

## ACLD0YYV TAC4300

# ACLD0YYV TAC4300 3-Phase Multifunction Energy Meter User Manual

Model: TAC4300

## 1. INTRODUCTION

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This manual provides detailed instructions for the installation, operation, and maintenance of the ACLD0YYV TAC4300 3-Phase Multifunction Energy Meter. The TAC4300 is designed for accurate measurement and monitoring of electrical parameters in three-phase systems, including voltage, current, power, energy, and frequency. It features an RS485 RTU output for remote data acquisition. Please read this manual thoroughly before installation and use to ensure safe and efficient operation.

## 2. SAFETY INFORMATION

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**Warning:** Installation and servicing of this device 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 complies with local and national electrical codes.
- Do not operate the meter in environments exceeding its specified operating temperature or humidity ranges.
- Verify correct wiring connections before applying power. Incorrect wiring can damage the meter or connected equipment.
- The meter is designed for indoor use in a clean, dry environment.

## 3. PRODUCT OVERVIEW

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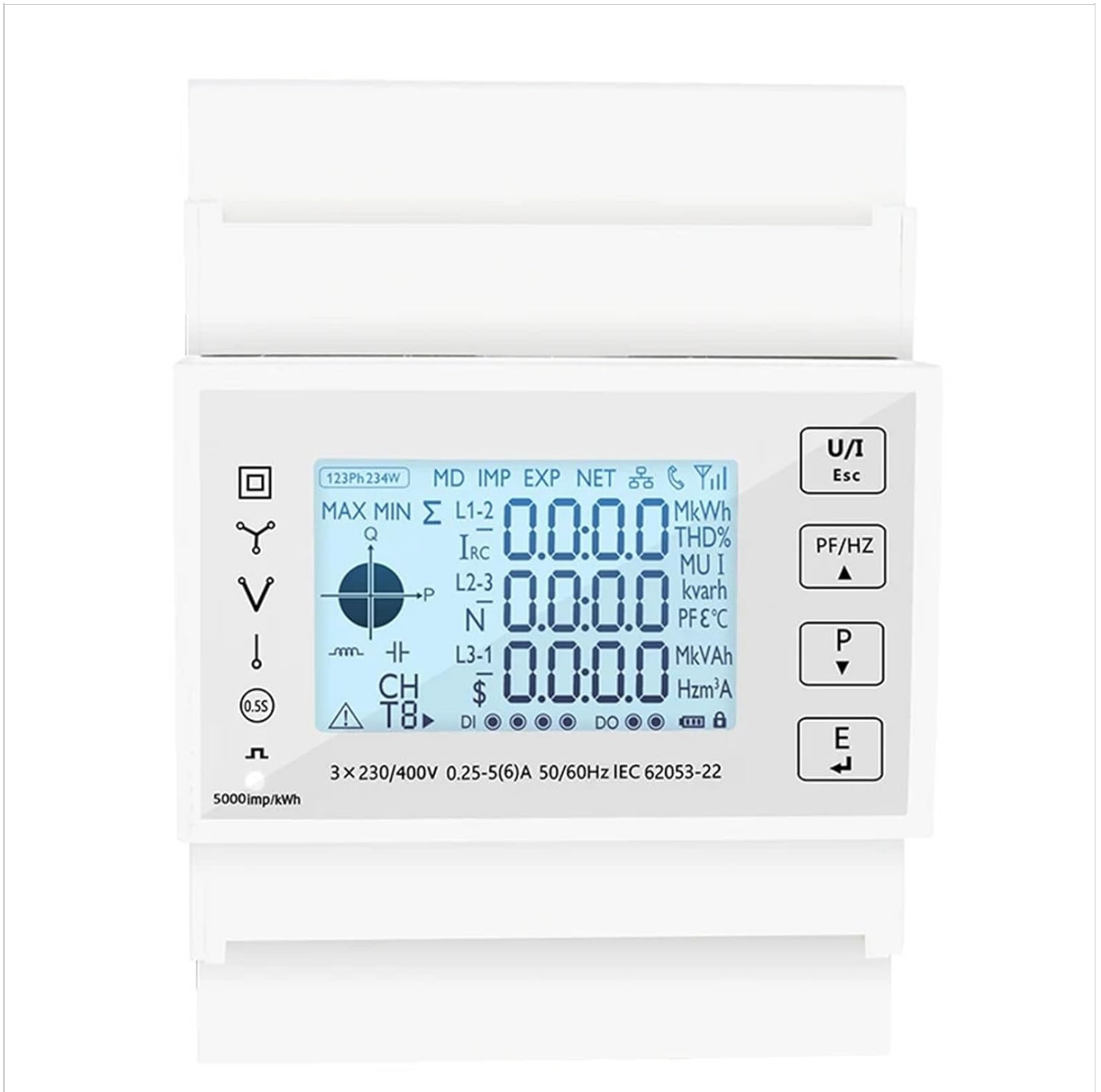
The ACLD0YYV TAC4300 is a compact and versatile 3-phase energy meter. It provides real-time measurements and energy accumulation, making it suitable for various industrial and commercial applications.

### 3.1 Key Features

- 3-Phase Voltage and Current Measurement
- Active and Reactive Power Measurement
- Energy (kWh, kVAh) Accumulation

- Frequency Measurement
- RS485 Communication (Modbus RTU)
- LCD Display for clear data visualization
- DIN Rail Mounting

### 3.2 Meter Components



**Figure 3.1: Front View of TAC4300 Meter.** This image shows the front panel of the TAC4300 meter, featuring the LCD display and control buttons for navigation and settings.



**Figure 3.2: Rear View and Wiring Diagram.** This image displays the back of the TAC4300 meter, detailing the wiring terminals for voltage, current transformer (CT) inputs, and RS485 communication, along with product specifications.

