DEWIN KWS-306WF

DEWIN KWS-306WF 3-Phase WiFi Energy Meter Instruction Manual

Model: KWS-306WF | Brand: DEWIN

1. Introduction

The DEWIN KWS-306WF is a sophisticated 3-phase 4-wire WiFi energy meter designed for monitoring electrical parameters in real-time. It features an LCD color display and smart control capabilities via the TUYA application, offering comprehensive power management and protection functions for various applications.



Figure 1: Front view of the DEWIN KWS-306WF Energy Meter.

2. Key Features

- **LCD Color Display:** Features a VA screen with five distinct color fields, displaying real-time voltage, current, active power, power factor, timing, total active energy, frequency, and sensor temperature.
- **Power-Off Memory:** Automatically saves measured energy data during power interruptions, ensuring data integrity upon power restoration.
- **Adjustable Parameters:** Control buttons allow customization of settings for over-voltage, under-voltage, over-current, over-power, scheduled shutdown, and over-temperature shutdown.
- **Remote Control:** Intelligent control and real-time data monitoring via the TUYA application, providing convenient power management from anywhere.
- **Multiple Protection Functions:** Includes protection against over-temperature, over-voltage, under-voltage, over-current, over-power, voltage imbalance, and current imbalance to enhance safety.

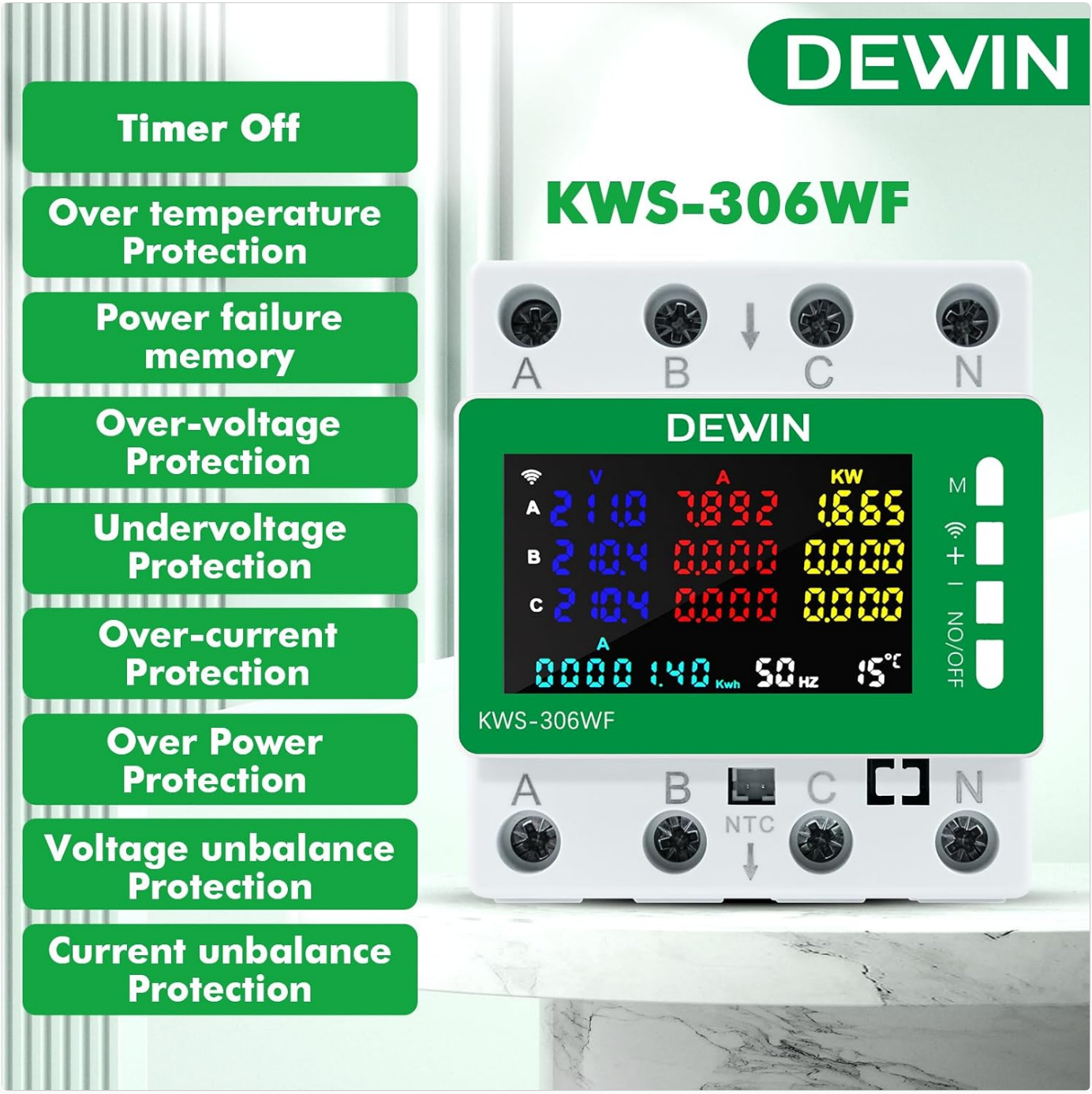


Figure 2: Overview of protection features.

3. Product Specifications

Parameter	Value
Material	ABS + PC + VO
Rated Voltage	AC 220V
Voltage Range	AC 85-290V
Current Range	0-80A
Power Range	0-23KW
Timing Range	Panel 999 hours / APP 365 days

Energy Range	0-9999999Kwh
Frequency Range	50-60HZ
Power Factor	0.00-1.00PF
Power Zeroing	Support
Timing Zeroing	Support
Curve Chart	APP side has
Dimensions (W x H x D)	74mm x 86.5mm x 50mm
Weight	402 grams
Certifications	CE, RoHS

