KAIWEETS KC602

KAIWEETS KC602 Smart Digital Clamp Meter User Manual

Model: KC602 | Brand: KAIWEETS

1. Introduction

The KAIWEETS KC602 Smart Digital Clamp Meter is an advanced, auto-ranging multimeter designed for precise electrical measurements. Featuring D-shaped jaws, an HD color screen, and intelligent mode, it simplifies the process of measuring AC/DC current, voltage, resistance, continuity, capacitance, diode, NCV, firewire, and temperature. This manual provides essential information for safe and effective operation of your device.

2. Safety Information

Always adhere to safety precautions when operating electrical testing equipment. This device complies with safety standard IEC 61010-1, CAT IV 600V. Failure to follow these guidelines may result in electric shock, fire, or damage to the meter or the equipment under test.

- Do not use the meter if it appears damaged or if the test leads are damaged.
- Ensure the correct function and range are selected before making measurements.
- Do not exceed the maximum input values for any function.
- Exercise extreme caution when working with voltages above 30V AC RMS, 42V peak, or 60V DC. These voltages pose a shock hazard.
- Always disconnect power to the circuit before measuring resistance, continuity, capacitance, or diode.
- Keep fingers behind the finger guards on the test leads during use.
- Replace batteries promptly when the low battery indicator appears.

3. Package Contents

Verify that all items are present and undamaged upon opening the package:

- KAIWEETS KC602 Clamp Meter
- 3 x AAA Batteries (pre-installed or included separately)

- Test Leads (one red, one black)
- Thermocouple
- User Manual
- Carrying Case

Figure 3.1: KAIWEETS KC602 Clamp Meter with included test leads, batteries, thermocouple, and carrying case.

4. Product Features

- **Upgraded Intelligent Mode:** Automatically identifies AC/DC voltage/current, resistance, and continuity measurement signals for convenient and safe operation.
- **Advanced Design & Multi-function:** Includes MAX/MIN, data hold, flashlight, and auto-off features. D-shaped jaws are designed to hold test leads and enhance portability. Measures AC/DC current/voltage, resistance, continuity, capacitance, diode, NCV, firewire, and temperature.
- **Large HD Color Screen:** Provides clear readability, even in dark environments, and reduces difficulty reading under direct sunlight.
- **Self-test & Inrush Measurement Function:** Performs an automatic self-test ("CAL" display) upon power-on to

ensure measurement accuracy. Inrush current measurement (5-600A) is available in AC current mode to help diagnose startup problems.

- **Safety Compliance:** Meets IEC 61010-1, CAT IV 600V safety standards.

Figure 4.1: Overview of the multi-functional capabilities of the KC602 meter, showing various measurement icons.

Figure 4.2: The KC602's smart mode and high-definition color screen for improved readability.

5. Setup

5.1 Battery Installation

The KAIWEETS KC602 requires 3 AAA batteries (included). To install or replace batteries:

1. Ensure the meter is powered off.
2. Locate the battery compartment cover on the back of the meter.
3. Use a screwdriver to open the battery compartment.
4. Insert the 3 AAA batteries, observing the correct polarity (+ and -).
5. Replace the battery compartment cover and secure it with the screw.

5.2 Connecting Test Leads

For most measurements (voltage, resistance, continuity, capacitance, diode, temperature), the test leads are required.

1. Insert the red test lead into the "VΩmA" input jack.
2. Insert the black test lead into the "COM" input jack.
3. Ensure the connections are secure before proceeding with measurements.

6. Operating Instructions

Press the power button ( ) to turn on the meter. The meter will perform a self-test and display "CAL" before entering Smart Mode.

6.1 Smart Mode (Auto-recognition)

In Smart Mode, the meter automatically identifies the type of measurement (AC/DC voltage/current, resistance, continuity) and selects the appropriate range. This simplifies operation for common tasks.

Figure 6.1: The meter operating in Smart Mode, automatically detecting the measurement type.

6.2 Function Selection (Manual Mode)

Press the **FUNC** button to cycle through different measurement functions (e.g., Voltage, Resistance, Capacitance,

Diode, Temperature, NCV, Inrush Current). The selected function will be indicated on the display.

6.3 AC/DC Voltage Test

1. Connect the red test lead to the "VΩmA" jack and the black test lead to the "COM" jack.
2. Select the voltage measurement function (V~ for AC, V- for DC) using the **FUNC** button if not in Smart Mode.
3. Apply the test probes across the circuit or component to be measured.
4. Read the voltage value on the display.

