MOBYAT TAC4321CT

MOBYAT TAC4321CT Three Phase Multi-Function Energy Meter User Manual

Model: TAC4321CT

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of the MOBYAT TAC4321CT Three Phase Multi-Function Energy Meter. This device is designed for accurate measurement of electrical parameters in three-phase systems, including voltage, current, power, and energy consumption. Please read this manual thoroughly before installation and use to ensure proper function and safety.

2. Safety Information

Warning: Installation and maintenance should only be performed by qualified personnel. Failure to follow these instructions may result in electric shock, fire, or damage to the device.

- 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.
- Protect the device from moisture, dust, and direct sunlight.
- Use appropriate personal protective equipment (PPE) during installation.

3. Product Overview

The TAC4321CT is a compact, DIN rail mountable energy meter featuring an LCD display for clear readings and multiple function buttons for navigation. It is designed for three-phase, four-wire systems.



Figure 3.1: Front view of the TAC4321CT meter, highlighting the LCD display and control buttons.



Figure 3.2: Angled view of the meter, illustrating its overall form factor and readiness for DIN rail installation.



Figure 3.3: Side profile of the TAC4321CT meter, indicating its compact depth for panel integration.

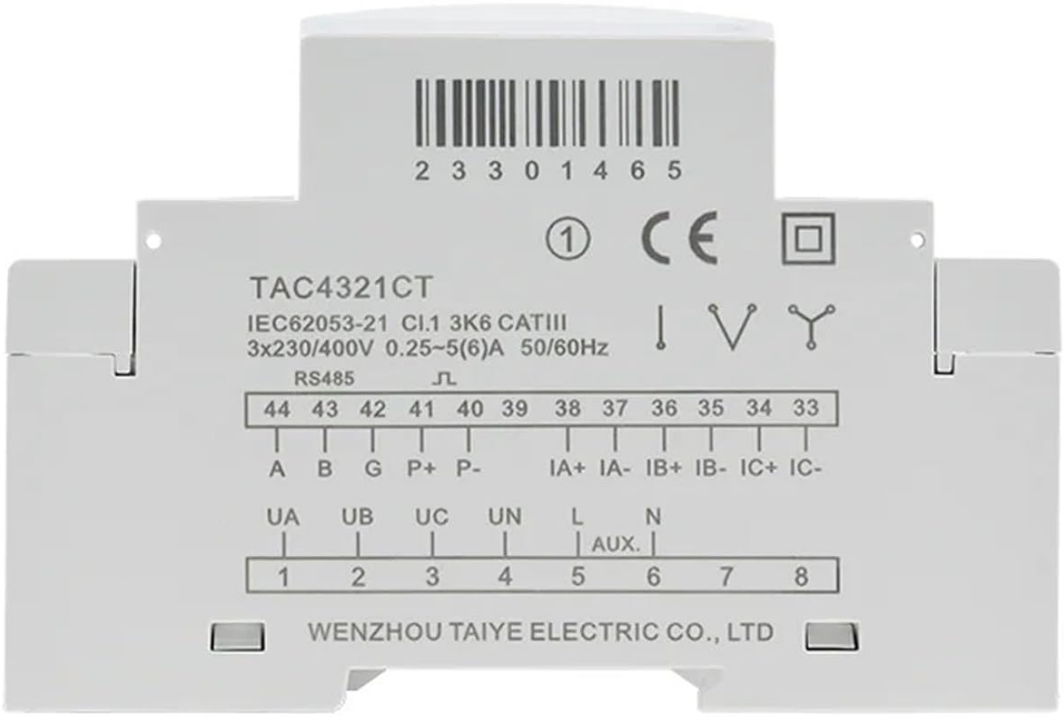


Figure 3.4: Meter with terminal covers detached, revealing the connection points for power and communication.



Figure 3.5: Close-up of the wiring terminals, showing labels for voltage (UA, UB, UC, UN), current transformer inputs (IA+, IA-, IB+, IB-, IC+, IC-), auxiliary power (AUX), and RS485 communication (A, B, G, P+, P-).

4. Setup and Installation

The TAC4321CT meter is designed for DIN rail mounting. Follow these steps for safe and correct installation.

4.1 Mounting

1. Ensure the power supply to the installation area is completely disconnected.
2. Locate a standard 35mm DIN rail within an electrical enclosure.
3. Hook the top edge of the meter onto the DIN rail.
4. Push the bottom of the meter firmly until it clicks into place on the rail.