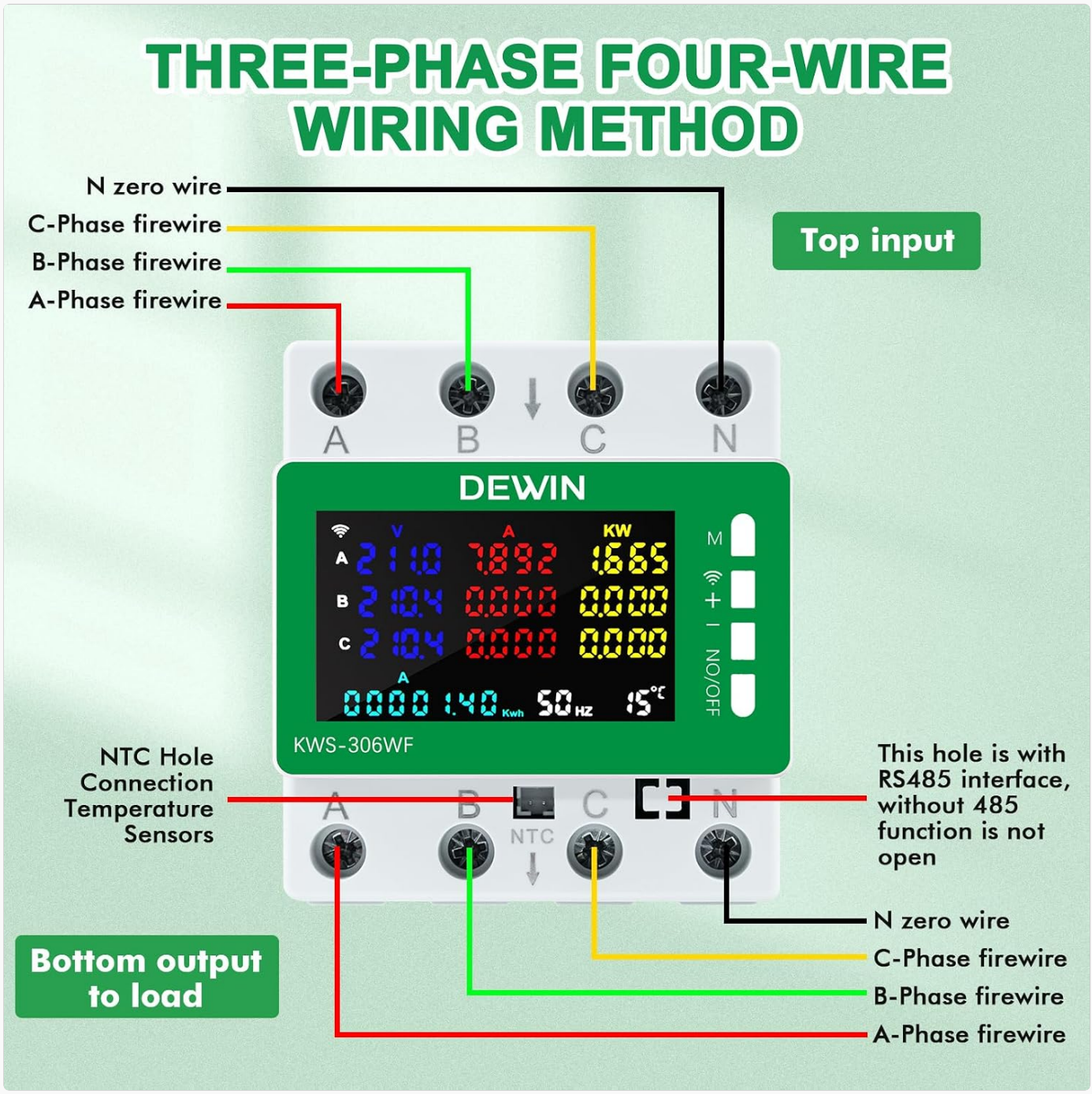


Figure 3: Detailed product information and dimensions.

4. Setup and Installation

4.1 Wiring Method

The KWS-306WF is designed for three-phase four-wire systems. Ensure all connections are secure and follow local electrical codes. The top terminals are for input, and the bottom terminals are for output to the load. Connect the NTC temperature sensor to the designated NTC terminals.

