**MVIVDUY KWS-AC305**

# MVIVDUY KWS-AC305 AC Electricity Meter User Manual

Model: KWS-AC305

## 1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of the MVIVDUY KWS-AC305 AC Electricity Meter. This device is designed to measure and display AC voltage, current, power, power factor, and accumulated electrical energy. Please read this manual thoroughly before use to ensure safe and correct operation.

## 2. Safety Information

- **Electrical Hazard:** Installation and wiring should only be performed by qualified personnel. Ensure power is disconnected before any wiring or installation.
- **Voltage Range:** Do not exceed the specified voltage and current ratings of the device.
- **Environment:** Do not expose the device to moisture, extreme temperatures, or corrosive environments.
- **Damage:** Do not use the device if it appears damaged.

## 3. Product Overview

### 3.1 Components

The MVIVDUY KWS-AC305 package typically includes:

- KWS-AC305 AC Electricity Meter
- Current Transformer (CT) for current measurement
- Wiring harness for power supply and voltage measurement


Figure 1: KWS-AC305 AC Electricity Meter with included current transformer and wiring harness.

### 3.2 Display Elements

The meter features a clear LED display showing various electrical parameters. Refer to the diagram below for identification of each display area.

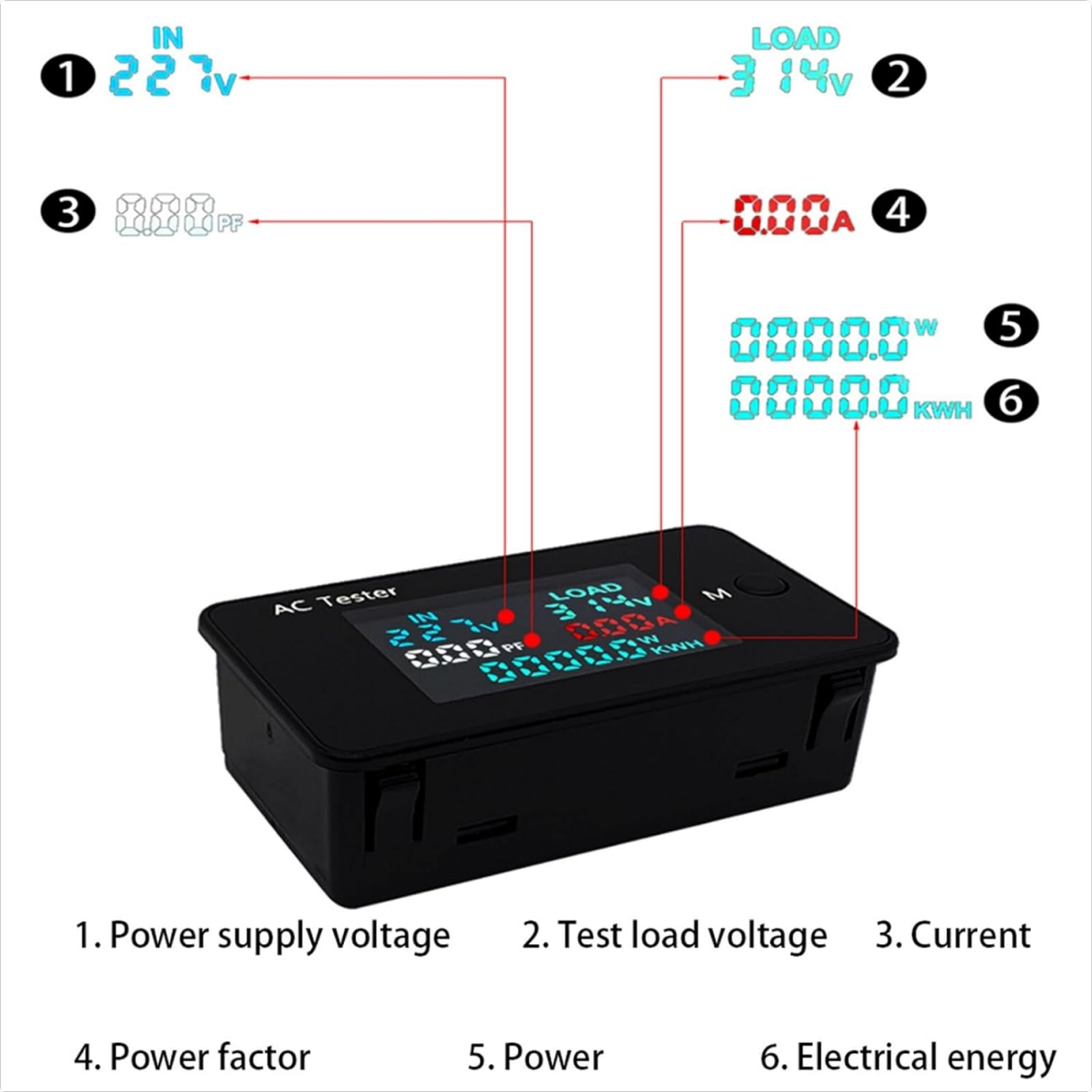


Figure 2: Display elements of the KWS-AC305 meter.

1. **IN Voltage:** Input power supply voltage.
2. **LOAD Voltage:** Measured load voltage.
3. **Power Factor (PF):** Indication of power factor.
4. **Current (A):** Measured current in Amperes.
5. **Power (W):** Measured active power in Watts.
6. **Electrical Energy (KWH):** Accumulated electrical energy in Kilowatt-hours.

## 4. Specifications

| Parameter | Value |
|---|---|
| Power Supply Voltage | AC 50-300V |
| Measuring Voltage | AC 0-500V |
| Current Range | 0-100A |

| | |
|---|---|
| Power Range | 0-50KW |
| Power Factor Range | 0.00-1.00PF |
| Electrical Energy Range | 0-99999Kwh |
| Dimensions (Meter) | 65.2mm (L) x 37.9mm (W) x 22mm (H) (Front Panel) |
| Installation Dimensions (Cutout) | 62mm (L) x 34.5mm (W) |
| Item Weight | 50 Grams |


Figure 3: Physical dimensions of the KWS-AC305 meter and associated cables.

## 5. Setup & Installation

### 5.1 Wiring Diagram

Follow the wiring diagram carefully. Incorrect wiring can damage the device or pose a safety hazard. Ensure all connections are secure.

