SOSODBBM DTSDU5885-250TYPE

SOSODBBM TY310MCT DTSDU5885-250TYPE Integrated Three-Phase Multi-Function CT Meter User Manual

Model: DTSDU5885-250TYPE

1. Introduction

This manual provides comprehensive instructions for the installation, operation, and maintenance of the SOSODBBM TY310MCT DTSDU5885-250TYPE Integrated Three-Phase Multi-Function CT Meter. This device is designed for accurate measurement of electrical parameters in three-phase systems, featuring an integrated current transformer design and RS485 communication capabilities. Please read this manual thoroughly before using the product to ensure safe and efficient operation.

2. Safety Information

Always observe the following safety precautions to prevent injury and damage to the device:

- Installation and maintenance should only be performed by qualified personnel.
- Ensure all power is disconnected before installation or servicing.
- Do not operate the meter in environments exceeding its specified operating temperature or humidity ranges.
- Verify correct wiring connections to prevent damage to the meter and connected equipment.
- The device is designed for AC power sources.
- This product meets UL specifications.

3. Product Overview

The SOSODBBM TY310MCT DTSDU5885-250TYPE is an integrated three-phase multi-functional CT meter. It features a high-definition LCD display for clear readings and supports RS485 communication for data integration. Its design ensures high measurement accuracy for various electrical parameters.

Figure 3.1: Front view of the meter, showing the LCD display, indicator lights (Reactive Power, Active Power, Run, Alarm, Power), and control buttons (up, down, SET). The model number TY310MCT and specifications like AC: 3x220/380V, 50/60Hz, MODBUS-RTU are visible.

Figure 3.2: This image highlights the key features of the Integrated Three-Phase Multifunctional CT Meter, including its LCD High-definition Display Screen, RS485 Communication capability, and High Measurement Accuracy.

4. Setup and Installation

The meter is designed for easy integration into existing electrical systems. Follow these steps for proper installation:

1. **Power Disconnection:** Ensure all power to the installation site is completely disconnected before beginning any wiring.
2. **Mounting:** Securely mount the meter in a suitable enclosure or panel.
3. **Current Transformer (CT) Connection:** Route the primary conductors (Phase A, B, C) through the integrated current transformer openings. Ensure correct phase orientation.
4. **Voltage Connection:** Connect the rated voltage (3x220/380V) to the appropriate terminals.
5. **RS485 Communication:** If using RS485, connect the communication lines to the designated RS485 interface terminals.
6. **Power Restoration:** Once all connections are verified and secure, restore power to the system.

