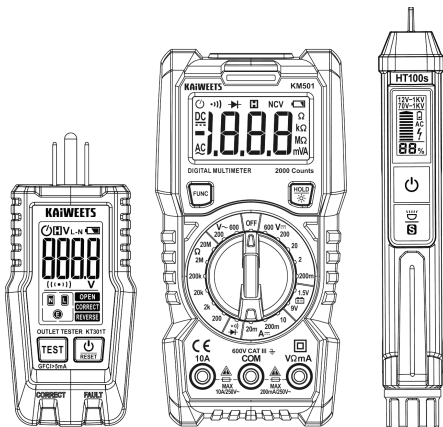




User Manual

Electrical Test Kit **KIT01**

- 1x KM501 Digital Multimeter
- 1x HT100s Voltage Tester
- 1x KT301T Outlet Tester



Contact Us: support@kaiweets.com

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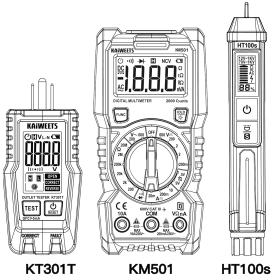
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Before Using

Please read this manual carefully before using and keep it for future reference.

Product Overview

The KAIWEETS Electrical Test Kit KIT01 is a comprehensive and high-quality solution for electrical testing needs. This kit comes with a KM501 Digital Multimeter, which is a precise and reliable instrument for measuring various electrical parameters such as voltage, current, and resistance. The HT100s Voltage Tester is also included, offering a quick and easy way to detect the presence of voltage in outlets and wiring. Additionally, the KT301T Outlet Tester is a handy tool for checking the correctness of outlet wiring and ensuring the proper functioning of ground fault circuit interrupters (GFCIs). Together, these components make the KIT01 an essential toolkit for electricians, DIY enthusiasts, and anyone involved in electrical work, providing a complete set of tools for a wide range of electrical testing tasks.



KM501

Digital Multimeter



1. Statement

1.1 Safety Statement

The “ Caution” mark indicates conditions and operations that could lead to equipment damage. You must proceed with care when executing these operations. Failure to follow the correct procedure or improper operation may result in equipment damage. If you don’t fully understand or meet these conditions, stop and do not attempt the operation indicated by the “ Caution” mark.

The “ Warning” mark indicates conditions and operations that pose

a danger to users. You must pay close attention when performing these operations. Incorrect operation or failure to follow procedures could cause personal injury or death. If you don't fully understand or meet these conditions, stop and do not attempt the operation indicated by the “Warning” mark.

1.2 Safety Information

The instrument is designed in accordance with the safety requirements for electronic test instruments specified in the International Electrotechnical Safety Standard IEC61010–1. Its design and manufacturing strictly adhere to the IEC61010–1 CAT III 600V overvoltage safety standard and meet the requirements of pollution degree 2.

1.3 Safety Instructions for Use

Warning

To prevent electric shock, injury, or other accidents, please follow these guidelines:

- Read the manual thoroughly before use, paying close attention to safety warnings.
- Operate the instrument strictly per the manual. Incorrect use can compromise its protective features.
- Exercise caution when measuring voltages exceeding 60V DC, 30V AC RMS, or 42V peak, as these pose electric shock risks.
- Do not measure voltages exceeding the rated voltage values of the device between terminals or between terminals and ground.

- Test the instrument on a known and safe voltage source before use. Do not use it if it's damaged or malfunctioning.
- Inspect the instrument's casing and probes for cracks or damage before use. If damaged, do not use it.
- Before using the instrument, check the test leads for cracks or damage. If any is found, replace them with leads of the same model and electrical specifications.
- Use the instrument only within the measurement categories, voltage, and current ratings specified.
- Comply with local and national safety regulations. Wear appropriate personal protective equipment (e.g., approved rubber gloves, a mask, and fire-resistant clothing) to avoid injury from exposed hazardous conductors.
- Replace the battery promptly when the low-battery indicator appears to prevent measurement errors.
- Do not use the instrument in explosive gas/vapor areas or damp environments.
- Keep fingers behind the probe guards while using probes.
- When measuring, connect the neutral/ground lead first, followed by the live lead. When disconnecting, reverse the order.
- Remove probes before opening the instrument's casing or battery cover. Do not use it when it's open or the battery cover is removed.
- For safety compliance, only use the provided probes. If replacing, ensure they're the same model with identical electrical specifications.

