Qoltec 50900

QOLTEC 50900 Three Phase Electronic Energy Consumption Meter User Manual

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of the QOLTEC 50900 Three Phase Electronic Energy Consumption Meter. This device is designed for measuring active energy consumption in three-phase, four-wire AC circuits. Please read this manual thoroughly before installation and use to ensure proper function and safety.

2. Safety Information

WARNING: Installation and maintenance of this device must be performed by qualified personnel only. Failure to follow these instructions can 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 meter in environments exceeding its specified operating conditions.
- Do not open or modify the meter casing. There are no user-serviceable parts inside.
- Protect the meter from moisture, dust, and direct sunlight.

3. Product Overview

The QOLTEC 50900 is a compact, DIN rail mountable electronic energy meter designed for accurate measurement of three-phase energy consumption. It features an LCD display for clear readings and a pulse output for remote monitoring.

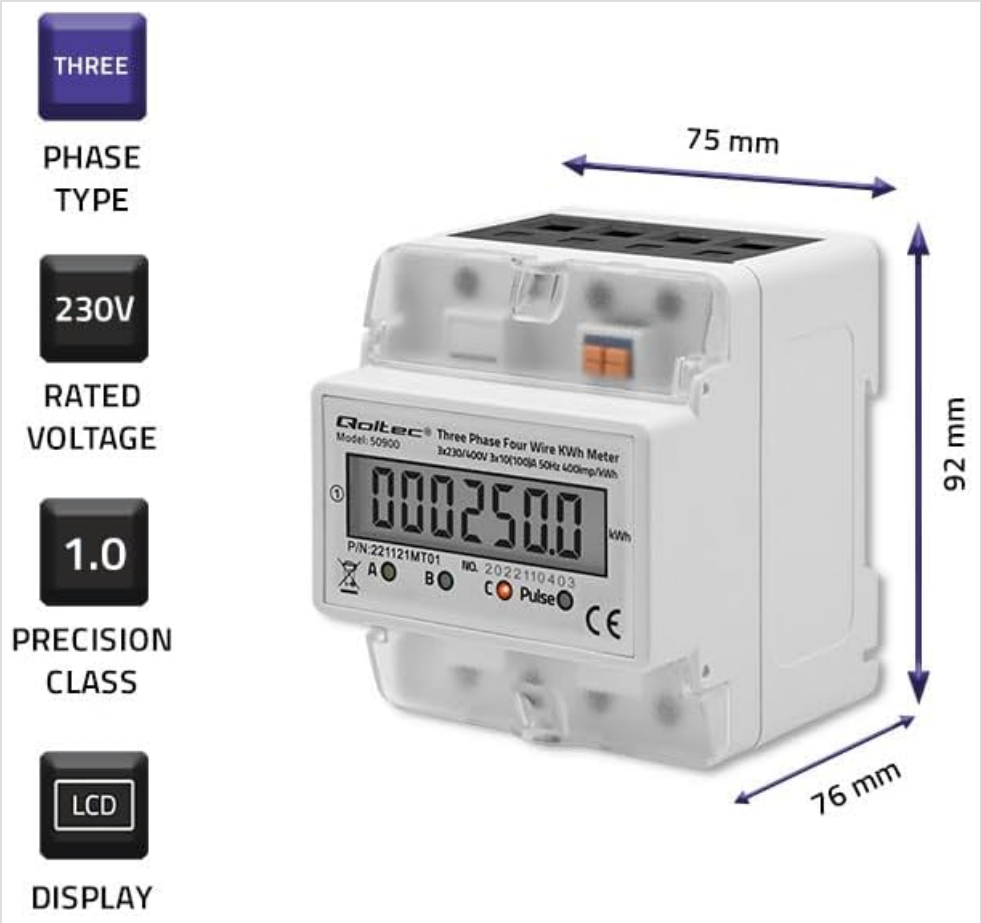

Figure 3.1: QOLTEC 50900 Energy Meter showing dimensions (75mm x 92mm x 76mm) and key features like Three Phase Type, 230V Rated Voltage, 1.0 Precision Class, and LCD Display.