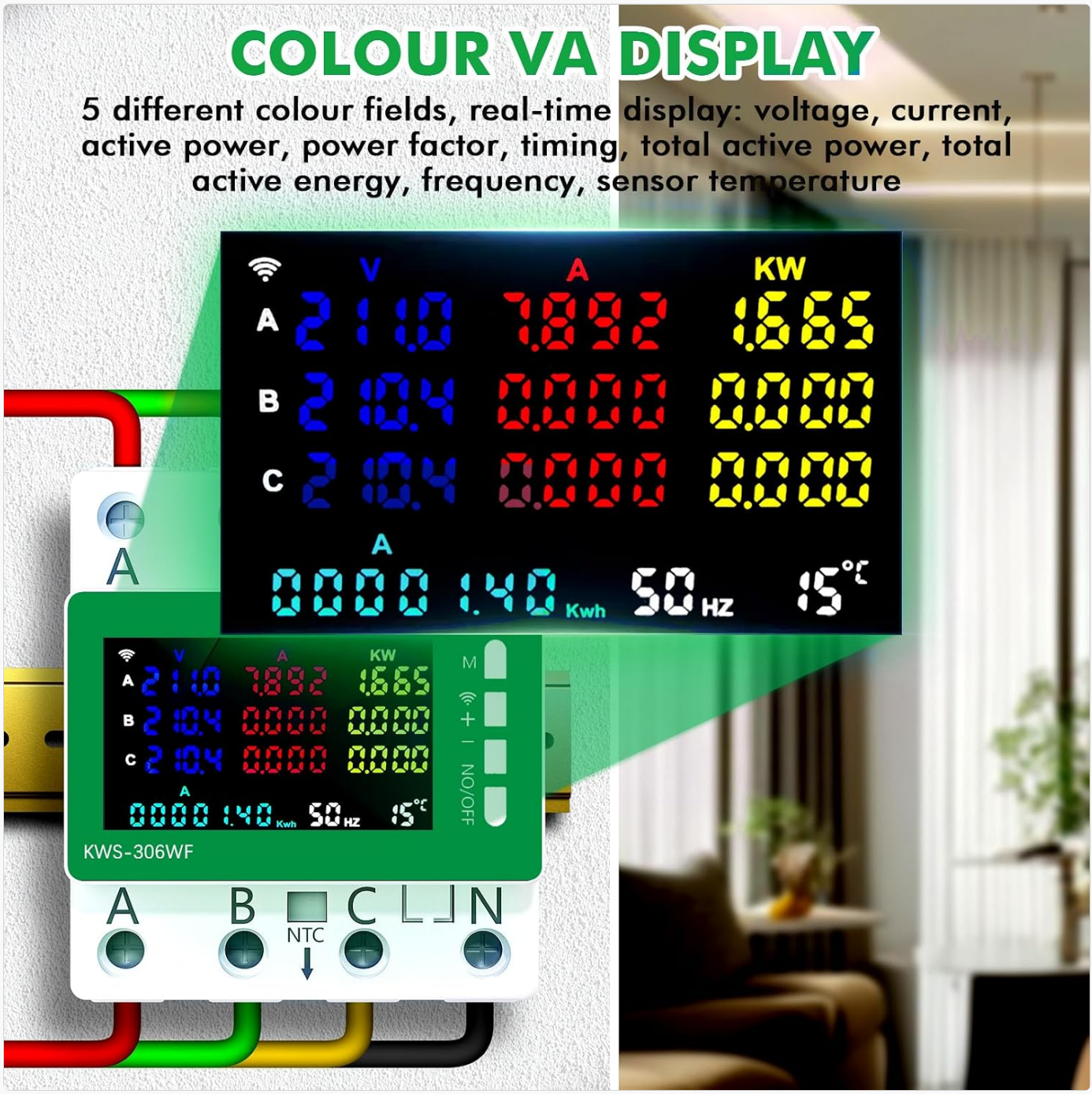


Figure 4: Three-phase four-wire wiring diagram.

4.2 Mounting

The energy meter supports standard DIN35mm rail mounting, allowing