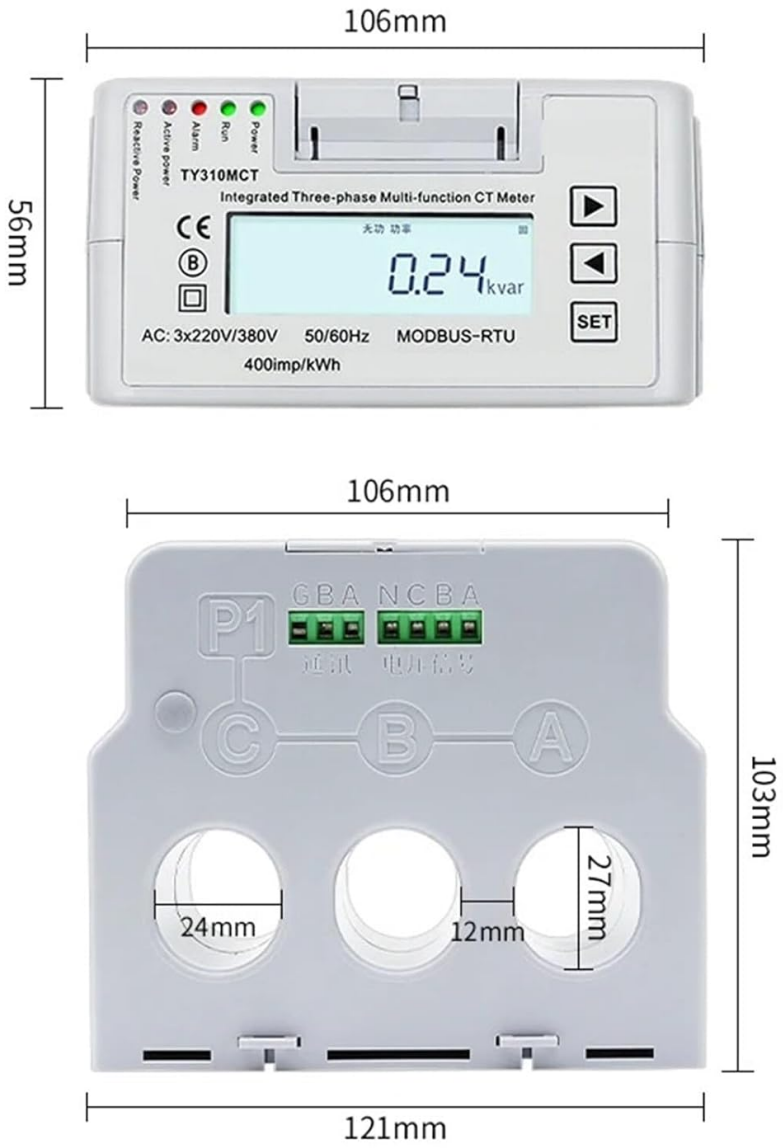

Figure 4.1: This diagram illustrates the physical dimensions of the meter (106mm width, 56mm height, 89mm depth) and the internal current transformer openings (24mm diameter, 12mm width, 27mm height), along with the terminal block for connections.

Figure 4.2: A top-down view of the meter, revealing the wiring terminals labeled P1, GBA, NCBA, and the three current transformer channels for phases A, B, and C. This view is crucial for understanding the correct wiring configuration.

5. Operating Instructions

Once installed and powered, the meter will automatically begin measuring. The LCD display provides real-time data, and indicator lights show operational status.

- **LCD Display:** The high-definition LCD screen shows various electrical parameters such as active power, reactive power, voltage, current, frequency, and energy consumption (kWh).
- **Indicator Lights:**
  - **Reactive Power:** Indicates reactive power flow.
  - **Active Power:** Indicates active power flow.
  - **Run:** Indicates normal operation.
  - **Alarm:** Illuminates in case of an error or abnormal condition.
  - **Power:** Indicates power supply status.
- **Navigation Buttons (Up/Down Arrows):** Use these buttons to scroll through different display screens and view various measured parameters.

- **SET Button:** The SET button is used to enter configuration menus or confirm selections. Refer to the detailed communication protocol for advanced settings via RS485.
- **RS485 Communication:** The meter supports MODBUS-RTU protocol via its RS485 interface, allowing remote data acquisition and configuration using compatible software and hardware.

6. Maintenance

The SOSODBBM TY310MCT DTSDU5885-250TYPE meter is designed for minimal maintenance. However, periodic checks are recommended:

- **Cleaning:** Keep the meter clean and free from dust. Use a soft, dry cloth for cleaning. Do not use abrasive cleaners or solvents.
- **Connection Checks:** Periodically inspect wiring connections to ensure they remain tight and free from corrosion.
- **Environmental Conditions:** Ensure the operating environment remains within the specified temperature and humidity ranges.
- **Firmware Updates:** Check the manufacturer's website for any available firmware updates, if applicable.

7. Troubleshooting

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

- **No Display/No Power:** Check the power supply connections and ensure the rated voltage is applied. Verify circuit breakers or fuses are not tripped.
- **Incorrect Readings:** Verify that the current transformer connections are correct and that the primary conductors are properly routed through the CT openings. Ensure the meter is configured for the correct system parameters.
- **Alarm Indicator On:** Refer to the specific alarm codes (if available in advanced documentation) or check for obvious wiring faults or overcurrent conditions.
- **RS485 Communication Failure:** Check RS485 wiring for correct polarity and secure connections. Verify communication settings (baud rate, parity, stop bits) match between the meter and the master device.
- **Meter Not Responding:** Try cycling the power to the meter. If the issue persists, contact technical support.

8. Specifications

Parameter	Specification
Product Name	Integrated Three-Phase Multi-functional Instrument
Model Number	DTSDU5885-250TYPE
Rated Voltage	3*220/380V
Operating Frequency	50Hz
Operating Temperature	-10 ℃ to +45 ℃
Communication Interface	RS485 (MODBUS-RTU)

Display Mode	LCD display
Accuracy Class	0.5
Measuring Energy Range	0 to 100 million kWh
Phase	Three Phase
Max Operating Current (Variant)	60A (for this specific variant)
Dimensions (L*W*H)	106mm * 56mm * 89mm
Weight	1.76 ounces (approx. 50g)
Power Source	AC
Specification Met	UL

9. Warranty and Support

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