

KWS-302WF

Generic KWS-302WF Single Phase Energy Meter User Manual

Model: KWS-302WF

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of the Generic KWS-302WF Single Phase Energy Meter. This device is designed for accurate measurement of electricity usage, including voltage, current, power, energy (KWh), frequency, and power factor. It features a color LCD display, WiFi connectivity for remote monitoring, and safety functions such as over-temperature and over-current power-off.

Please read this manual thoroughly before using the product to ensure safe and efficient operation.

2. SAFETY INFORMATION

WARNING: Electrical installation should only be performed by qualified personnel. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- Always disconnect power before installing or servicing the meter.
- Ensure all wiring connections are secure and correct according to the wiring diagram.
- Do not operate the device if it appears damaged.
- Keep the device away from water and excessive humidity.
- The meter is designed for single-phase AC circuits within the specified voltage and current ranges.

3. PRODUCT OVERVIEW

The KWS-302WF is a DIN rail mountable single-phase energy meter designed for monitoring electrical parameters.

3.1 Key Features

- Accurate measurement of voltage, current, power, energy (KWh), frequency, and power factor.
- Color LCD high-definition digital display with 178° viewing angle.
- Backlight function for clear visibility in various lighting conditions.
- WiFi connectivity for remote monitoring and control via a mobile application.

- Over-temperature and over-current power-off protection for enhanced safety.
- Power-off memory function for various power-off protections.
- Supports multi-person control and shared management through the mobile application.
- High-precision one-screen multi-display.

3.2 Package Contents

- 1 x KWS-302WF Single Phase Energy Meter
- 1 x Cable (for NTC temperature sensor)

3.3 Product Diagram

Below is an illustration of the KWS-302WF energy meter, highlighting its main components and display.



Figure 1: Front view of the KWS-302WF Energy Meter. The display shows voltage (V), current (A), power (KW), energy (KWh), power factor (PF), frequency (Hz), and temperature (°C). Input terminals (IN) and output terminals (OUT) are labeled N and L. Control buttons are on the right side. An NTC temperature sensor cable is also shown.



Figure 2: Close-up view of the meter's display, showing detailed readings and the three control buttons (+, M, -) on the right side.



Figure 3: Side and bottom view of the KWS-302WF meter, illustrating the integrated clip for DIN rail mounting.

4. SPECIFICATIONS

Parameter	Value
Model	KWS-302WF
Current Rating	63A
Voltage Range	170-300V AC
Power Source	AC/DC
Material	ABS inflaming retarding material
Display	Color LCD, high definition, 178° viewing angle, with backlight
Connectivity	WiFi
Special Functions	Over-temperature protection, Over-current protection, Power-off function, Power-off memory

Parameter	Value
Dimensions (approx.)	78.8mm (3.1in) Height x 65.6mm (2.58in) Width x 46mm (1.81in) Depth



Figure 4: Dimensional drawing of the KWS-302WF Energy Meter.

5. SETUP AND INSTALLATION

The KWS-302WF energy meter is designed for DIN rail mounting.

5.1 Installation Steps

- Power Disconnection:** Before starting any installation, ensure that the main power supply to the circuit where the meter will be installed is completely disconnected. Verify with a voltage tester.
- Mounting:** Attach the KWS-302WF meter onto a standard 35mm DIN rail. Ensure it is securely clipped into place.
- Wiring:** Connect the input (IN) and output (OUT) terminals according to the wiring diagram.
 - Connect the Neutral (N) wire of the incoming power supply to the 'N IN' terminal.

- Connect the Live (L) wire of the incoming power supply to the 'L IN' terminal.
- Connect the Neutral (N) wire of the load to the 'N OUT' terminal.
- Connect the Live (L) wire of the load to the 'L OUT' terminal.
- If applicable, connect the NTC temperature sensor cable to the 'NTC' terminals.

Note: The terminals are clearly labeled N IN, L IN, N OUT, L OUT, and NTC on the device.

4. **Secure Connections:** Tighten all terminal screws to ensure good electrical contact and prevent loose connections.
5. **Power Restoration:** Once all connections are verified and secure, restore the main power supply. The meter display should illuminate.