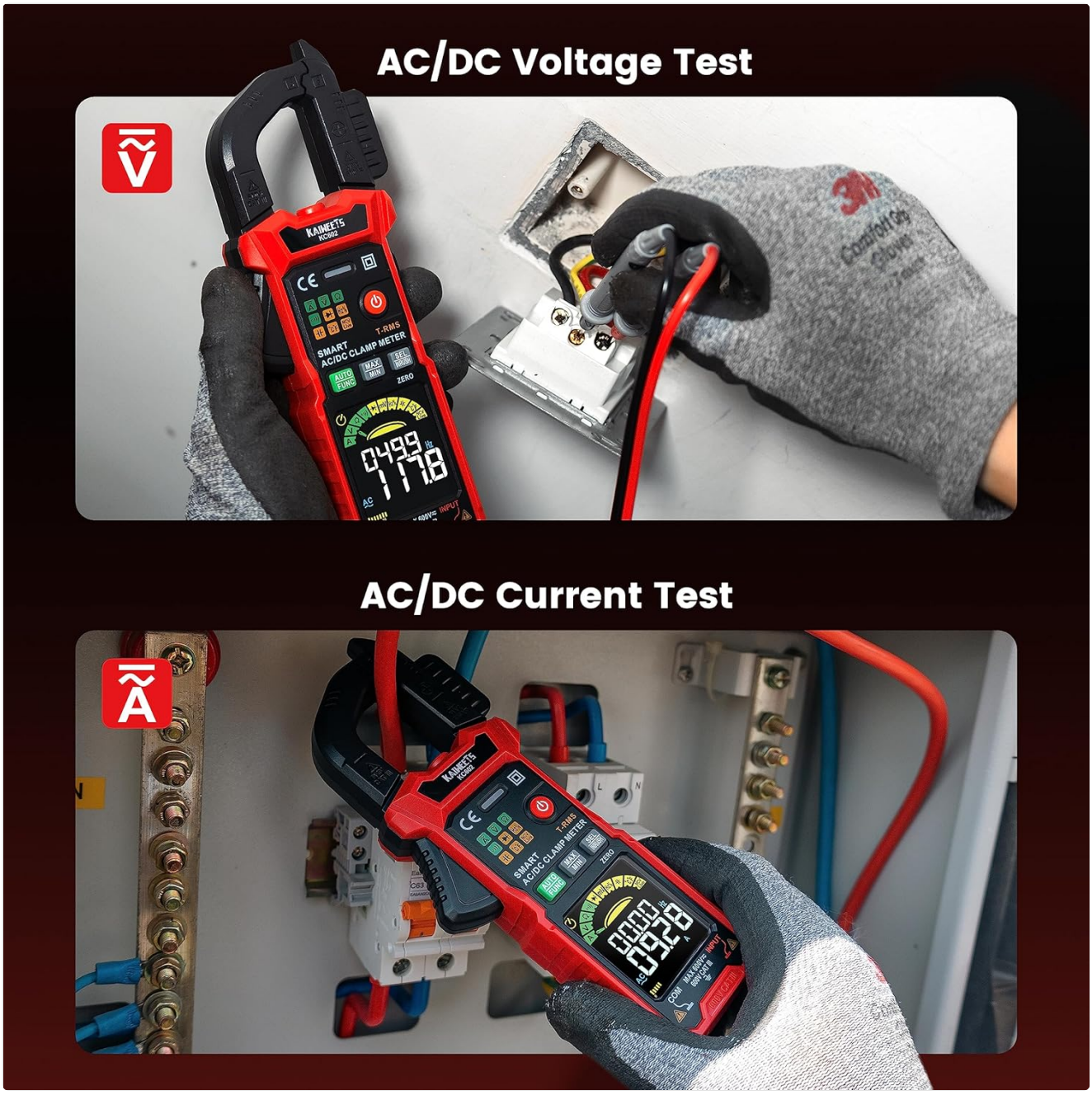

Figure 6.2: Performing an AC/DC voltage test using the test leads.

6.4 AC/DC Current Test (Clamp Measurement)

For current measurement, use the clamp jaws. **Do not use test leads for current measurement with the clamp.**

1. Select the current measurement function (A~ for AC, A- for DC) using the **FUNC** button if not in Smart Mode.
2. Open the clamp jaws and enclose only one conductor (wire) of the circuit. Ensure the jaws are fully closed.
3. Read the current value on the display.

Figure 6.3: Measuring AC/DC current by clamping around a single conductor.

6.5 Inrush Current Test

The inrush current function measures the initial surge of current when a device is powered on. This function is only available in AC current mode and has a measurement range of 5-600A.

