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## BSEED SPM01-U2EW

# BSEED Smart Wi-Fi Energy Meter (Model SPM01-U2EW) Instruction Manual

## 1. INTRODUCTION

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This manual provides detailed instructions for the installation, operation, and maintenance of the BSEED Smart Wi-Fi Energy Meter, model SPM01-U2EW. This device is designed to accurately measure energy consumption and generation in single-phase electrical circuits, offering smart monitoring capabilities through compatible mobile applications.

# Product Advantages



Image 1: Overview of the BSEED Smart Wi-Fi Energy Meter and its key features.

## 2. SAFETY INFORMATION

Please read all safety warnings and instructions carefully before installing or operating this device. Failure to follow these instructions may result in electric shock, fire, or other serious injury.

- **Professional Installation Required:** Installation of this device involves working with high voltage electricity. It is strongly recommended to hire a qualified professional electrician for installation.
- **Disconnect Power:** Always ensure the main power supply is disconnected before attempting any installation, wiring, or maintenance procedures.
- **Correct Wiring:** Pay close attention to the wiring diagrams. Incorrect connection of the neutral wire to the live wire will damage the product and poses a safety risk.
- **Operating Environment:** Do not expose the device to extreme temperatures, humidity, or corrosive environments. Ensure the operating temperature is within -25 to 60 °C.
- **Protection Class:** The device has an IP20 protection class, meaning it is protected against solid objects larger

than 12.5mm but has no protection against water. Install in a dry environment.

### 3. PRODUCT FEATURES

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- **Accurate Energy Measurement:** Provides energy measurement with up to 1% precision. Suitable for single-phase circuits with 220-240V and a maximum current of 63A.
- **Compact Design:** With dimensions of 46.8 x 17.8 x 21.3 mm, its mini size allows for installation in narrow spaces.
- **Smart Monitoring & Alerts:** Compatible with Smart Life and Tuya applications (2.4 GHz Wi-Fi only). Monitor real-time data such as current, power, voltage, and energy consumption on your smartphone. Features built-in overload and overcurrent alarms that notify your smartphone immediately in case of short circuit or overload.
- **Historical Data Storage:** The application provides free historical data, allowing you to view hourly, daily, weekly, and monthly energy consumption and production. Data is stored permanently for optimized energy management.
- **Solar Power Generation Monitoring:** Supports both forward and reverse current measurement, enabling accurate monitoring of electricity generation from solar and wind energy systems.
- **Wide Applicability:** Suitable for various scenarios including homes, offices, cafes, industrial settings, smart farms, and hotels.

# Applicability in Multiple Scenarios



Image 2: Diverse applications of the energy meter.

## 4. SPECIFICATIONS

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Parameter	Value
Model Number	SPM01-U2EW
Communication Type	Wi-Fi / Bluetooth
Rated Voltage Un (CE)	220-240 V, 50/60 Hz
Maximum Current I	max. 63 A
Overvoltage Category	III
Rated Insulation Voltage Ui	250 V
Rated Impulse Withstand Voltage Uimp	4 kV
Pollution Degree	3
Protection Class	IP20
Rated Operating Temperature	-25 to 60 °C
Power Consumption (Normal Operation)	0.5 W
Power Consumption (Pairing Mode)	1 W
Energy Measurement Accuracy	1 %
Product Dimensions (L x W x H)	4.7 x 1.8 x 2.1 cm
Product Weight	21 grams
Manufacturer	BSEED

# SPM01-U2EW

## Specification



**Communication type:** Wi-Fi / Bluetooth

**Rated voltage Un (FCC):** 110-240 V, 50/60 Hz

**Rated voltage Un (CE):** 220-240 V, 50/60 Hz

**Maximum current I:** Max 63 A

**Overvoltage category:** III

**Rated insulation voltage Ui:** 250 V

**Rated impulse withstand voltage Uimp:** 4 kV

**Pollution degree:** 3

**Protection class:** IP20

**Rated operating temperature:** -25~60 °C

**Power consumption during normal use:** 0.5 W

**Power consumption in pairing mode:** 1 W

**Energy measurement accuracy:** 1%

Image 3: Technical specifications of the SPM01-U2EW model.

## 5. SETUP AND INSTALLATION

### 5.1 Pre-Installation Checklist

- Ensure you have the necessary tools (e.g., screwdriver, wire strippers).
- Confirm the electrical circuit is single-phase 220-240V, 50/60Hz, with a maximum current of 63A.
- Download the Smart Life or Tuya Smart app from your mobile device's app store.
- Ensure your Wi-Fi network is 2.4 GHz, as the device does not support 5 GHz Wi-Fi.