5.2 Initial Power-On

Upon first power-on, the meter will display the current electrical parameters.

6. OPERATING INSTRUCTIONS

6.1 Display Readings

The color LCD display provides real-time readings of various electrical parameters:

- Voltage (V)
- Current (A)
- Power (KW)
- Energy (KWh)
- Power Factor (PF)
- Frequency (Hz)
- Temperature (°C) (if NTC sensor is connected)

Rail electric energy meter

Power-off memory of various power-off protection

High-definition color screen eight-in-one display

High-precision one-screen multi-display



Figure 5: The meter's display features power-off memory, a high-definition color screen, and high-precision multi-display capabilities.

6.2 Button Functions

The meter has three buttons on the right side: '+', 'M', and '-'.

- **'+' Button:** Used for increasing values or navigating menus.
- **'M' Button:** Mode button, used for switching display modes or confirming selections.
- **'-' Button:** Used for decreasing values or navigating menus.

Specific button operations for setting parameters or viewing historical data will be detailed in the mobile application guide.

6.3 Mobile Application and WiFi Connectivity

The KWS-302WF meter supports WiFi connectivity, allowing remote monitoring and control via a dedicated mobile application.

1. **App Download:** Download the official mobile application from your smartphone's app store (e.g., App Store for iOS, Google Play Store for Android). Search for "KWS-302WF" or refer to the QR code provided in the product packaging.
2. **Device Pairing:** Follow the in-app instructions to pair your KWS-302WF meter with your smartphone