1.4 Safety Symbols

	High Voltage Warning
	AC (Alternating Current)
	DC (Direct Current)
	AC or DC Current
	Warning, Important Safety Symbol
	Grounding
	Fuse
	Equipment protected by double or reinforced insulation
	Low battery voltage
	Complies with EU directives
	This label indicates that this electrical/electronic product should not be disposed of in household waste.
CAT II	CAT II measurement is for testing and measuring circuits directly connected to low-voltage power outlets (such as outlets and similar points).
CAT III	CAT III measurement is for circuits connected to the distribution part of a building's low-voltage power system.
CAT IV	CAT IV measurement is for circuits connected to the power source of a building's low-voltage power system.

2. Product Overview

2.1 Panel Description

a–LCD Display

b–Function Key

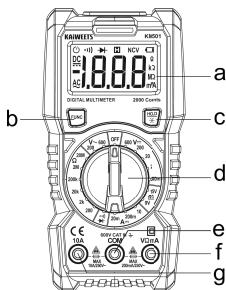
c–Data Hold/Backlight

d–Knob Switch

e–COM Terminal

f–Input Terminal

g–10A Terminal



2.2 FUNC Keys

Press the “” FUNC key to switch between functions when a single range includes multiple functions.

2.3 Data Hold

Press the “” HOLD key to enter or exit data hold mode.

2.4 Backlight

Press and hold the “” HOLD key for over 2 seconds to turn the backlight on or off.

2.5 Auto Power–Off

- If no operation occurs within 15 minutes of powering on, the instrument automatically turns off to conserve battery power. Press any key to resume operation.

- To disable this feature, hold the “FUNC” key while powering on.
The auto power-off function reinstates after each restart.

3. Operating Instructions

3.1 DC/AC Voltage Measurement

- 1) Rotate the knob to the DC or AC voltage setting and pick a suitable range.
- 2) Insert the red probe into the “VΩmA” terminal and the black probe into the “COM” terminal.
- 3) Touch the probe tips to the circuit being tested, connecting them in parallel with the power source or circuit, then take the measurement.
- 4) Read the measurement result on the display.



Warning

- Do not measure voltages over 600V to avoid instrument damage.
- Take extra care when measuring high voltages to prevent electric shock or injury.
- Before use, test the instrument on a known voltage source to ensure it works properly.

3.2 DC Current Measurement

- 1) Turn the knob to the DC current setting and select the proper range.
- 2) Insert the red probe into the “VΩmA” terminal or 10A terminal and the black probe into the “COM” terminal based on the measurement range.

- 3) Disconnect the power to the circuit being tested. Connect the instrument in series with the circuit, then restore power.
- 4) Read the measurement result on the display.

 Warning

- When measuring high voltage, be extremely careful to avoid electric shock or injury.
- Before use, test the instrument on a known voltage source to ensure it is working properly.

 Caution

To prevent damage to the instrument or equipment, check the fuse before taking measurements. Ensure the current being measured does not exceed the maximum rated current and use the correct terminal.

3.3 Resistance Measurement

- 1) Rotate the knob to the resistance setting and select an appropriate range.
- 2) Insert the red probe into the “VΩmA” terminal and the black probe into the “COM” terminal.
- 3) Touch the ends of the circuit or resistor with the probes.
- 4) Read the measurement result on the display.

 Warning

When measuring resistance in a circuit, first disconnect the power and discharge all high-voltage capacitors. Otherwise, the instrument may be damaged, and electric shock may occur.

NOTE: When measuring resistance in a circuit, the reading may be affected by other current paths between the probes.