### 5.2 Physical Installation

1. **Turn off Power:** Before starting any wiring, ensure the main power supply to the circuit is completely turned off at the circuit breaker. Verify with a voltage tester.
2. **Mount the Device:** The compact design allows installation in various electrical boxes or distribution boards.
3. **Wire the Device:** Refer to the wiring diagram below. Connect the live (L) and neutral (N) wires according to the markings on the device and the diagram. The arrow direction on the device indicates the forward current direction. Ensure the blue neutral wire is not incorrectly connected to the live wire, as this will cause damage.

4. **Restore Power:** Once wiring is complete and secured, restore power to the circuit. The device's indicator light should illuminate.

## Wiring Diagram of SPM01-U2EW

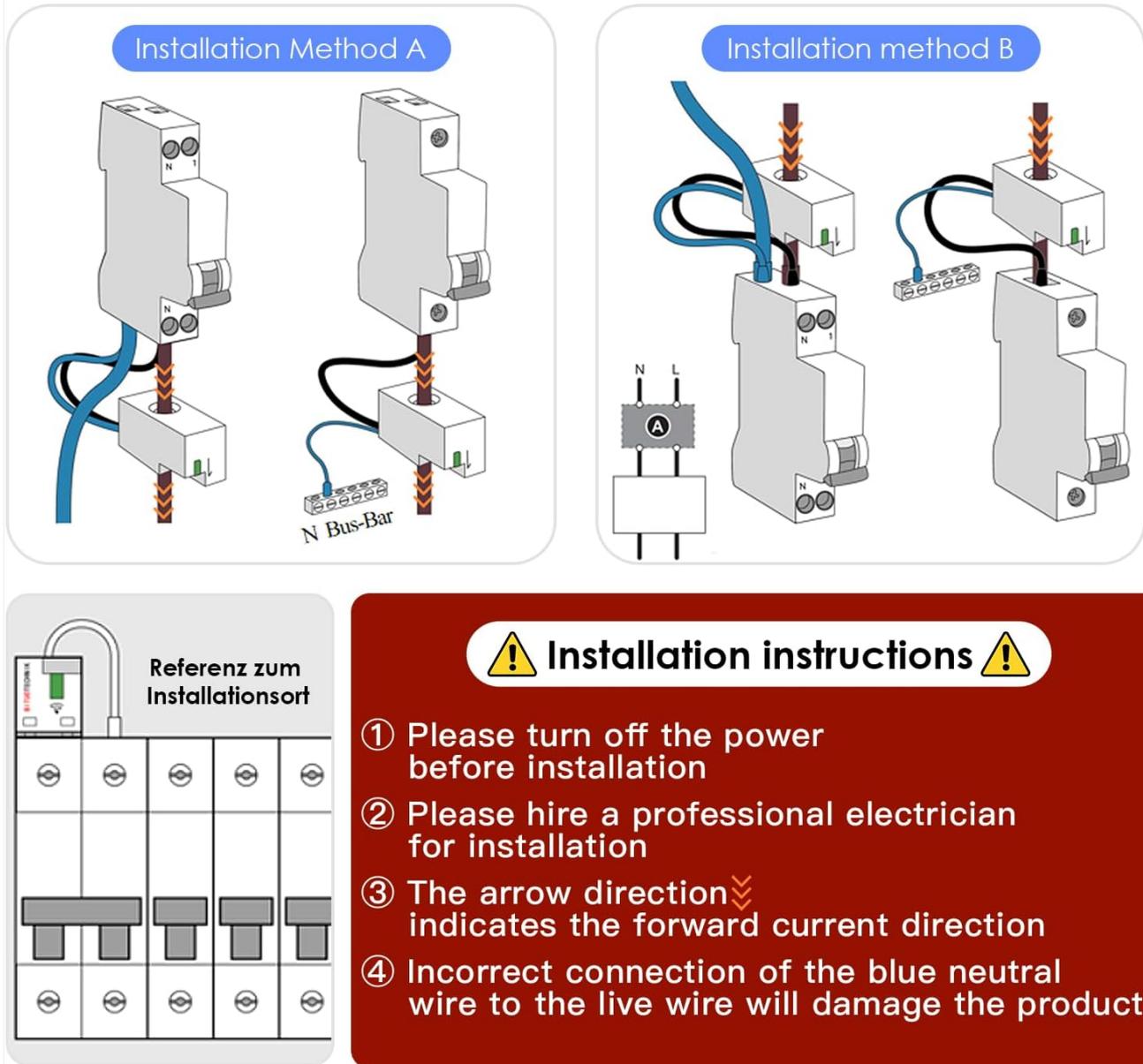


Image 4: Wiring diagram and critical installation instructions.