for easy and reliable installation in electrical distribution boxes or panels.

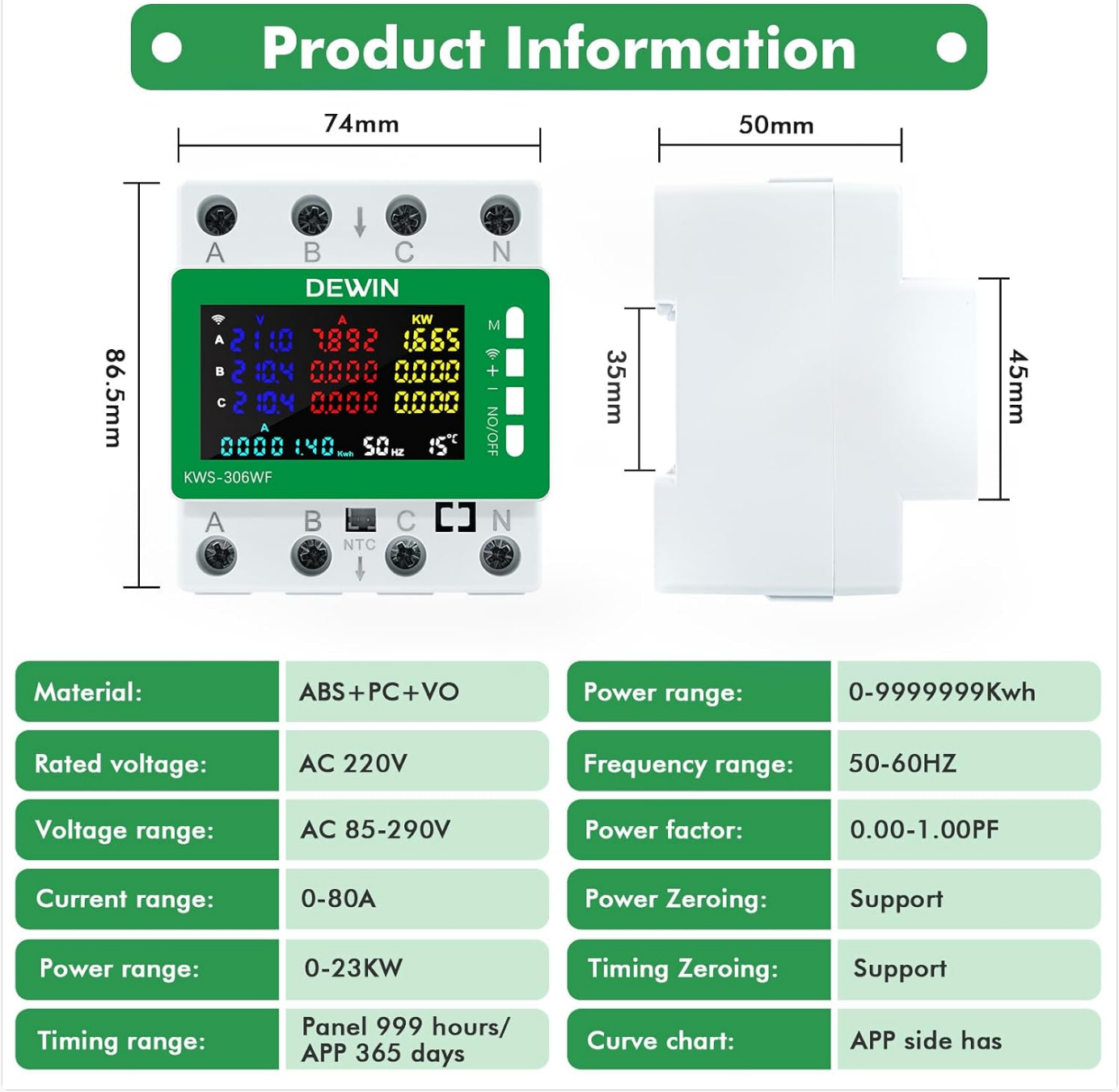


Figure 5: DIN35mm standard rail mounting.

