

# EN: AMPTRON – USER MANUAL

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## TECHNICAL SPECIFICATIONS

- **Operating Environment:** CAT II 600V, Pollution Degree 2, Altitude < 2000 m
  - **Operating Temperature & Humidity:** 0°C to 40°C (<80% RH, non-condensing below 10°C)
  - **Storage Temperature & Humidity:** -10°C to 60°C (<70% RH, remove batteries during storage)
  - **Temperature Coefficient:** 0.1 × accuracy/°C (for temperatures <18°C or >28°C)
  - **Maximum Voltage (Terminals to Earth Ground):** 600V
  - **Sampling Rate:** Approximately 3 times per second
  - **Display:** 4000 counts
  - **Overrange Indication:** Displays "OL"
  - **Low Battery Indication:** Battery icon displayed on screen
  - **Input Polarity Indication:** Automatic "-" display for negative polarity
  - **Power Supply:** 2 × 1.5V AAA batteries
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## ACCURACY SPECIFICATIONS

Accuracy is valid for one year after calibration.

Reference conditions: Ambient temperature 18°C to 28°C, relative humidity ≤80%.

Accuracy: ± (% of reading + digits)

### 1. DC Voltage

Range	Resolution	Accuracy
4V	0.001V	±(1.0% + 5 digits)
40V	0.01V	
400V	0.1V	
600V	1V	

**Voltage Range:** 0.8V – 600V

**Overload Protection:** 600V

**Maximum Input Voltage:** 600V

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### 2. AC Voltage

Range	Resolution	Accuracy
4V	0.001V	±(1.2% + 5 digits)
40V	0.01V	
400V	0.1V	
600V	1V	

**Voltage Range:** 0.8V – 600V

**Overload Protection:** 600V

**Frequency Response:** 40 Hz – 1000 Hz

**Measurement Type:** True RMS

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### 3. Resistance

Range	Resolution	Accuracy
4 k $\Omega$	0.001 k $\Omega$	$\pm(1.2\% + 5 \text{ digits})$
40 k $\Omega$	0.01 k $\Omega$	
400 k $\Omega$	0.1 k $\Omega$	
4 M $\Omega$	0.001 M $\Omega$	
40 M $\Omega$	0.01 M $\Omega$	

**Overload Protection:** 250V

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### 4. Continuity

- Threshold: Approximately 50  $\Omega$
  - Buzzer sounds and green indicator lights up when continuity is detected
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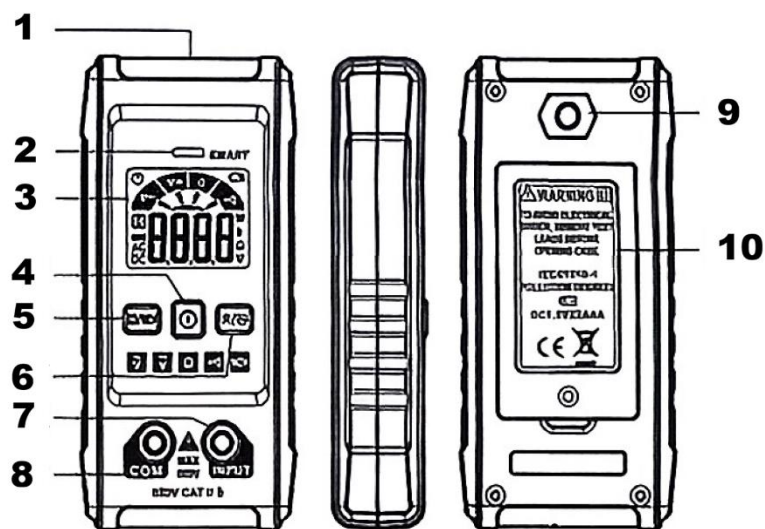
## SAFETY OPERATION SPECIFICATIONS

**Warning:** To avoid electric shock, personal injury, or other hazards, follow these instructions carefully:

- Read this manual thoroughly before using the instrument, paying special attention to safety warnings.
- Use the instrument strictly according to this manual; otherwise, its protection features may be impaired.
- Exercise caution when measuring voltages above 30V AC RMS, 42V AC peak, or 60V DC, as these levels may cause electric shock.
- Before use, measure a known voltage to confirm the device is operating correctly. Do not use if malfunctioning.
- Inspect the casing for cracks or damage before use. Do not use if damaged.
- Check the test probes for cracks or damage. Replace only with probes of the same type and specification if necessary.
- Use the instrument within its specified measurement category and voltage/current limits.
- Follow all local and national safety regulations. Use appropriate personal protective equipment (e.g., insulated gloves, protective clothing).
- Replace the batteries promptly when the low battery indicator appears to avoid inaccurate readings.