3.4 Continuity Measurement

- 1) Rotate the knob to position “”, press the “FUNC” key to select the continuity testing function, and ensure that the power to the circuit being tested is off.
- 2) Insert the red probe into the “VΩmA” terminal and the black probe into the “COM” terminal.
- 3) Touch the ends of the circuit or resistor with the probes.
- 4) If the resistance of the circuit or resistor being tested is less than about 30Ω, the buzzer will sound. The display will show the resistance value of the circuit or resistor being tested.

Warning

When testing continuity in a circuit, first disconnect the power and discharge all high-voltage capacitors. Otherwise, the instrument may be damaged, and electric shock may occur.

NOTE: When testing continuity in a circuit, the reading may be affected by other current paths between the probes.

3.5 Diode Measurement

- 1) Rotate the knob to position “”, press the “FUNC” key to select the diode measurement function, and ensure that the power to the circuit being tested is off.
- 2) Insert the red probe into the “VΩmA” terminal and the black probe into the “COM” terminal.
- 3) Touch the anode of the diode with the red probe and the cathode with the black probe.
- 4) Read the measurement result on the display.

Warning

When testing diodes in a circuit, first disconnect the power and discharge all high-voltage capacitors. Otherwise, the instrument may be damaged, and electric shock may occur.

NOTE: When testing diodes in a circuit, the reading may be affected by other current paths between the probes.

3.6 Battery Test

- 1) Rotate the knob to the appropriate range for battery testing.
- 2) Insert the red probe into the “VΩmA” terminal and the black probe into the “COM” terminal.
- 3) Connect the red probe to the battery’s positive terminal and the black probe to the negative terminal, and connect them in parallel to the battery for measurement.
- 4) Read the battery voltage on the display.

NOTE:

For the 1.5V range, the load resistance is 30Ω.

For the 9V range, the load resistance is 300Ω.

4. General Technical Specifications

Operating Conditions	CAT III 600V Pollution Degree: 2 Altitude: Below 6562ft (2000m) Working Temp./Humidity: 32°F to 104°F (0°C to 40°C), <80% RH, <50°F/10°C (Non-Condensing)
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	Storage Temp./Humidity:14°F to 140°F (-10°C to 60°C) <70% RH, Battery Removed
Temperature Coefficient	0.1×accuracy/°C (<64.4°F or >82.4°F/ <18° C or >28°C)
Max Voltage Between Measurement Terminals and Earth	600V
Fuse Protection	mA Range: F200mA/250V Fuse 10A Range: F10A/250V Fuse
Sampling Rate	Approx 3 times/sec.
Overrange Indicator	Displays “OL”
Low Battery Indicator	Displays “  ” when battery voltage is low
Input Polarity Indicator	Auto display “  ”
Power Supply	2×1.5V AAA Batteries
Dimensions	5.94in×2.95in×1.81in (151mm×75mm× 46mm)

5. Accuracy Specifications

Accuracy is valid for one year after calibration.

Standard conditions: ambient temperature of 64.4°F to 82.4°F (18°C to 28°C) and relative humidity no more than 80%.

Accuracy: $\pm(\% \text{ reading} + \text{digit})$

5.1 DC Voltage

Range	Resolution	Accuracy
200mV	0.1mV	$\pm(0.5\%$ of reading + 3 digits)
2V	0.001V	
20V	0.01V	
200V	0.1V	
600V	1V	

Overload protection: 600V;

Maximum measuring voltage: 600V.

5.2 AC Voltage

Range	Resolution	Accuracy
200V	0.1V	$\pm(1.2\%$ of reading + 5 digits)
600V	1V	

Overload protection: 600V;

Maximum measuring voltage: 600V/40~500Hz.

5.3 DC Current

Range	Resolution	Accuracy
20mA	0.01mA	$\pm(1.2\%$ of reading + 3 digits)
200mA	0.1mA	
10A	0.01A	

Overload Protection:

mA Range: F200mA/250V Fuse

A Range: F10A/250V Fuse

Maximum measuring current:

mA Range: Maximum 200mA

A Range: Maximum 10A

NOTE: When measuring high currents, continuous measurement should not exceed 15 seconds.

