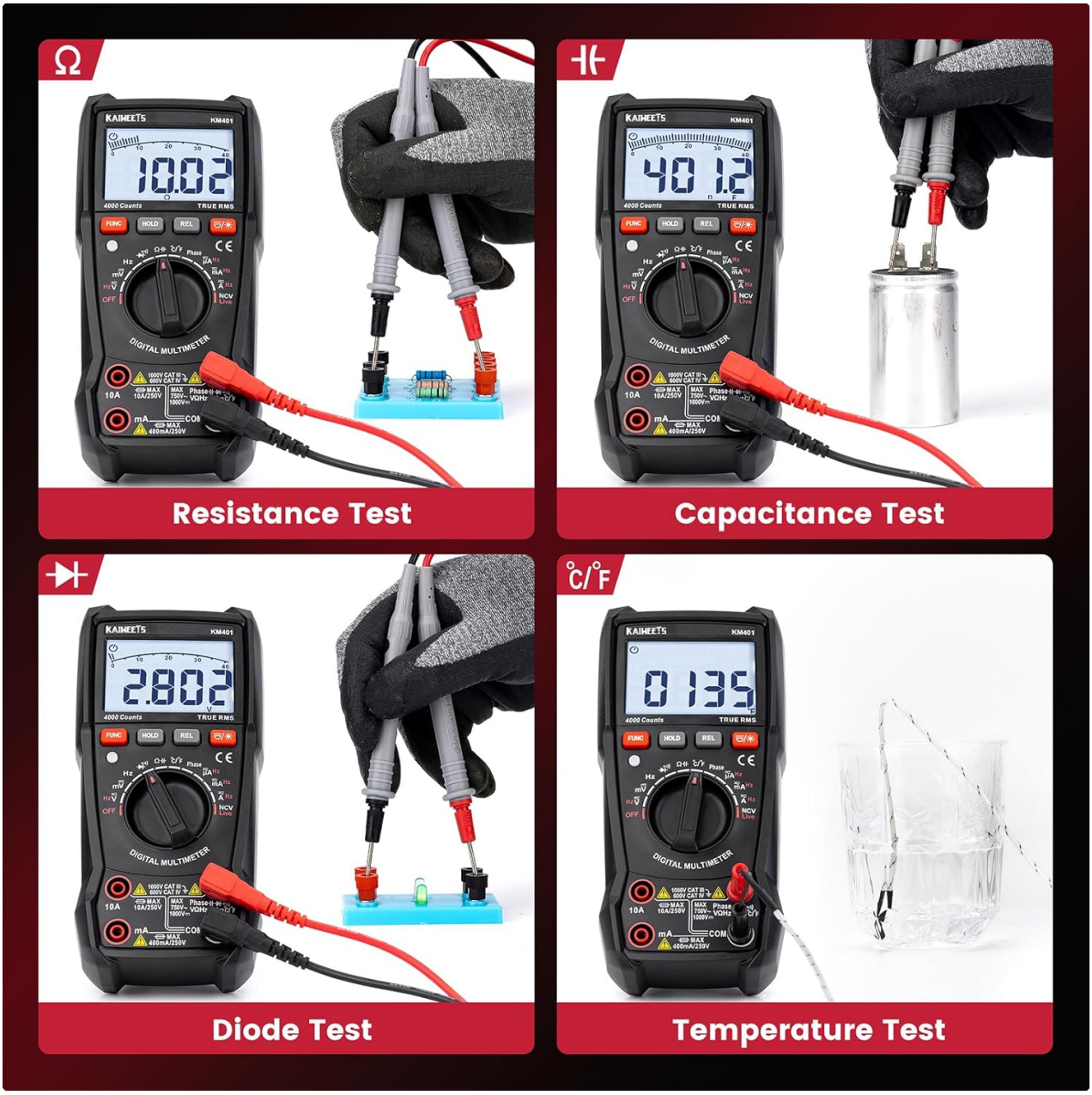


Figure 4: Various measurement capabilities including Resistance, Capacitance, Diode, and Temperature.

5.3.4 Continuity Test

Set the rotary dial to the **Ω** position and press **FUNC** to select continuity mode (indicated by a buzzer icon). Touch the test leads to the points to be tested. A continuous beep indicates continuity (low resistance).

