GHSOGEOM EAEMP3C-100-TY-W

GHSOGEOM EAEMP3C-100-TY-W Intelligent Bidirectional Electric Power Meter and Protector User Manual

Model: EAEMP3C-100-TY-W

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of the GHSOGEOM EAEMP3C-100-TY-W Intelligent Bidirectional Electric Power Kilowatt-Hour Meter and Protector. This device is designed to monitor and protect electrical circuits by measuring kilowatt-hours, detecting leakage, and providing over-voltage, under-voltage, and over-current protection.

2. Safety Information

Please read all safety warnings and instructions carefully before installing or operating this device. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- Installation and maintenance should only be performed by qualified electricians.
- Ensure the power supply is completely disconnected before any installation or wiring work.
- Verify all connections are secure and correct according to the wiring diagram.
- Do not operate the device if it is damaged or malfunctioning.
- This device is designed for indoor use in a dry environment. Avoid exposure to moisture or extreme temperatures.

3. Product Overview

The GHSOGEOM EAEMP3C-100-TY-W is a 3-phase, 100A intelligent meter and protector. It features a digital display for real-time monitoring of electrical parameters and includes various adjustable protection functions.

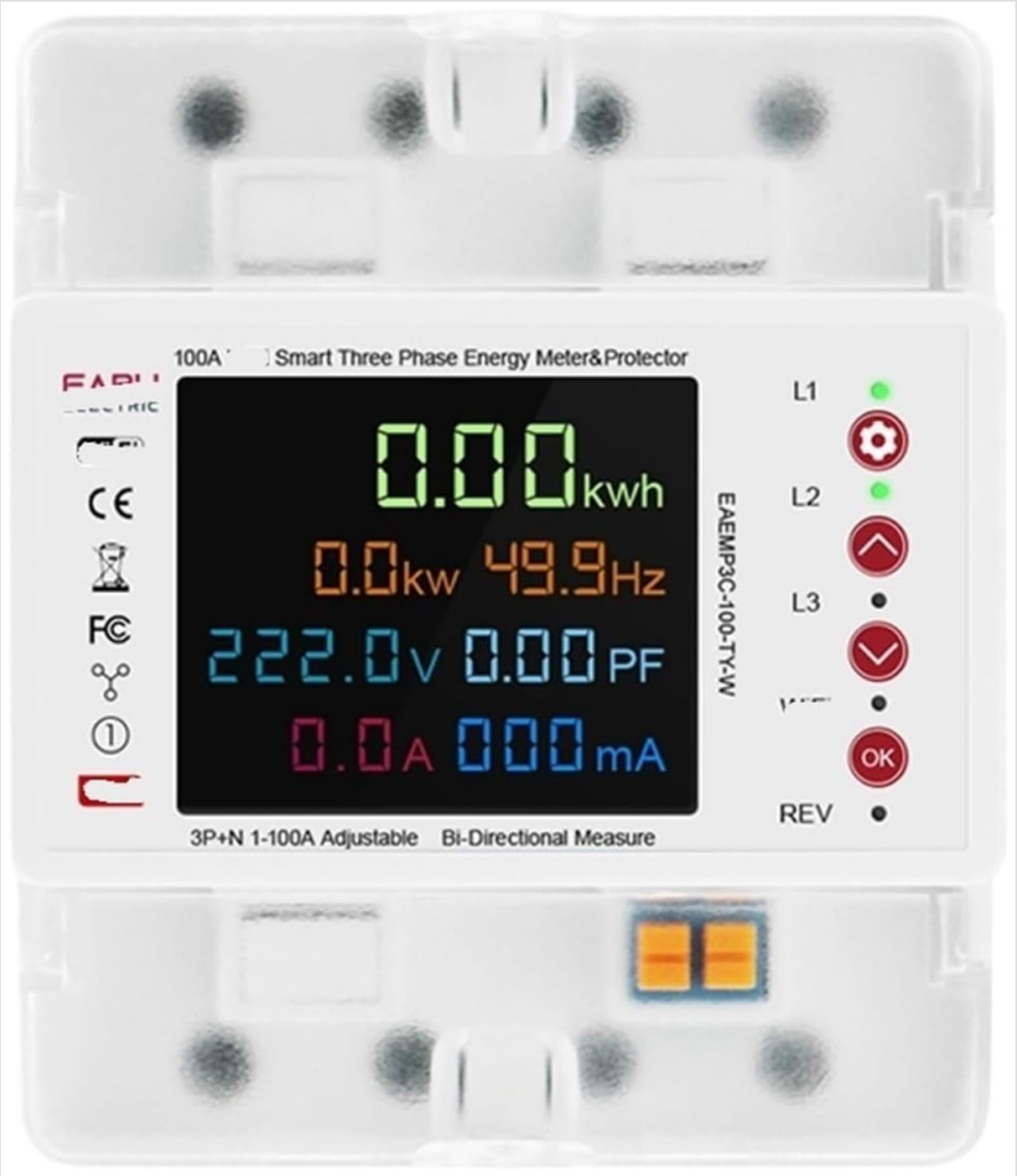

Figure 3.1: Front view of the EAEMP3C-100-TY-W device. The display shows kilowatt-hours (kWh), power (kW), frequency (Hz), voltage (V), power factor (PF), current (A), and leakage current (mA). Control buttons for navigation and settings are visible on the right side.

Key Features:

- Bidirectional energy measurement.
- Over-voltage and under-voltage protection.
- Over-current and under-current protection.
- Leakage current protection (requires external transformer).
- High temperature alarm.
- Adjustable protection parameters and recovery times.
- Three-phase current and voltage unbalance alarm.

4. Specifications

Detailed technical specifications for the EAEMP3C-100-TY-W device.