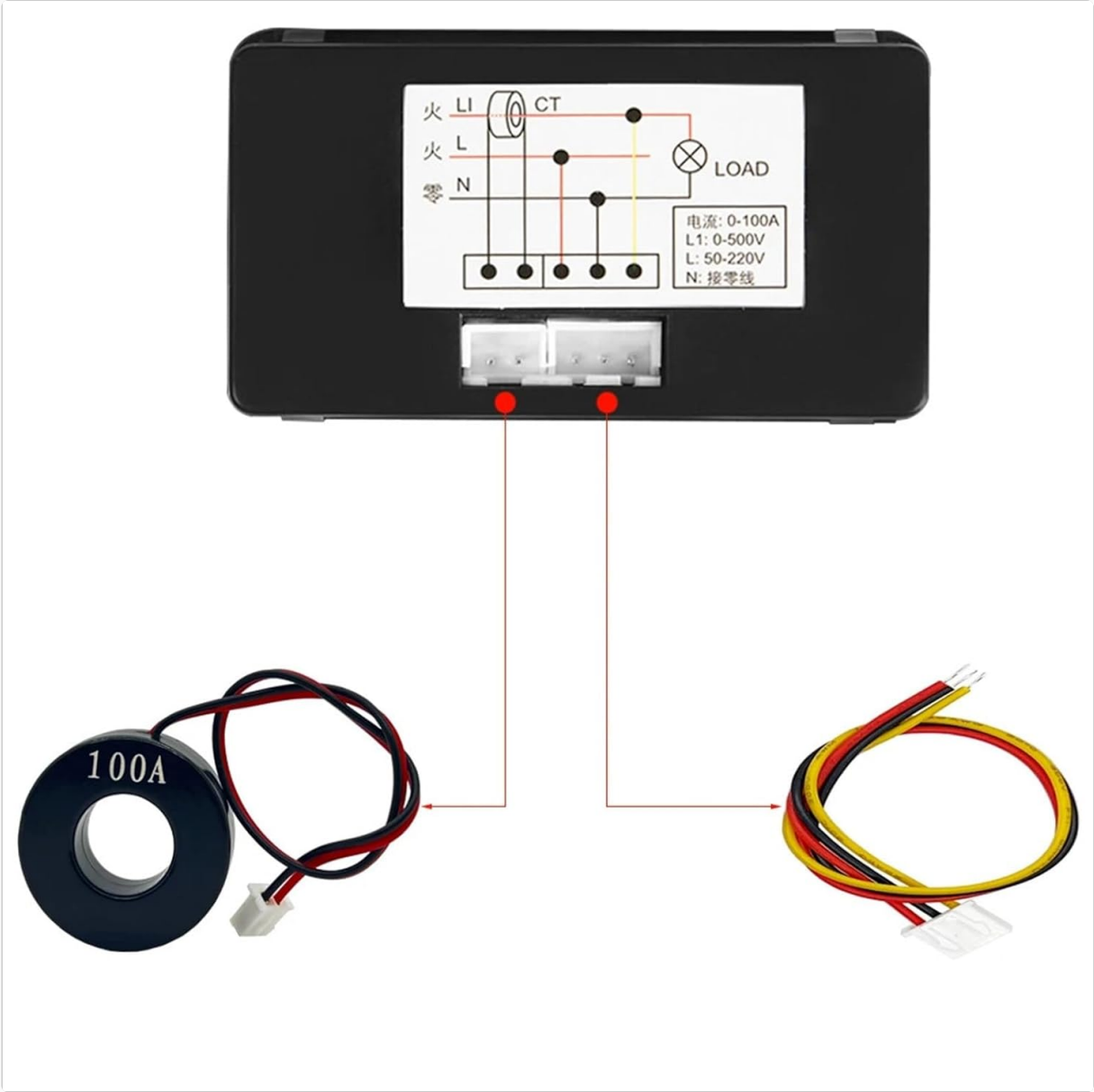


Figure 4: Wiring diagram for the KWS-AC305 meter. Connect the main power supply (L, N) to the meter's input terminals. The current transformer (CT) should be installed around the load wire (L) to measure current. The load is connected to the output terminals.

- Connect the two-wire harness (red and black) to the meter's power input terminals (L and N). This provides power to the meter and measures the input voltage.
- Pass the load wire (typically the Live/Phase wire) through the center hole of the Current Transformer (CT).
- Connect the two-wire harness from the CT to the meter's CT input terminals.
- Ensure all connections are tight and insulated.

### 5.2 Physical Installation

The meter is designed for panel mounting. Cut an opening in the panel according to the specified installation dimensions (62mm x 34.5mm). Secure the meter in place using the integrated clips.


Figure 5: Examples of the KWS-AC305 meter installed in various electrical panels and setups.

## 6. Operation

### 6.1 Powering On

Once correctly wired and installed, apply AC power within the specified range (AC 50-300V) to the meter. The display will illuminate and begin showing real-time measurements.

### 6.2 Display Modes

The meter can display different parameters. Use the 'M' button on the front panel to cycle through the display modes.