5.3.5 Diode Test

Set the rotary dial to the **Ω** position and press **FUNC** to select diode mode (indicated by a diode symbol). Connect the red lead to the anode and the black lead to the cathode of the diode. The display shows the forward voltage drop.

5.3.6 Capacitance Measurement

Set the rotary dial to the **F** (Capacitance) position. Connect the test leads across the capacitor. Ensure the capacitor is discharged before testing.

5.3.7 Frequency Measurement

Set the rotary dial to the **Hz** (Frequency) position. Connect the test leads to the signal source. The display will show the frequency in Hertz.

5.3.8 NCV (Non-Contact Voltage) Test

Set the rotary dial to the **NCV** position. Move the top of the multimeter near a live wire or electrical outlet. The meter will beep and the NCV indicator will light up if AC voltage is detected without direct contact.

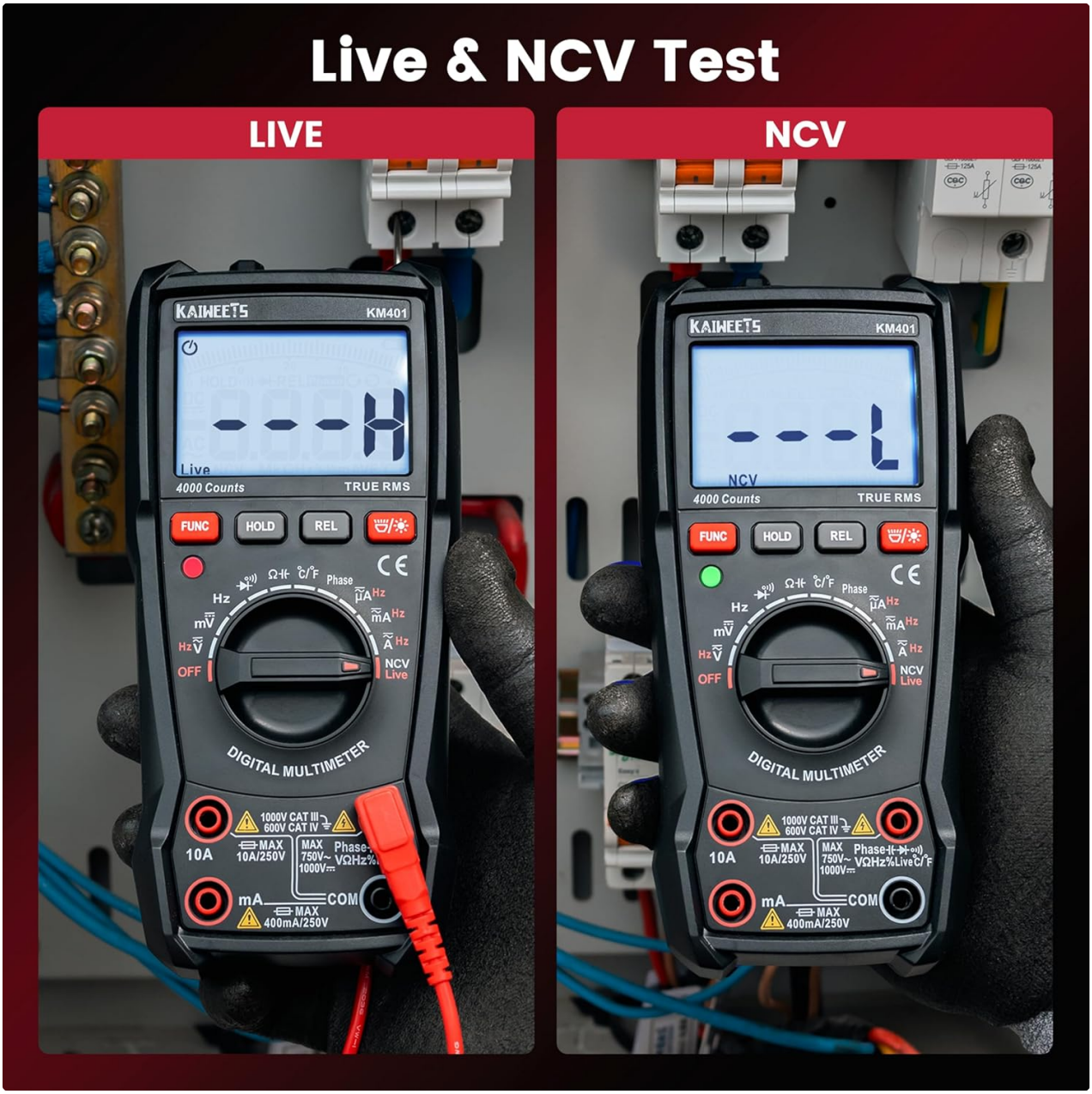


Figure 5: Using the KM401 for Live wire detection and Non-Contact Voltage (NCV) testing.