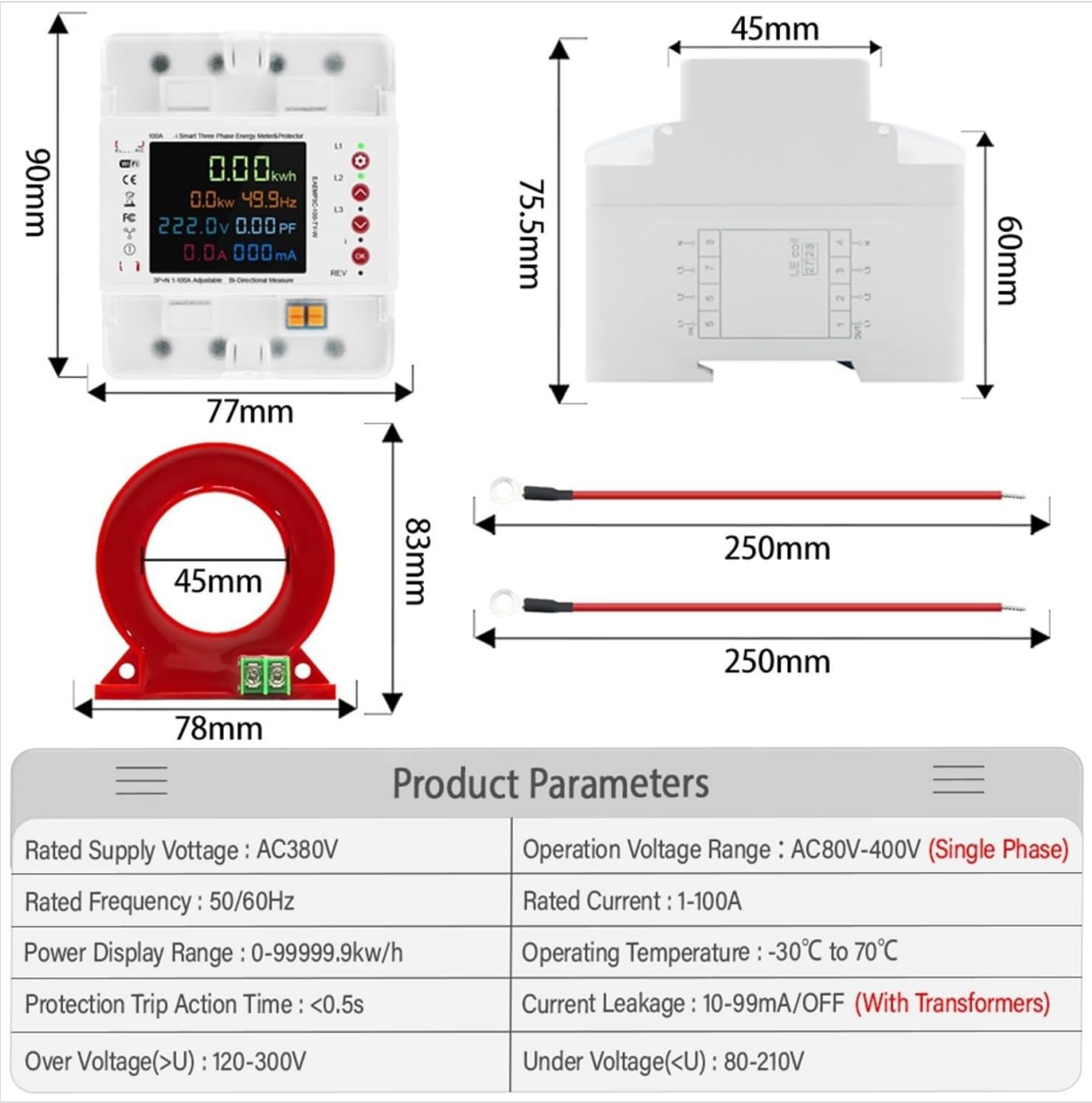

Figure 4.1: Dimensions of the EAEMP3C-100-TY-W meter (77mm x 90mm x 75.5mm) and its external transformer (78mm x 83mm x 45mm), along with a table of key product parameters.

Product Parameters

Parameter	Value
Rated Supply Voltage	AC380V
Working Voltage Range	AC80V-400V (Single Phase)
Rated Frequency	50Hz/60Hz
Rated Current	1-100A
Power Display Range	0-99999.9 kWh
Operating Temperature	-30°C to 70°C
Protection Trip Action Time	<0.5s
Current Leakage Limit	10-99mA/OFF (With Transformers)

Parameter	Value
Overvoltage Limit (U>)	120-300V (Adjustable, Default: 275V)
Undervoltage Limit (U<)	80-210V (Adjustable, Default: 175V)
Overcurrent Limit	1-100A (Adjustable, Default: 80A)
Undercurrent Limit	1-100A (Adjustable, Default: 10A)
Leakage Current Limit	10-99A (Adjustable, Default: 29mA)
High Temperature Alarm	10-85°C (Adjustable, Default: 85°C)
Over/Undervoltage Recovery Time	1-9999s (Adjustable, Default: 20s)
Overcurrent Protection Delay	0-9999s (Adjustable, Default: 5s)
Overcurrent Recovery Time	0-9999s (Adjustable, Default: 20s)
Undervoltage/Overvoltage Protection Delay	1-9999s (Adjustable, Default: 3s)
Three-phase Current Unbalance Alarm	10-100% (Adjustable, Default: 20%)
Voltage Three-phase Unbalance Alarm	0-100% (Adjustable, Default: 20%)
Power Failure Recovery Delay Time	1-9999s (Adjustable, Default: 20s)
Loss of Flow Event Time Threshold	1-999s (Adjustable, Default: 10s)

5. Installation and Wiring

Proper installation is crucial for the safe and accurate operation of the device. Refer to the wiring diagram provided with the product for specific connection points.

Wiring Instructions:

1. **Power Disconnection:** Ensure all power to the circuit is turned off at the main breaker before beginning installation.
2. **Mounting:** Mount the device in a suitable electrical enclosure or panel, ensuring adequate ventilation.
3. **Main Power Connections:** Connect the three live wires (L1, L2, L3) and the neutral wire (N) from the main power supply to the corresponding terminals on the device.
4. **Load Connections:** Connect the load wires to the output terminals of the device.
5. **Transformer Connection (for Leakage Measurement):** The external current transformer (CT) is essential for leakage current measurement. The transformer must pass through a neutral wire and three live wires at the same time. Failure to do so will prevent accurate leakage value measurement. Connect the CT secondary wires to the designated leakage input terminals on the device.
6. **Verification:** Double-check all wiring connections for tightness and correctness before restoring power.