### 5.3 App Pairing

1. **Open App:** Launch the Smart Life or Tuya Smart app on your smartphone.
2. **Add Device:** Follow the in-app instructions to add a new device. Typically, this involves selecting 'Electrical Engineering' or 'Energy Meter' from the device list.
3. **Enter Wi-Fi Details:** Provide your 2.4 GHz Wi-Fi network name and password when prompted.
4. **Pairing Mode:** The device will enter pairing mode (often indicated by a blinking light). Confirm this in the app to complete the connection.
5. **Device Renaming:** Once connected, you can rename the device in the app for easier identification.

## 6. OPERATING INSTRUCTIONS

## 6.1 Real-time Monitoring

After successful pairing, open the Smart Life or Tuya Smart app to view real-time data from your energy meter. The app dashboard will display:

- **Current (A):** Instantaneous current flowing through the circuit.
- **Voltage (V):** Current voltage of the circuit.
- **Power (W):** Instantaneous power consumption.
- **Energy Consumption (kWh):** Total accumulated energy consumption.



Image 5: App interface for real-time energy monitoring.

## 6.2 Historical Data Access

The app stores historical energy data permanently. Navigate to the historical data section within the app to view consumption and production trends:

- View data by hour, day, week, or month.
- Analyze consumption patterns to identify energy-saving opportunities.

### 6.3 Overload and Overcurrent Alarms

The device is equipped with built-in alarms for overload and overcurrent conditions. If the current or load exceeds safe limits, the device will send an immediate notification to your smartphone via the app. Take appropriate action to prevent damage to appliances or the electrical system.

### 6.4 Solar Power Generation Monitoring

For systems generating electricity (e.g., solar panels, wind turbines), the meter can measure reverse current. This allows you to accurately track the amount of electricity your system generates and feeds back into the grid or consumes locally. Ensure the device is installed correctly to measure both forward and reverse current flow.



## Solar Power Generation Monitoring

Reverse installation can measure solar power generation

*Image 6: The energy meter supports monitoring of solar power generation.*

## 7. MAINTENANCE

The BSEED Smart Wi-Fi Energy Meter is designed for minimal maintenance. Follow these general guidelines:

- **Cleaning:** Ensure the device is clean and free from dust. Use a dry, soft cloth for cleaning. Do not use liquid

cleaners or solvents.

- **Inspections:** Periodically check the wiring connections to ensure they are secure. If any damage is observed, disconnect power immediately and consult a professional electrician.
- **Firmware Updates:** Keep the Smart Life or Tuya Smart app updated to ensure the latest features and security patches for your device.

## 8. TROUBLESHOOTING

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If you encounter issues with your BSEED Smart Wi-Fi Energy Meter, refer to the following common problems and solutions:

- **Device not connecting to Wi-Fi:**
  - Ensure your Wi-Fi network is 2.4 GHz. The device does not support 5 GHz networks.
  - Check if the Wi-Fi signal strength is adequate at the device's location.
  - Verify the Wi-Fi password entered in the app is correct.
  - Try restarting your Wi-Fi router and the energy meter.
  - Ensure the device is in pairing mode during the connection process.
- **No data or incorrect readings in the app:**
  - Confirm the device is properly connected to your Wi-Fi network and the app.
  - Check the physical wiring of the meter. Incorrect wiring can lead to inaccurate readings or no data. Refer to the installation section.
  - Ensure the current direction arrow on the device is aligned with the actual current flow.
- **Overload/Overcurrent alarms triggering frequently:**
  - This indicates that the connected circuit or appliances are drawing excessive current. Reduce the load on the circuit.
  - If the issue persists, consult a professional electrician to inspect your electrical system.
- **Device indicator light is off:**
  - Check if the main power supply to the circuit is on.
  - Inspect the wiring for loose connections or damage.
  - If power is present and wiring is correct, the device may be faulty.

For issues not covered here, or if troubleshooting steps do not resolve the problem, please contact BSEED customer support.

## 9. WARRANTY AND SUPPORT

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BSEED products are manufactured to high-quality standards. For specific warranty information, please refer to the documentation provided with your purchase or contact your retailer. If you require technical assistance or have questions regarding your BSEED Smart Wi-Fi Energy Meter, please contact BSEED customer support through their official website or the contact information provided with your product.