5.3.9 Live Wire Detection

Set the rotary dial to the **Live** position. Insert the red test lead into the live wire socket or touch it to the live wire. The display will indicate if the wire is live.

5.3.10 Phase Sequence Detection

The KM401 can perform phase sequence detection. Set the rotary dial to the **Phase** position. Follow the on-screen prompts to connect the test leads to the phases. The meter will indicate the phase sequence.

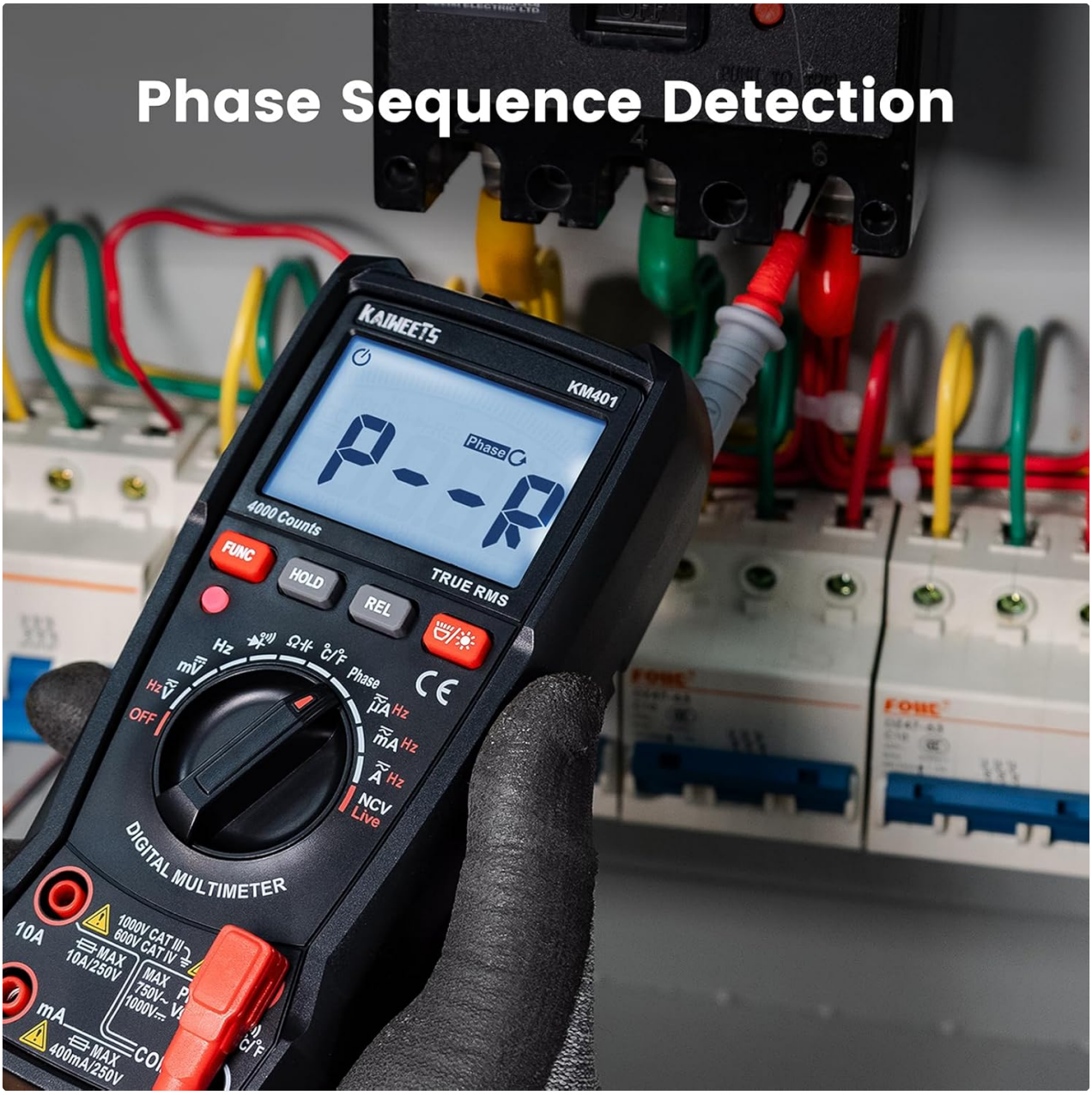


Figure 6: The KM401's unique Phase Sequence Detection feature.