Note: Always follow local electrical codes and regulations. If you are unsure about any part of the installation, consult a qualified electrician.

6. Operating Instructions

After successful installation and power-up, the device will display real-time electrical parameters. Use the control buttons to navigate menus and adjust settings.

Display Modes:

- The device supports two display modes (Display mode 1, 2). The default is Display mode 1. Refer to the on-screen prompts or full product documentation for details on switching modes.

Adjusting Protection Parameters:

The device allows for customization of various protection thresholds and delays. Access the settings menu using the control buttons on the front panel.

1. **Overvoltage Limit:** Adjustable from 120-300V (Default: 275V).
2. **Undervoltage Limit:** Adjustable from 80-210V (Default: 175V).
3. **Overcurrent Limit:** Adjustable from 1-100A (Default: 80A).
4. **Undercurrent Limit:** Adjustable from 1-100A (Default: 10A).
5. **Leakage Current Limit:** Adjustable from 10-99A (Default: 29mA).
6. **High Temperature Alarm:** Adjustable from 10-85°C (Default: 85°C).
7. **Over/Undervoltage Protection Recovery Time:** Adjustable from 1-9999 seconds (Default: 20s).
8. **Overcurrent Protection Delay:** Adjustable from 0-9999 seconds (Default: 5s).
9. **Overcurrent Protection Recovery Time:** Adjustable from 0-9999 seconds (Default: 20s).
10. **Undervoltage/Overvoltage Protection Delay:** Adjustable from 1-9999 seconds (Default: 3s).
11. **Three-phase Current Unbalance Alarm:** Adjustable from 10-100% (Default: 20%).
12. **Voltage Three-phase Unbalance Alarm:** Adjustable from 0-100% (Default: 20%).
13. **Power Failure Recovery Delay Time:** Adjustable from 1-9999 seconds (Default: 20s).
14. **Loss of Flow Event Time Threshold:** Adjustable from 1-999 seconds (Default: 10s).
15. **Energy Consumption Reset:** Option to reset energy consumption data (Default: Closed).
16. **Restore Factory Settings:** Option to restore all settings to factory defaults (Default: Closed).

Refer to the device's on-screen menu for navigation and confirmation of settings changes.

7. Maintenance

The GHSOGEOM EAEMP3C-100-TY-W is designed for minimal maintenance. However, periodic checks can ensure its longevity and reliable operation.

- **Cleaning:** Gently wipe the device's exterior with a dry, soft cloth. Do not use abrasive cleaners or solvents.
- **Connection Checks:** Periodically inspect wiring connections for any signs of loosening or corrosion. Ensure power is off before performing any checks.
- **Environmental Conditions:** Ensure the operating environment remains within specified temperature and humidity ranges.

8. Troubleshooting

This section addresses common issues you might encounter with the device.

Troubleshooting Guide

Problem	Possible Cause / Solution

Problem	Possible Cause / Solution
Device does not power on.	◦ Check main power supply to the device. ◦ Verify all wiring connections are secure and correct. ◦ Ensure the rated voltage is within the device's operating range.
No leakage current reading.	◦ Ensure the external current transformer (CT) is correctly installed. ◦ Verify that the neutral wire and all three live wires pass through the CT simultaneously. ◦ Check the CT secondary wiring connections to the device.
Protection trip occurs frequently.	◦ Review and adjust the protection limit settings (over-voltage, under-voltage, over-current, leakage) to appropriate values for your system. ◦ Investigate the electrical circuit for actual faults (e.g., overloads, ground faults).
Incorrect parameter readings.	◦ Verify all wiring connections are correct and tight. ◦ Ensure the device is configured for the correct system type (e.g., 3-phase). ◦ Consider restoring factory settings if issues persist after checking wiring.

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

9. Warranty Information

Specific warranty details for the GHSOGEOM EAEMP3C-100-TY-W are not provided in the available product information. Please refer to the product packaging or contact the seller/manufacturer directly for warranty terms and conditions.

10. Customer Support

For technical assistance, troubleshooting beyond this manual, or inquiries regarding your GHSOGEOM EAEMP3C-100-TY-W device, please contact your point of purchase or the manufacturer's customer service department. Contact information is typically available on the product packaging or the manufacturer's official website.