5.4 Resistance

Range	Resolution	Accuracy
200Ω	0.1Ω	±(1.0% of reading + 3 digits)
2kΩ	0.001kΩ	
20kΩ	0.01kΩ	
200kΩ	0.1kΩ	
2MΩ	0.001MΩ	±(1.5% of reading + 3 digits)
20MΩ	0.01MΩ	

Overload protection: 600V

5.5 Diode Test

	Function	Forward DC current: About 1.0mA
	Displays approx. forward voltage of the diode.	Reverse DC voltage: About 2.4V Overload protection: 600V

5.6 Continuity Test

	Function	Reverse DC Voltage: approx. 1V
	If resistance $<30\Omega$, the instrument's built-in buzzer will sound.	Overload Protection: 600V

6. Maintenance

6.1 Clean

If the terminals are dusty or damp, inaccurate readings may result.

Clean the instrument as follows:

- 1) Power off the instrument and remove the test leads.
- 2) Turn it upside down to shake out dust from the input jacks. Wipe the case with a damp cloth or mild cleaner—avoid abrasives or solvents. Clean contacts in each input jack with a cotton swab dipped in alcohol.

Warning:

Please always keep the inside of the instrument clean and dry to avoid electric shock or instrument damage.

6.2 Replace Battery and Fuse

Replace Battery

- 1) Power off the instrument and remove the test leads.
- 2) Use a screwdriver to remove the battery cover screw and take off the cover.
- 3) Replace the old batteries with new ones of the same specification, observing polarity as marked in the battery compartment.
- 4) Reattach and secure the battery cover with the screw.

Warning

- Replace batteries promptly when low to prevent inaccurate readings that may lead to electric shock or injury. Never short-circuit or reverse battery polarity to discharge batteries.
- For safety, remove batteries during long-term storage to avoid damage from battery leakage.

Replace Fuse

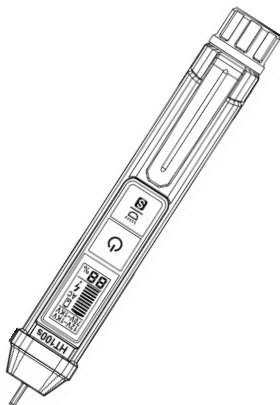
- 1) Turn off the device and remove the test leads.
- 2) Unscrew the rear cover screw with a screwdriver and remove the cover.
- 3) Take out the blown fuse and insert a new one of the same specifications, ensuring it clicks into place in the fuse holder.
- 4) Reattach the rear cover and secure it with the screw.

Warning

Use only fuses of the same or specified type to avoid electric shock, injury, or device damage.

HT100s

Voltage Tester



1. Warnings



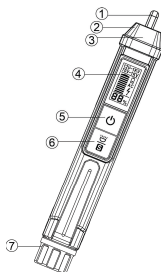
This device is used to test voltages which may be life-threatening. Extreme caution is required!

- First, make sure to always test this device on a known and safe circuit to ensure it is functioning normally!
- When checking uninsulated contacts, make sure to wear safety shoes to prevent an electric shock.
- When checking uninsulated contacts, also hold onto the tester and make sure your fingers are behind the anti-slip guard.

- Do not use the device if:
 - The screen is not lit;
 - Damage to the device is evident;
 - The tip is not intact.
- The tester **WILL NOT** detect voltage if:
 - The voltage is DC;
 - The wire is shielded;
 - The operator is not grounded or is otherwise isolated from the ground.
- The tester **MAY NOT** detect voltage if:
 - The wire is partially buried or in a grounded metal conduit;
 - The tester is at a distance from the voltage source;
 - The wire is too thick or the type of insulation is incompatible.
- Do not use this device to test voltage greater than 1000V.
- Use caution with voltages above 30V AC as they are a possible shock hazard.
- This tester can only be used indoors and should be protected from water, high humidity, and heat.
- **ATTENTION:** Even if there is no indication, voltage may still be present. The voltage detector indicates the effective voltage when a supply voltage generates a sufficiently intense electrostatic field. If the field is very weak, the voltage detector is unable to detect the existence of a voltage.
- We do not accept any liability for property damage or personal injury caused by incorrect operation or failure to follow safety instructions. In this case, any warranty claim will be voided.