5.3.11 Temperature Measurement

Set the rotary dial to the **°C/°F** position. Connect the thermocouple to the input jacks, observing polarity. Place the thermocouple tip on the object or in the environment whose temperature is to be measured.

5.4 Special Functions

5.4.1 Data Hold

Press the **HOLD** button to freeze the current reading on the display. Press it again to release the hold function.

5.4.2 Backlight and Flashlight

Press the **LIGHT** button (often combined with the HOLD button) to turn on the display backlight for improved visibility in dim conditions. Some models also feature a built-in flashlight, activated by a separate button or a long press of the light button, to illuminate the work area.

Figure 7: The KM401 features a backlight for the display and a built-in flashlight.

6. Maintenance

6.1 Cleaning

Wipe the multimeter casing with a damp cloth and mild detergent. Do not use abrasive cleaners or solvents. Ensure the device is completely dry before use.

6.2 Storage

When not in use for extended periods, remove the batteries to prevent leakage. Store the multimeter in a cool, dry place, away from direct sunlight and extreme temperatures.

6.3 Battery Replacement

When the low battery indicator appears on the display, replace the batteries promptly to ensure accurate readings. Refer to Section 4.1 for battery installation instructions.

7. Troubleshooting

- **Display shows "OL" (Overload):** This indicates that the measured value exceeds the selected range. Switch to a higher range or ensure the input is within the meter's capabilities.
- **No display or faint display:** Check battery level. Replace batteries if low. Ensure batteries are inserted with correct polarity.
- **Inaccurate readings:** Check battery level. Ensure test leads are properly connected and not damaged. Verify the correct function and range are selected.
- **Auto Shut Off activates too quickly:** Ensure the Auto Shut Off function is not deactivated if continuous operation is desired (refer to Section 5.1).

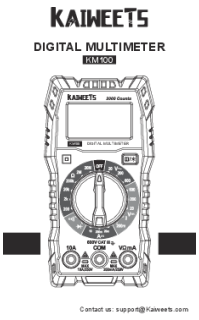
8. Specifications

Specification	Value
Brand	KAIWEETS
Model Number	KM401
Measurement Type	Multimeter, Voltmeter
Power Source	Battery Powered (3 AAA batteries included)
Item Weight	350 Grams
Product Dimensions (L x W x H)	19.3 x 11.5 x 5.6 Centimeters
Safety Rating	IEC 61010-1:2000-1 CAT. IV 600V, CAT. III 1000V
Display Counts	4000 Counts
True RMS	Yes
Auto-Ranging	Yes
Auto Power Off	Yes
Low Battery Indication	Yes
Overload Protection	Yes

9. Warranty and Support

KAIWEETS provides lifetime after-sale service and technical support for the KM401 Digital Multimeter. If you encounter any questions or problems while using the product, please do not hesitate to contact KAIWEETS customer support.
For assistance, please refer to the contact information provided on the KAIWEETS official website or your purchase platform.

Related Documents

	KAIWEETS HT118A Digital Multimeter User Manual Comprehensive user manual for the KAIWEETS HT118A Digital Multimeter, covering safety instructions, product description, multimeter features, measurement functions, and specifications.
	KAIWEETS HT113B Digital Multimeter User Manual Comprehensive user manual for the KAIWEETS HT113B Digital Multimeter, detailing its features, specifications, and operating instructions for accurate electrical testing.
	KAIWEETS HT206D True-RMS Digital Clamp Meter User Manual Comprehensive user manual for the KAIWEETS HT206D True-RMS Digital Clamp Meter. Learn about its features, safety information, operating instructions, and specifications for accurate electrical measurements.
	KAIWEETS KM100 Digital Multimeter User Manual Comprehensive guide to the KAIWEETS KM100 Digital Multimeter, covering safety operations, meter diagram, functions, measurement procedures for DC/AC voltage, DC current, resistance, continuity, and diode testing, along with technical specifications and maintenance.