5. Operating Instructions

5.1 LCD Display

The device features a clear LCD color VA display that shows various electrical parameters in real-time. The display is organized into five distinct color fields for easy readability, presenting voltage, current, active power, power factor, time, total active energy, frequency, and temperature from the connected NTC sensor.



Figure 6: Detailed view of the LCD color VA display.

5.2 Remote Control via TUYA App

The KWS-306WF can be controlled and monitored remotely using the TUYA smart application. Download the app from your device's app store or by scanning the QR code on the product. The app allows you to view real-time data, adjust parameters, and manage the device from any location with internet access. For app download, visit https://smartapp.tuya.com/smartlife.

5.3 Parameter Settings

Use the control buttons on the device or the TUYA app to set customized parameters. These include thresholds for over-voltage, under-voltage, over-current, and over-power. You can also configure scheduled shutdowns and over-temperature shutdown limits.

5.4 Power-Off Memory

The device is equipped with a power-off memory function. All measured energy data is automatically stored when power

is lost and retained when power is restored, preventing data loss due to unexpected outages.

6. Safety Features and Protection

The DEWIN KWS-306WF incorporates multiple safety features to protect your electrical system and connected devices:

- **Over-temperature Protection:** Shuts down the device if internal temperature exceeds safe limits.
- **Over-voltage Protection:** Disconnects power if voltage exceeds a set maximum.
- **Under-voltage Protection:** Disconnects power if voltage drops below a set minimum.
- **Over-current Protection:** Disconnects power if current exceeds a set maximum.
- **Over-power Protection:** Disconnects power if total power consumption exceeds a set maximum.
- **Voltage Imbalance Protection:** Monitors and protects against significant voltage differences between phases.
- **Current Imbalance Protection:** Monitors and protects against significant current differences between phases.

7. Applications

The DEWIN KWS-306WF energy meter is suitable for a wide range of power metering systems and environments, including:

- Residential buildings (flats, family homes)
- Commercial buildings and offices
- Educational institutions (schools, laboratories)
- Hospitality (hotels)
- Industrial settings (power distribution cabinets, factory assembly lines)



Figure 7: Wide range of application scenarios.

8. Troubleshooting

If you encounter issues with your DEWIN KWS-306WF energy meter, consider the following:

- **No Display/Power:** Check the main power supply and ensure all wiring connections are secure.
- **Incorrect Readings:** Verify that the wiring is correct according to the diagram (Figure 4). Ensure the current and voltage inputs are within the specified ranges.
- **WiFi Connection Issues:** Ensure your WiFi network is 2.4GHz and the signal strength is adequate. Restart the device and attempt to reconnect via the TUYA app.
- **Device Shutdowns:** Check the parameter settings for protection thresholds (over-voltage, over-current, etc.). If a threshold is exceeded, the device will trip for safety. Address the underlying electrical issue before resetting.
- **App Not Responding:** Ensure your smartphone has an active internet connection and the TUYA app is updated to the latest version.

9. Maintenance

To ensure optimal performance and longevity of your DEWIN KWS-306WF energy meter:

- **Regular Cleaning:** Keep the device clean and free from dust. Use a soft, dry cloth for cleaning. Do not use abrasive cleaners or solvents.
- **Environmental Conditions:** Ensure the device is operated within its specified temperature and humidity ranges. Avoid exposure to direct sunlight, excessive heat, or moisture.
- **Connection Checks:** Periodically inspect wiring connections to ensure they remain tight and free from corrosion.
- **Firmware Updates:** Check the TUYA app for any available firmware updates for the device to ensure you have the latest features and bug fixes.

10. Warranty and Support

For warranty information, technical support, or further assistance, please refer to the official product documentation or contact DEWIN customer service. A detailed user manual can often be found at the manufacturer's website or via the provided link: DEWIN KWS-306 Product Manual (PDF).

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

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