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### Quick Sense QS-EM02

# Quick Sense QS-EM02 7-in-1 Digital Energy Meter User Manual

Model: QS-EM02 | Brand: Quick Sense

## 1. INTRODUCTION

The Quick Sense QS-EM02 is a versatile 7-in-1 digital energy meter designed for comprehensive electrical parameter monitoring. It accurately measures voltage, current, power, energy, power factor, temperature, and usage time. This device features a smart ARM processor for reliable data and stable performance, making it suitable for various applications from homes to industrial settings. This manual provides essential information for the safe and effective installation, operation, and maintenance of your QS-EM02 energy meter.



Image 1.1: Quick Sense QS-EM02 Digital Energy Meter. This image shows the front view of the meter with its LCD display showing various electrical readings and an external current sensor.

## 2. SAFETY INFORMATION

- **Electrical Hazard:** Installation and wiring must be performed by qualified personnel. Ensure power is disconnected before installation or maintenance.
- **Voltage Range:** Do not exceed the specified operating voltage range of 50-300V AC.
- **Current Range:** Do not exceed the specified operating current range of 0-100A.
- **AC Only:** This meter is designed for 50/60Hz AC electricity measurement only. Do not use with square waves, inverter outputs, or non-standard sine waves.
- **Temperature:** Operate within the specified temperature range (-9°C to 99°C).
- **Material:** The device is constructed from flame-retardant material for enhanced safety.
- **Sensor:** Use the provided non-contact interactive sensor for current measurement. Ensure it is securely buckled.

## 3. PACKAGE CONTENTS

Verify that all items listed below are present in your package. If any items are missing or damaged, please contact customer support.

- Quick Sense QS-EM02 Digital Energy Meter (Main Unit)
- External Current Sensor (100A)
- Mounting Clips (for DIN rail installation)
- User Manual / Instruction Guide



Image 3.1: Package Contents. This image displays the Quick Sense QS-EM02 meter, its external current sensor, and the included instruction manual.

## 4. FEATURES

The Quick Sense QS-EM02 Digital Energy Meter offers a range of advanced features for comprehensive power monitoring:

- **7-in-1 Measurement:** Monitors Voltage (V), Current (A), Power (W), Energy (kWh), Power Factor (PF), Temperature (°C), and Usage Time (h).
- **Wide Operating Range:** Supports 50-300V AC voltage and 0-100A current.
- **Smart ARM Processor:** Ensures reliable data acquisition and stable performance.
- **Non-Contact Sensor:** Features a secure buckle design for precise and safe current measurement, eliminating heating issues.
- **Flame-Retardant Material:** Constructed from high-quality PC flame-retardant material for enhanced safety and temperature resistance.
- **Backlit LCD Display:** Provides clear visibility of readings even in low-light conditions.
- **DIN Rail Mounting:** Designed for easy and straightforward installation.



Image 4.1: Key Measurement Parameters. This diagram illustrates the various parameters measured by the QS-EM02 meter, including Voltage, Current, Power, Energy, Power Factor, Temperature, and Time.



Image 4.2: Core Technologies. This image highlights the meter's ARM processor, flame-retardant construction, and overload protection features.

## 5. SPECIFICATIONS

Parameter	Value
Model Number	QS-EM02
Operating Voltage	50-300V AC
Operating Current	0-100A
Electrical Power	0-30000W
Energy Consumption	0.01-19999 kWh
Power Factor	0-1 PF
Temperature Range	-9°C to 99°C
Usage Time	0-200h

Parameter	Value
Display	Backlit LCD
Mounting Type	DIN Rail
Dimensions (L x W x H)	8.45 x 3.73 x 2.21 cm
Weight	500 g



Image 5.1: Product Dimensions. This image provides a detailed view of the physical dimensions of the QS-EM02 meter.

## 6. SETUP AND INSTALLATION

The Quick Sense QS-EM02 is designed for DIN rail mounting. Ensure all power is disconnected before proceeding with installation.