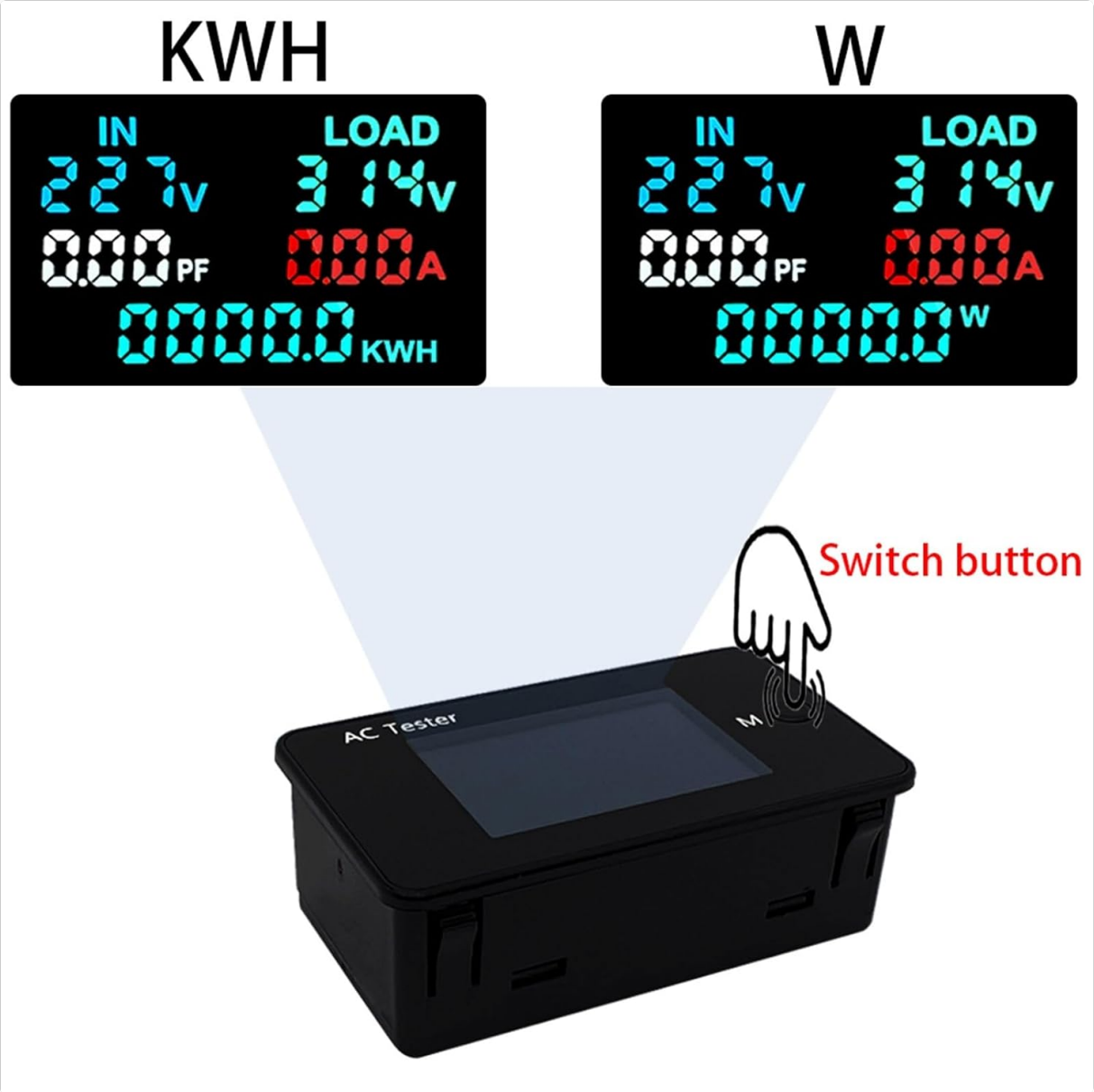


Figure 6: The 'M' button allows switching between different display modes, such as accumulated electrical energy (KWH) and instantaneous power (W).

- **Short Press 'M' button:** Switches between displaying instantaneous Power (W) and accumulated Electrical Energy (KWH).

### 6.3 Clearing Accumulated Electrical Energy (KWH)

To reset the accumulated electrical energy (KWH) reading:

- Navigate to the Electrical Energy (KWH) display page using the 'M' button.
- Press and hold the 'M' button for approximately 3 seconds. The KWH value will reset to zero.

## 7. Maintenance

- **Cleaning:** Use a soft, dry cloth to clean the display and casing. Do not use abrasive cleaners or solvents.
- **Inspection:** Periodically check wiring connections for tightness and signs of wear or damage.
- **Storage:** If storing the device, ensure it is in a dry, dust-free environment within recommended temperature ranges.

## 8. Troubleshooting

| Problem | Possible Cause | Solution |
|---|---|---|
| Display is off | No power supply; Incorrect wiring; Device fault. | Check power connections and ensure AC 50-300V is supplied. Verify wiring according to the diagram. If problem persists, contact support. |
| Incorrect readings | Incorrect CT installation; Wiring error; Device fault. | Ensure the load wire passes correctly through the CT. Verify all wiring connections. Check if the load is within the device's measurement range. |
| KWH value does not reset | 'M' button not held long enough; Button malfunction. | Ensure you are on the KWH display and hold the 'M' button for at least 3 seconds. |

## 9. Warranty & Support

This product is covered by a standard manufacturer's warranty against defects in materials and workmanship. For specific warranty details, please refer to the product packaging or contact your retailer.

For technical support, troubleshooting assistance, or inquiries regarding your MVIVDUY KWS-AC305 meter, please contact the manufacturer or your point of purchase. Please have your product model number (KWS-AC305) and purchase information ready when contacting support.