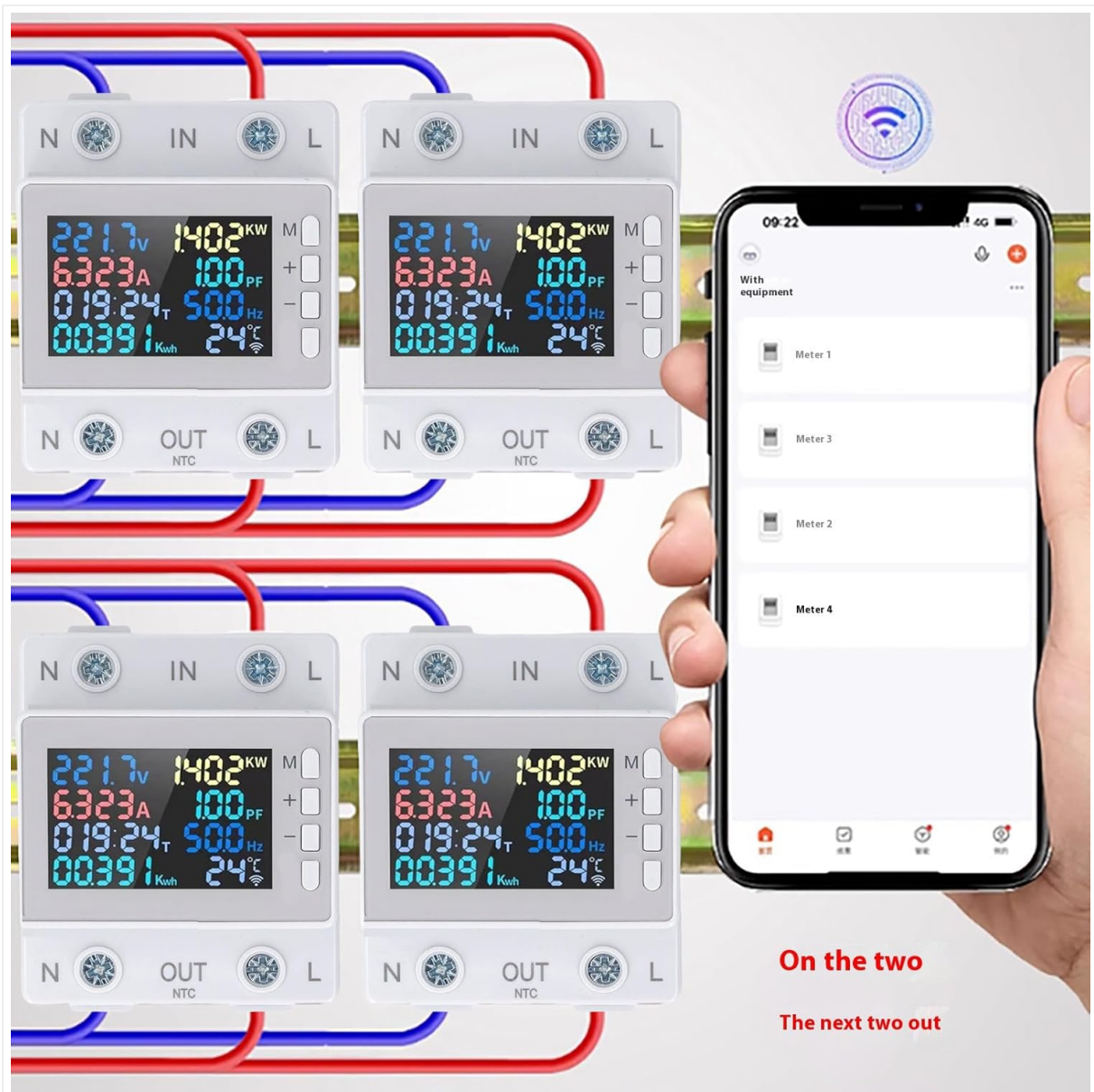


Figure 7: Multiple meters being monitored and controlled via a single mobile application, illustrating multi-device management.

Add to the meter “Timing switch”



Figure 8: The mobile application's "Timing switch" function, allowing users to add multiple sets of scheduled data for power-up or power-off.

6.4 Over-Temperature and Over-Current Protection

The meter is equipped with built-in protection features. If the detected temperature or current exceeds predefined safe limits, the device will automatically trigger a power-off function to prevent damage to the meter or connected appliances. Refer to the mobile application settings for configuring these protection thresholds.

7. MAINTENANCE

- **Cleaning:** Ensure the meter is clean and free from dust. Use a soft, dry cloth for cleaning. Do not use liquid cleaners or solvents.
- **Inspection:** Periodically inspect the wiring connections to ensure they remain secure. Check for any signs of damage or overheating.
- **Environment:** Operate the meter within its specified environmental conditions (temperature, humidity) to ensure optimal performance and longevity.
- **Firmware Updates:** Check the mobile application periodically for any available firmware updates for the meter. Updates can improve performance, add features, or fix bugs.

8. TROUBLESHOOTING

Problem	Possible Cause	Solution
Meter display is off.	No power supply; Loose wiring; Device malfunction.	Check main power supply. Verify all wiring connections are secure. If problem persists, contact support.
Incorrect readings.	Incorrect wiring; Sensor malfunction.	Double-check wiring against the diagram. Ensure NTC sensor (if used) is properly connected.
Cannot connect to WiFi.	Incorrect WiFi password; Router too far; Meter not in pairing mode; 2.4GHz vs 5GHz network issue.	Ensure correct WiFi password. Move meter closer to router. Follow app instructions to put meter in pairing mode. Ensure your router is broadcasting a 2.4GHz network, as many smart devices do not support 5GHz.
Meter automatically powers off.	Over-temperature or over-current protection triggered.	Check the load connected to the meter for excessive current draw or heat. Reduce load if necessary. Review protection settings in the mobile app.

9. WARRANTY AND SUPPORT

Specific warranty information for the Generic KWS-302WF Single Phase Energy Meter is not provided in the product data. Please refer to the retailer or manufacturer's website for details regarding warranty coverage and terms.

For technical support or further assistance, please contact the vendor or manufacturer through the contact information provided at the point of purchase.

10. TYPICAL APPLICATIONS

The KWS-302WF energy meter is suitable for a variety of applications where electricity usage monitoring and control are required.

The mobile phone is a remote control, where there is a signal, you can control the equipment anytime and anywhere.



High and low power distribution cabinet



Display case display rack



Factory assembly line



Enterprise Warehouse



Rental Housing



Company



Shopping Mall Hotel



Family Home

Figure 9: Examples of environments where the KWS-302WF meter can be utilized, ranging from industrial settings to residential homes.