Eastron SDM630 Modbus V2

Eastron SDM630 Modbus V2 MID Single/Three-Phase Energy Meter Instruction Manual

Model: SDM630 Modbus V2

1. Introduction

This manual provides essential information for the safe and efficient installation, operation, and maintenance of the Eastron SDM630 Modbus V2 MID Single/Three-Phase Energy Meter. The SDM630 series is a 100A multifunction three-phase electricity meter designed for direct connection and DIN rail mounting. It is capable of measuring and displaying characteristics of 1-phase 2-wire (1p2w), 3-phase 3-wire (3p3w), and 3-phase 4-wire (3p4w) power supplies. It features an intuitive navigation menu and a high-visibility LCD display. The meter is self-powered, eliminating the need for an external auxiliary power supply.

2. Safety Information

WARNING: Installation and servicing must be performed by qualified personnel only. 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 comply with local electrical codes.
- Do not operate the meter if it appears damaged.
- The meter is designed for indoor use in a dry environment.

3. Product Overview

The Eastron SDM630 Modbus V2 is a robust and accurate energy meter, MID certified to EN50470-1 & EN50470-3 standards. It is designed for easy integration into electrical systems with its DIN rail mounting capability.

3.1 Key Features

- MID Certified: EN50470-1 & EN50470-3
- DIN Module Mounting

- Measures 1p2w, 3p3w, and 3p4w systems
- Direct connection up to 100A
- Self-powered operation
- High-visibility LCD display with intuitive navigation

3.2 Meter Components

Figure 1: Front view of the Eastron SDM630 Modbus V2 energy meter, showing the LCD display, navigation buttons (M, P, E), and the 'COMMUNICATION SHIELD MUST BE FITTED' label above the terminals.

Figure 2: Front view of the meter with the terminal cover open, providing access to the main power and communication wiring terminals.

Figure 3: Top view of the meter, displaying the model name, voltage/current ratings, frequency, and various certifications including UKCA and CE marks.

4. Setup

4.1 Mounting

The SDM630 Modbus V2 is designed for DIN rail mounting. Ensure the DIN rail is securely fastened within an appropriate enclosure. The meter occupies 4 DIN modules.

4.2 Wiring

The meter requires direct mains voltage inputs for operation. Connect the live in, live out, neutral in, and neutral out wires to the designated terminals. Refer to the wiring diagram provided on the meter's casing or in the full technical datasheet for correct phase and neutral connections for 1p2w, 3p3w, or 3p4w systems. Ensure all connections are tight and properly insulated.

Figure 4: Side view of the meter, highlighting the Modbus communication ports (numbered 5, 6, 7, 8) and a 'QC PASS' sticker.

5. Operating Instructions

The SDM630 features an intuitive navigation menu accessible via the front panel buttons.

- **'M' Button:** Typically used to enter the menu or cycle through main display screens.
- **'P' Button:** Used to scroll through parameters within a menu or display screen.
- **'E' Button:** Used to confirm selections or exit a menu.

Upon power-up, the meter will display default parameters such as total energy (kWh). Use the navigation buttons to view various electrical parameters including voltage, current, active power, reactive power, apparent power, power factor, and frequency for each phase and total.

6. Maintenance

The Eastron SDM630 Modbus V2 is designed for minimal maintenance. Follow these guidelines to ensure optimal performance:

- Keep the meter clean and free from dust. Use a soft, dry cloth for cleaning. Do not use liquid cleaners.
- Periodically check wiring connections for tightness and signs of wear or corrosion.
- Ensure the operating environment remains within the specified temperature and humidity ranges.

7. Troubleshooting

If you encounter issues with your SDM630 meter, consider the following common troubleshooting steps:

- **No Display:** Check the main power supply to the meter. Ensure all voltage inputs (Live In/Out, Neutral In/Out) are correctly connected and energized.
- **Incorrect Readings:** Verify that the wiring connections match the system type (1p2w, 3p3w, or 3p4w) and that phase sequence is correct for three-phase systems. Ensure the meter's internal settings (if configurable) match the installation.
- **Modbus Communication Failure:** Check Modbus wiring (RS485 A/B lines), termination resistors, and ensure the Modbus address and baud rate settings on the meter match the master device.
- **Meter Not Responding:** Try cycling the power to the meter. If the issue persists, contact technical support.

8. Specifications

Manufacturer	Eastron
Model	SDM630 Modbus V2
MID Certification	EN50470-1 & EN50470-3
Measurement Type	Single-phase (1p2w), Three-phase (3p3w, 3p4w)
Voltage Input	230V/400V AC
Current Input	100A (Direct Connection)
Mounting	DIN Rail (4 modules)
Power Supply	Self-powered
Item Weight	380 grams
Batteries Required	No

9. Warranty and Support

For warranty information and technical support, please refer to the documentation provided with your purchase or contact your supplier. Keep your purchase receipt as proof of purchase.