Key Features:

- Three-phase, four-wire measurement
- LCD digital display for energy consumption (kWh)
- DIN rail mounting (4P width)
- High accuracy (Class 1.0)
- Pulse output (400imp/kWh)
- Operating voltage: 3x230/400V

4. Specifications

Parameter	Value
Model	50900
Rated Voltage	3x230/400V AC
Rated Current	3x10(100)A
Frequency	50Hz
Accuracy Class	1.0
Display	LCD
Pulse Output	400imp/kWh

Parameter	Value
Installation	DIN Rail (4P)
Dimensions (W x H x D)	75 x 92 x 76 mm
Weight	100 g
Material	Acrylic

5. Setup and Installation

The QOLTEC 50900 meter is designed for standard 35mm DIN rail mounting. Ensure the installation location is dry, well-ventilated, and free from excessive vibration or electromagnetic interference.

5.1 Mounting

1. Locate a suitable 35mm DIN rail within your electrical panel.
2. Align the meter's DIN rail clip with the rail.
3. Press the meter firmly onto the rail until it clicks into place.

Figure 5.1: The QOLTEC 50900 meter securely mounted on a DIN rail, showing its compact form factor.

5.2 Wiring Connections

IMPORTANT: All wiring must comply with local electrical codes and regulations. Ensure power is OFF before making any connections.

1. Identify the input (IN) and output (OUT) terminals on the meter.

2. Connect the incoming three-phase lines (L1, L2, L3) and Neutral (N) to the corresponding IN terminals (typically 5, 6, 7, 8).
3. Connect the outgoing three-phase lines (L1, L2, L3) and Neutral (N) to the corresponding OUT terminals (typically 1, 2, 3, 4).
4. Ensure all connections are tight and secure to prevent loose contacts and overheating.

Figure 5.2: Side view of the meter showing the wiring diagram for input (IN) and output (OUT) connections for L1, L2, L3, and Neutral.

Figure 5.3: Front view of the meter with its LCD display and a separate view of the terminal block for wiring connections.

6. Operating Instructions

Once properly installed and powered, the QOLTEC 50900 meter will automatically begin measuring energy consumption.

6.1 LCD Display

The LCD displays the total active energy consumption in kilowatt-hours (kWh). The display is continuous and does not require any button presses for basic reading.

Figure 6.1: Close-up view of the LCD display showing an example energy reading in kWh.

6.2 Pulse Output

The meter features a pulse output (400imp/kWh) which can be used to connect to external monitoring systems for remote data collection. Refer to the external system's documentation for connection details.

7. Maintenance

The QOLTEC 50900 energy meter is designed for maintenance-free operation under normal conditions.

- **Cleaning:** Use a soft, dry cloth to clean the meter's exterior. Do not use abrasive cleaners, solvents, or liquids that could enter the casing.
- **Inspection:** Periodically inspect the wiring connections for any signs of loosening or damage. Ensure the meter is free from dust accumulation.
- **Environmental Conditions:** Ensure the operating environment remains within the specified temperature and humidity ranges to prolong the meter's lifespan.

8. Troubleshooting

If you encounter issues with your QOLTEC 50900 meter, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
No display/Meter not powering on	No power supply; Incorrect wiring; Blown fuse in circuit	Check power supply to the meter. Verify wiring connections. Check circuit breaker/fuse.
Incorrect energy reading	Incorrect wiring; Faulty meter	Verify wiring connections against the diagram. If wiring is correct, contact support.
Pulse output not working	Incorrect connection to external system; Faulty meter	Check pulse output wiring to the external system. Consult external system's manual. If issue persists, contact support.

If the problem persists after attempting these solutions, please contact Qoltec customer support.

9. Warranty and Support

Qoltec products are manufactured to high-quality standards. For warranty information and technical support, please refer to the warranty card included with your product or visit the official Qoltec website. Keep your purchase receipt as proof of purchase.