- Do not use the instrument in explosive environments, near flammable gases, or in wet conditions.
- Keep fingers behind the probe guards during measurements.
- When measuring, connect the neutral or ground line first, then the live wire. When disconnecting, remove the live wire first.
- Remove the test probes before opening the battery cover. Do not operate the device with the case open.
- The instrument meets safety standards only when used with the supplied probes. Use identical replacements if needed.

## PRODUCT OVERVIEW



1. NCV (Non-Contact Voltage) detection area
2. Indicator light
3. Display
4. Power button
5. Hold / NCV button
6. Backlight / Flashlight button
7. Input terminal
8. COM terminal
9. Flashlight
10. Battery cover

## MEASUREMENT OPERATION

### Smart (AUTO) Measurement Mode

This is the default mode when the device is powered on. It automatically detects and measures DC voltage, AC voltage, resistance, and continuity.

1. Press the power button to turn on the device. "AUTO" will appear on the display.

2. Insert the red probe into the "INPUT" terminal and the black probe into the "COM" terminal.
3. Place the probes across the measurement points (in parallel for voltage or resistance).
4. Read the measurement result on the display.

**Note:** Minimum measurable voltage is 0.8V.

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### **NON-CONTACT AC VOLTAGE DETECTION (NCV)**

1. Turn on the device; "AUTO" mode will be displayed.
  2. Press and hold the NCV button to enter NCV mode.
  3. Move the NCV detection area close to the conductor.
  4. For weak signals:
    - Display shows "—L"
    - Backlight turns on
    - Buzzer sounds slowly
    - Green indicator lights up
  5. For strong signals:
    - Display shows "—H"
    - Backlight turns on
    - Buzzer sounds rapidly
    - Red indicator lights up
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### **OTHER FUNCTIONS**

**Data Hold:** Press the Hold/NCV button to freeze or release the displayed value.

**Backlight:** Press the Backlight/Flashlight button to turn the display backlight on or off.

**Flashlight:** Press and hold the Backlight/Flashlight button for approximately 2 seconds to turn the flashlight on or off.

#### **Auto Power-Off:**

- The device will automatically power off after 15 minutes of inactivity.
  - To disable this feature, press and hold the Hold/NCV button while turning on the device. The auto-off symbol will disappear.
  - This setting resets the next time the device is powered on.
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### **WARNING**

- Do not measure voltages exceeding 600V, as this may damage the instrument.
  - Exercise extreme caution when measuring high voltages to avoid electric shock or injury.
  - Always test the device on a known voltage source before use to ensure proper operation.
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## CLEANING

Dust or moisture in the terminals may cause inaccurate readings. Clean the device as follows:

1. Turn off the device and remove the test probes.
  2. Remove dust from the input terminals.
  3. Wipe the casing with a damp cloth or mild detergent. Do not use abrasive cleaners or solvents.
  4. Clean the input contacts using a cotton swab lightly moistened with alcohol.
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## BATTERY REPLACEMENT

1. Turn off the device and remove the test probes.
  2. Remove the screws securing the battery cover.
  3. Replace the old batteries with new ones of the same specification.
  4. Reattach the battery cover and secure it with screws.
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## WARNING

- To avoid incorrect readings and potential electric shock, replace batteries immediately when the low battery indicator appears.
  - Remove the batteries if the device will not be used for an extended period to prevent leakage and damage.
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## INSTRUCTIONS FOR RECYCLING AND DISPOSAL:



This label means that the product cannot be disposed of as other household waste throughout the EU. To prevent potential damage to the environment or human health from uncontrolled waste disposal. Recycle responsibly to promote the sustainable use of material resources. If you want to return a used device, use the drop-off and collection system, or contact the retailer from whom you bought the product. The retailer can accept the product for environmentally safe recycling.



A declaration by the manufacturer that the product complies with the requirements of the applicable EU Directives.