## 4. SETUP AND INSTALLATION

### 4.1 Mounting

The TAC4300 meter is designed for standard 35mm DIN rail mounting. Ensure the mounting location is free from excessive vibration, moisture, and direct sunlight. Allow adequate space around the meter for ventilation and wiring access.

### 4.2 Wiring Connections

Refer to the wiring diagram on the meter's casing and in Figure 3.2 for correct connections. The meter requires voltage inputs (UA, UB, UC, UN) and current transformer (CT) inputs (IA+, IA-, IB+, IB-, IC+, IC-). The RS485 communication terminals are A, B, G, P+, P-.



**Figure 4.1: Terminal Connections.** This image provides a close-up view of the green terminal blocks on the TAC4300 meter, indicating where power, CTs, and RS485 communication lines are connected.

1. **Voltage Inputs:** Connect the phase voltages (UA, UB, UC) and neutral (UN) to the corresponding terminals.
2. **Current Transformer (CT) Inputs:** Connect the secondary wires of the current transformers to the IA+, IA-, IB+, IB-, IC+, IC- terminals. Ensure the CTs are installed correctly on the primary conductors with the correct polarity (P1/K to source, P2/L to load). The meter is designed for 5A/100mV/100mA CTs.
3. **RS485 Communication:** Connect the RS485 A and B lines to the meter's A and B terminals respectively. Ensure proper termination if required in your network.
4. **Auxiliary Power:** The meter is AC powered. Connect the AC power supply to the designated terminals.

After all connections are made, double-check for correctness and secure all terminal screws. Apply power to the meter.

## 5. OPERATING INSTRUCTIONS

Upon power-up, the meter's LCD display will illuminate and show the default measurement screen. Use the front panel buttons to navigate through different parameters.



**Figure 5.1: Meter Display and Buttons.** This image shows an angled view of the TAC4300 meter, highlighting the LCD display and the navigation buttons (U/I Esc, PF/HZ ▲, P ▼, E ←) on the right side of the front panel.

## 5.1 Navigating the Display

- **U/I Esc:** Press to cycle through voltage (U) and current (I) displays. Hold to exit a menu or return to the previous screen.
- **PF/HZ ▲:** Press to cycle through power factor (PF) and frequency (Hz) displays. Also used as an 'Up' arrow for menu navigation.
- **P ▼:** Press to cycle through active power (P) displays. Also used as a 'Down' arrow for menu navigation.
- **E ←:** Press to cycle through energy (E) displays (kWh, kVAh). Also used as 'Enter' or 'Confirm' for menu selections.

## 5.2 Reading Measurements

The display will show various parameters. Common screens include:

- **Voltage (U):** Line-to-neutral and line-to-line voltages for each phase.
- **Current (I):** Current for each phase.

- **Power (P, Q, S):** Active power (kW), reactive power (kvar), and apparent power (kVA) for each phase and total.
- **Energy (kWh, kVAh):** Total accumulated active and reactive energy.
- **Frequency (Hz):** System frequency.
- **Power Factor (PF):** Power factor for each phase and total.

For detailed parameter settings and RS485 communication protocol, refer to the comprehensive technical documentation available from the manufacturer.

## 6. MAINTENANCE

The ACLDOYYV TAC4300 meter is designed for long-term, maintenance-free operation. However, periodic checks can help ensure optimal performance.

- **Cleaning:** Clean the meter's exterior with a soft, dry cloth. Do not use abrasive cleaners or solvents.
- **Connection Checks:** Periodically inspect wiring connections for tightness, especially in environments with vibration. Ensure no wires are loose or damaged.
- **Environmental Conditions:** Verify that the operating environment remains within the specified temperature and humidity ranges.

No user-serviceable parts are inside the meter. Do not attempt to open the casing.

## 7. TROUBLESHOOTING

This section provides solutions to common issues you might encounter with the TAC4300 meter.

Problem	Possible Cause	Solution
Meter display is blank	No power supply; Incorrect wiring; Internal fault.	Check power connections and voltage. Verify wiring. If problem persists, contact support.
Incorrect current/power readings	CTs installed incorrectly (polarity); Incorrect CT ratio setting; Damaged CT.	Verify CT polarity and connections. Ensure CT ratio setting in the meter matches the physical CTs. Check CTs for damage.
RS485 communication failure	Incorrect wiring (A/B reversed); Incorrect communication settings (baud rate, parity); Bus termination issues.	Check RS485 wiring. Verify communication parameters in the meter and master device. Ensure proper bus termination.
Energy accumulation not increasing	No load connected; Incorrect current wiring; Meter fault.	Ensure there is a load drawing current. Check CT wiring. Contact support if necessary.

If you encounter issues not listed here or if the suggested solutions do not resolve the problem, please contact ACLDOYYV customer support for assistance.

## 8. SPECIFICATIONS

Parameter	Value
Model Number	TAC4300CT
Dimensions	72 x 100 x 66 mm

Parameter	Value
Operating Temperature	-25°C to +55°C
Measuring Energy Range	0 to 999999999.999 kVAh
Phase	Three Phase
Rated Voltage	230V AC
Power Supply	AC
Frequency	45~65Hz
CT Connection	5A/100mV/100mA CT (e.g., 100A CT variant)
Communication	RS485 RTU Output

## 9. WARRANTY AND SUPPORT

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For warranty information, technical support, or service inquiries, please contact your vendor or the manufacturer directly. Keep your purchase receipt as proof of purchase.

Manufacturer: ACLDOYYV

For further assistance, please refer to the official product page or contact customer service.

*Note: Product specifications and features are subject to change without prior notice.*