- Mounting:** Securely attach the meter to a standard DIN rail using the provided mounting clips.
- Power Connection:** Connect the main AC power supply (50-300V AC) to the designated terminals on the

meter. Refer to the wiring diagram in the included instruction guide for correct polarity and connections.

### 3. Current Sensor Installation:

- Identify the load wire (live wire) for which you want to measure current.
- Open the external current sensor (CT clamp).
- Pass the load wire through the center of the CT clamp. Ensure only one wire passes through the clamp.
- Securely close the CT clamp until it clicks into place.
- Connect the CT clamp's output wires to the corresponding input terminals on the QS-EM02 meter. Observe polarity if indicated.

4. **Verify Connections:** Double-check all wiring connections for tightness and correctness to prevent electrical hazards and ensure accurate readings.

5. **Power On:** Once all connections are verified, restore power to the circuit. The meter's LCD display should illuminate and begin showing readings.



Image 6.1: Example Installation. This image shows the QS-EM02 meter installed within an electrical distribution panel, demonstrating its typical mounting environment.

## Package Includes – Complete Integrated Meter & Accessories



Image 6.2: Appliance Monitoring. This image illustrates the meter being used to monitor the power consumption of an individual appliance, such as a washing machine.

## 7. OPERATING INSTRUCTIONS

After successful installation and power-up, the QS-EM02 meter will automatically display various electrical parameters on its backlit LCD.

- Display Readings:** The LCD simultaneously shows Voltage (V), Current (A), Power (W), Energy (kWh), Power Factor (PF), Temperature (°C), and Usage Time (h).
- Menu Button:** The "MENU" button (if present, typically on the right side of the display) allows you to cycle through different display modes or reset certain parameters. Refer to the detailed instruction guide for specific menu functions.
- Energy Reset:** To reset the accumulated energy (kWh) reading, typically press and hold the "MENU" button for a few seconds until the kWh value resets. Consult the specific instructions in your included manual for exact steps.
- Backlight:** The LCD backlight is designed for continuous visibility.

## 8. TROUBLESHOOTING

If you encounter issues with your Quick Sense QS-EM02 meter, refer to the following troubleshooting guide:

Problem	Possible Cause	Solution
No Display	No power supply or voltage outside 50-300V range.	Check power connections. Verify input voltage is within 50-300V AC.
Display Issues (Flickering, incomplete)	Loose connections, dirty screen, or internal fault.	Ensure all connections are secure. Clean the screen gently. If issue persists, contact support.

Problem	Possible Cause	Solution
Wrong Current Reading	Current sensor (CT clamp) incorrectly installed or faulty.	Recheck CT clamp installation; ensure only one load wire passes through and it's securely closed. Verify CT clamp wires are correctly connected to the meter.
Energy Errors (Incorrect kWh accumulation)	Incorrect wiring, sensor issue, or need for reset.	Verify all wiring. Reset the energy reading (refer to Operating Instructions). Ensure the load is correctly connected.
Meter not responding	Temporary software glitch or power issue.	Disconnect power for 30 seconds, then reconnect. If the problem persists, contact customer support.



Image 8.1: Quick Troubleshooting Guide. This visual guide provides solutions for common issues like no display, display problems, wrong readings, and energy errors.

## 9. MAINTENANCE

The Quick Sense QS-EM02 Digital Energy Meter requires minimal maintenance.

- **Cleaning:** Use a soft, dry cloth to clean the display and exterior of the meter. Do not use abrasive cleaners or solvents.
- **Inspection:** Periodically inspect all wiring connections to ensure they remain tight and free from corrosion.
- **Environment:** Ensure the meter is operated within its specified temperature and humidity ranges to prolong its lifespan. Avoid exposure to direct sunlight or extreme conditions.

## **10. WARRANTY AND SUPPORT**

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For warranty information or technical support regarding your Quick Sense QS-EM02 Digital Energy Meter, please refer to the warranty card included in your package or contact Quick Sense customer service directly.

**Contact Information:**

Manufacturer: Quick Sense

Contact number: 095602 48290

For further assistance, visit the official Quick Sense website or your point of purchase.