1. Select the AC current function.
2. Press the **INRUSH** button (if available, or cycle through FUNC until Inrush is selected).
3. Open the clamp jaws and enclose the conductor.
4. Power on the device to measure the inrush current.

Figure 6.4: Measuring the inrush current of an electrical component.

6.6 Non-Contact Voltage (NCV) Test

The NCV function detects the presence of AC voltage without physical contact with the conductor.

1. Select the NCV function using the **FUNC** button.
2. Place the top of the meter (where the NCV sensor is located) near the conductor or outlet.
3. The meter will indicate the presence of voltage through audible beeps and visual indicators on the display.

Figure 6.5: Using the NCV function to detect voltage without direct contact.

6.7 Resistance, Continuity, Capacitance, Diode Test

For these functions, ensure the circuit is de-energized before connecting the test leads.

- **Resistance (Ω):** Connect test leads across the component.
- **Continuity ( ):** Connect test leads across the circuit. A continuous beep indicates continuity.
- **Capacitance (⊥):** Connect test leads across the capacitor (ensure it's discharged).
- **Diode (▶|):** Connect test leads across the diode.

6.8 Temperature Measurement

Use the included thermocouple for temperature measurements.

1. Connect the thermocouple to the appropriate input jacks (usually VΩmA and COM, check meter markings).
2. Select the temperature function (°C/°F) using the**FUNC** button.
3. Place the thermocouple tip on the object or in the environment to be measured.
4. Read the temperature on the display.

6.9 Additional Functions

- **MAX/MIN:** Press the **MAX/MIN** button to record the maximum and minimum readings during a measurement session.
- **Data Hold:** Press the **HOLD** button to freeze the current reading on the display. Press again to release.
- **Flashlight:** The meter includes a built-in flashlight for illuminating dimly lit work areas. Activate it via a dedicated button or a long press of a function button (refer to meter markings).
- **Auto-Off:** The meter automatically powers off after approximately 15 minutes of inactivity to conserve battery life. This feature can typically be disabled by holding a specific button during power-on (refer to meter markings for details).

Figure 6.6: The KC602's bright display and integrated flashlight for use in low-light conditions.

7. Maintenance

- **Cleaning:** Wipe the meter casing with a damp cloth and mild detergent. Do not use abrasives or solvents.
- **Battery Replacement:** Replace batteries when the low battery indicator appears on the display. Refer to Section 5.1 for instructions.

- **Storage:** If the meter is not used for an extended period, remove the batteries to prevent leakage. Store the meter in a cool, dry place, away from direct sunlight and extreme temperatures.
- **Test Leads:** Inspect test leads for any damage (cuts, cracks) before each use. Replace if damaged.

8. Troubleshooting

Problem	Possible Cause	Solution
Meter does not power on.	Dead or incorrectly installed batteries.	Check battery polarity or replace batteries.
Inaccurate readings.	Incorrect function selected; test leads not fully inserted; meter not calibrated (though self-calibrating); external interference.	Ensure correct function. Re-insert test leads. Power cycle the meter. Avoid strong electromagnetic fields.
Display is dim or hard to read.	Low battery; direct sunlight; screen protector.	Replace batteries. Move to a shaded area. Remove any temporary screen protectors.
No continuity beep.	Circuit is open; incorrect function; low battery.	Verify circuit continuity. Ensure continuity function is selected. Replace batteries.
"OL" or "OVER" displayed.	Measurement exceeds selected range or meter's maximum capacity.	Switch to a higher range if available, or note that the value is out of range.

9. Specifications

Feature	Detail
Model Number	KC602
Brand	KAIWEETS
Power Source	Battery Powered (3 AAA batteries included)
Safety Standard	IEC 61010-1, CAT IV 600V
Display	HD Color Screen, 6000 Counts
AC Current Range	Up to 600A (with Inrush function 5-600A)
DC Current Range	Up to 600A
Voltage Range	AC/DC Voltage up to 600V
Resistance Range	Yes
Capacitance Range	Yes
Temperature Measurement	Yes (with thermocouple)
NCV (Non-Contact Voltage)	Yes

Feature	Detail
Auto-Off	Yes (approx. 15 minutes)
Item Weight	240 Grams
Package Dimensions	8.9 x 4.65 x 2.05 inches

10. Warranty and Support

KAIWEETS offers a 3-year after-sales service and lifetime technical assistance for the KC602 Smart Digital Clamp Meter. For any questions, technical support, or warranty claims, please contact KAIWEETS customer service through their official channels or the retailer where the product was purchased.
For more information, visit the official KAIWEETS Store:KAIWEETS Store on Amazon