2. Product Overview

- ① Probe (NCV Sensor)
- ② Flashlight
- ③ Signal Indicator
- ④ LCD Display
- ⑤ Power Button
- ⑥ Mode Switch (Short Press)
/Flashlight (Long Press)
- ⑦ Battery Cover



3. Operating Instructions

3.1 Turn On/Off

- Press and hold the power key for more than 1 second. There will be a beep and the display will light up.
- Press the power button again and the tester will turn off.
- After 5 minutes of non-use, the tester will automatically shut down to save power.

3.2 Checking for AC Voltage Presence



Prior to each use, test on a known live circuit to verify tester functionality!

- Keep the tester's tip near the AC voltage. When a voltage is detected, the device will beep and the tip will light up red.
- As the intensity of the voltage signal changes, the bar graph and percentage value on the screen will oscillate and the frequency of blinking

and beeping will vary along with the signal intensity.

ATTENTION: Signal intensity is affected by the distance of the tester from the voltage. The further the tester is from the circuit, the weaker the signal becomes.

3.3 Dual Range

The device can use two distinct modes to detect voltage, defined by the voltage ranges to which the tester is sensitive. Low sensitivity mode detects 70 to 1000V AC (shown on the screen). To enter high sensitivity mode to detect 12 to 1000V AC, briefly press the mode switch “  ” button. When the tester is first powered ON, the tester is set to low sensitivity mode by default. For subsequent uses, the tester will power ON in the mode that was most recently used.

3.4 Identify the Wiring

- Keep the individual wires as far away from each other as possible and read the signals.
- The neutral and live wires should be identified by detected signal intensity. The live wire will cause stronger signals and the neutral will cause weaker signals.

3.5 LED Flashlight

Press and hold the “  ” button for more than 2 seconds to turn the flashlight on and off.

3.6 Low Battery Indicator

If the battery voltage falls to less than 2.5 volts, the display will show the “” symbol. If the battery voltage falls to less than 2.3 volts, the tester will automatically turn off.

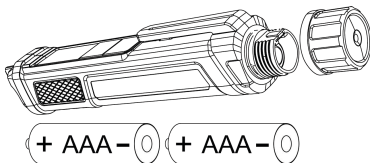
4. Technical Specifications

Voltage:AC 12~1000V, 50/60Hz
Operating temperature:.....32°F to 104°F (0°C to 40°C)
Storage temperature:.....14°F to 122°F (-10°C to 50°C)
Humidity:.....≤95%
Operating altitude:.....≤6562ft (≤2000m)
Security level:.....CE, CAT III 1000V, CAT IV 600V
Batteries:.....2×1.5V AAA

5. Battery Replacement

Rotate the battery cover off the body, remove the batteries, and insert the positive terminal of the new battery toward the tip of the tester.

Rotate the cap on the body until it is fully locked into place. Do not use the tester on a live current before locking to avoid the risk of electric shock.

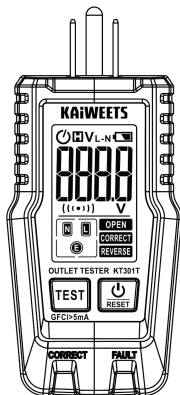


6. Cleaning

Use only a soft, slightly damp cloth to clean the device. Never use chemicals or abrasives, alcohol, ammonia or cleaners containing solvents to clean the tester. Make sure the device is completely dry before use.

KT301T

Outlet Tester



1. Warnings

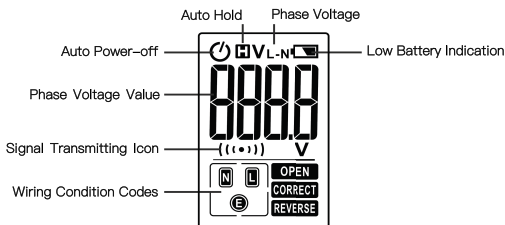
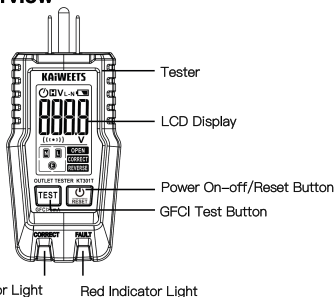
To ensure safe operation and maintenance of the tester, follow these instructions. Failure to comply may result in serious injury or death.