4.2 Wiring

Refer to **Figure 3.5** for the terminal layout. The meter supports 3-phase, 4-wire connections with external current transformers

(CTs).

- **Voltage Inputs (Terminals 1-4):** Connect the phase voltages (L1, L2, L3) to UA, UB, UC respectively, and the neutral to UN. Ensure correct phase sequence.
- **Current Transformer Inputs (Terminals 33-44):** Connect the secondary windings of the current transformers (CTs) to the corresponding current input terminals (IA+, IA-, IB+, IB-, IC+, IC-). Ensure correct polarity (P1/P2 or K/L markings on CTs). The meter supports CTs for currents up to 200A (depending on the CT ratio).
- **Auxiliary Power (Terminals 5-6):** Connect auxiliary power if required (check specific model requirements, typically 230/400VAC).
- **RS485 Communication (Terminals 39-42):** Connect RS485 A, B, G (ground), P+ (positive), P- (negative) for data communication with external systems.
- After all connections are made, replace the terminal covers to prevent accidental contact.

5. Operating Instructions

Once powered on, the meter's LCD display will illuminate, showing various electrical parameters. Use the buttons on the front panel to navigate through the display screens.

5.1 Display Navigation

- **U/I Button:** Press to cycle through voltage (U) and current (I) readings for each phase (L1, L2, L3) and line-to-line/line-to-neutral voltages.
- **P/F/HZ Button:** Press to cycle through active power (P), reactive power (Q), apparent power (S), power factor (PF), and frequency (HZ) readings.
- **P Button:** Typically used to view total active power or specific phase power.
- **E Button:** Press to view energy consumption data, such as total active energy (kWh), reactive energy (kVarh), and possibly import/export energy.

5.2 Reading Data

The LCD displays values with appropriate units (e.g., Vac, A, kW, kWh). The display may also show indicators for phase sequence, communication status, and alarm conditions.

6. Maintenance

The MOBYAT TAC4321CT energy meter is designed for minimal maintenance. Regular checks can help ensure its longevity and accurate operation.

- **Cleaning:** Use a soft, dry cloth to clean the meter's exterior. Do not use abrasive cleaners or solvents.
- **Inspection:** Periodically inspect the wiring connections for any signs of loosening or damage. Ensure terminal covers are securely in place.
- **Environment:** Ensure the operating environment remains within the specified temperature and humidity ranges to prevent damage.

7. Troubleshooting

If the meter is not functioning as expected, refer to the following common issues and solutions:

Problem	Possible Cause	Solution

Problem	Possible Cause	Solution
Display is blank	No power supply; Incorrect wiring	Check power connections (L-N, L-L); Verify auxiliary power if used.
Incorrect readings	Incorrect CT wiring polarity; Incorrect CT ratio setting (if configurable); Wiring errors	Verify CT polarity (P1/P2 or K/L); Check CT ratio settings; Re-check all voltage and current wiring.
Communication error (RS485)	Incorrect wiring; Incorrect communication settings (baud rate, parity); Device address conflict	Check RS485 A/B wiring; Verify communication parameters in the connected system; Ensure unique device address.
Meter not mounting securely	Incorrect DIN rail size; Obstruction	Ensure standard 35mm DIN rail is used; Clear any obstructions.

8. Specifications

Technical specifications for the MOBYAT TAC4321CT Three Phase Multi-Function Energy Meter.

- **Model Number:** TAC4321CT
- **Rated Voltage (L-N):** 230 Vac
- **Rated Voltage (L-L):** 400 Vac
- **Measured Voltage Range (L-N):** 30 to 300 Vac
- **Measured Voltage Range (L-L):** 30 to 500 Vac
- **Frequency:** 45~65 Hz
- **Maximum Current (Internal):** 5A (Optional with external CTs: 50A, 100A, 150A, 200A)
- **Accuracy Class:** 1
- **Measuring Energy Range:** 99999999.999 kWh
- **Display Type:** LCD
- **Phase:** Three Phase
- **Dimensions (W x H x D):** 72 x 100 x 66 mm
- **Operating Temperature:** -25 to +55 °C
- **DIY Supplies:** Electrical
- **Origin:** Mainland China
- **ASIN:** B0DFQ82C3C
- **Product ID:** 23301465

9. Warranty and Support

For warranty information and technical support, please refer to the documentation provided with your purchase or contact your vendor directly. Specific warranty terms and support channels may vary by region and retailer.

Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

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Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. Privacy details.

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question