- This outlet tester is **only** for North American 120V outlets. **DO NOT** connect it to higher voltage outlets.
- Before use, verify the tester's operation by testing on a known live and correctly wired circuit.
- Do not use the tester if it is damaged.
- The tester is for indoor use only.
- Other devices or equipment connected to the circuit under test

may interfere with the tester. Clear the circuit before testing.

- The outlet tester only detects common wiring issues. Always consult a qualified electrician to resolve wiring problems.
- Do not attempt GFCI ground fault testing on circuits with wiring errors. Consult a qualified electrician to resolve wiring issues.
- This device is suitable for standard three-wire outlets commonly used in residential and commercial buildings in North America.

2. Product Overview



3. Operating Instructions

3.1 Turn On/Off

Press and hold the “” button to turn the tester on and off. The device will auto-shut off after 5 minutes of inactivity when the line voltage is 0.

3.2 Wiring Condition

- Plug tester into the electrical outlet being tested. If the outlet wiring is incorrect, the display will illuminate with an orange backlight, signaling a wiring error. Refer to the LCD display to identify the specific wiring issue (see below function cross-reference), then unplug the tester.
- When the outlet wiring is correct and the voltage is within the normal range, the screen displays “CORRECT,” the signal transmitting icon “((••))” flashes, and both the green backlight and the green wiring status indicator light up.

NOTE:

- Even if the wiring is correct, the orange backlight will also illuminate if the voltage is below 85V (30V~85V DC) or above 135V (135V~ 150V AC), indicating that the line voltage is outside the normal range.
- If a low (30~85 V AC) or high (135~150 V AC) voltage is detected, the red indicator will light up. When the red indicator (for low or high voltage) and the green one are on at the same time, it means the line voltage is outside the normal range, but the wiring is correct.
- If the tester indicates that the outlet is not wired correctly, consult a qualified electrician.

Function Cross–reference

DISPLAY	CONDITION
Live & Neutral & Ground – Correct	Correct Wiring
Ground – Open	Open Ground
Neutral – Open	Open Neutral
– – –	Missing Live
Live & Ground – REVERSE	Live & Ground Reversed
Live & Neutral – REVERSE	Live & Neutral Reversed
Live & Neutral & Ground – REVERSE	Live & Ground Reversed Open Ground

NOTE: Unspecified conditions include, but are not limited to, grounding quality, multiple live wires, reversed neutral and ground wires, and defect combinations other than simultaneous open circuits in neutral and ground wires.

3.3 Outlet Voltage Testing

Insert the tester into a standard three–hole power outlet and read the voltage value (in volts) from the tester’s display.

3.4 Ground Fault Circuit Interrupter (GFCI) Testing

 ***If the test indicates that the outlet is not wired correctly, DO NOT attempt to test the GFCI device. Consult a qualified electrician.***

To test the GFCI device, press and hold the “**TEST**” button on the tester for more than 2 seconds. Following the test:

- If the GFCI device trips, de–energizing the circuit, the display will show “PAS” and the Wiring Condition Indicator will flash, confirming a successful trip.
- If the circuit remains Energized, the GFCI device did not trip. This may indicate incorrect wiring, improper installation, or a malfunctioning GFCI device. In this case, consult a qualified electrician.

3.5 Data Hold Function

The KT301T outlet tester will activate data hold mode automatically when unplugged or when power is disconnected. It will auto-shut-off in 5 minutes if no operations are performed.

Note: The data hold function only retains the real-time data from the last measurement and the indicator light status at that time.

4. Technical Specifications

Phase Voltage Measurement Range: 30~150V (45~65Hz)

Accuracy: $\pm (3.0\%+2)$

Operating Altitude: $\leq 6562\text{ft}$ (≤ 2000 meters)

Relative Humidity: $<85\%$, non-condensing

Operating Temperature: 32°F to 122°F (0°C to 50°C)

Storage Temperature: -4°F to 140°F (-20°C to 60°C)

GFCI Current: $>5\text{mA}$

Three Years Warranty



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