Sanzla DDS238-4

Sanzla DDS238-4 Single Phase Din Rail KWH Watt Hour Energy Meter User Manual

Model: DDS238-4

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of the Sanzla DDS238-4 Single Phase Din Rail KWH Watt Hour Energy Meter. Please read this manual thoroughly before using the device to ensure safe and efficient operation.

2. Safety Information

WARNING: Risk of electric shock. Installation and servicing should only be performed by qualified personnel.

- Always disconnect power before installing or servicing the meter.
- Ensure all wiring connections are secure and correct to prevent damage or injury.
- Do not operate the meter if it appears damaged.
- Observe all local and national electrical codes.
- The meter is designed for indoor use in a dry environment.

3. Product Overview

The Sanzla DDS238-4 is a single-phase energy meter designed for measuring active energy (KWH) on a DIN rail. It features a digital LCD display for clear readings and indicators for power and pulse output.

3.1 Front Panel and Display

Figure 3.1: Front view of the DDS238-4 Energy Meter. The display shows "000000.3 kWh". The model number is DDS238-4, and the serial number is No.191118450210.

- **LCD Display:** Shows the total active energy consumption in kWh. Features a 6+1 digit numerical display for high-definition readings.
- **POWER Indicator:** Illuminates when power is supplied to the meter.
- **PULSE Indicator:** Flashes to indicate energy consumption. Each flash represents a specific amount of energy (e.g., 1600 imp/kWh).
- **Terminals L1, 2, 3, L2/N:** Connection points for input and output wiring.

3.2 Digital Display Details

Figure 3.2: Detailed view of the 6+1 digit LCD display, capable of showing up to 999999.9 kWh.

4. Installation

The DDS238-4 energy meter is designed for easy installation on a 35mm DIN rail.

4.1 Mounting

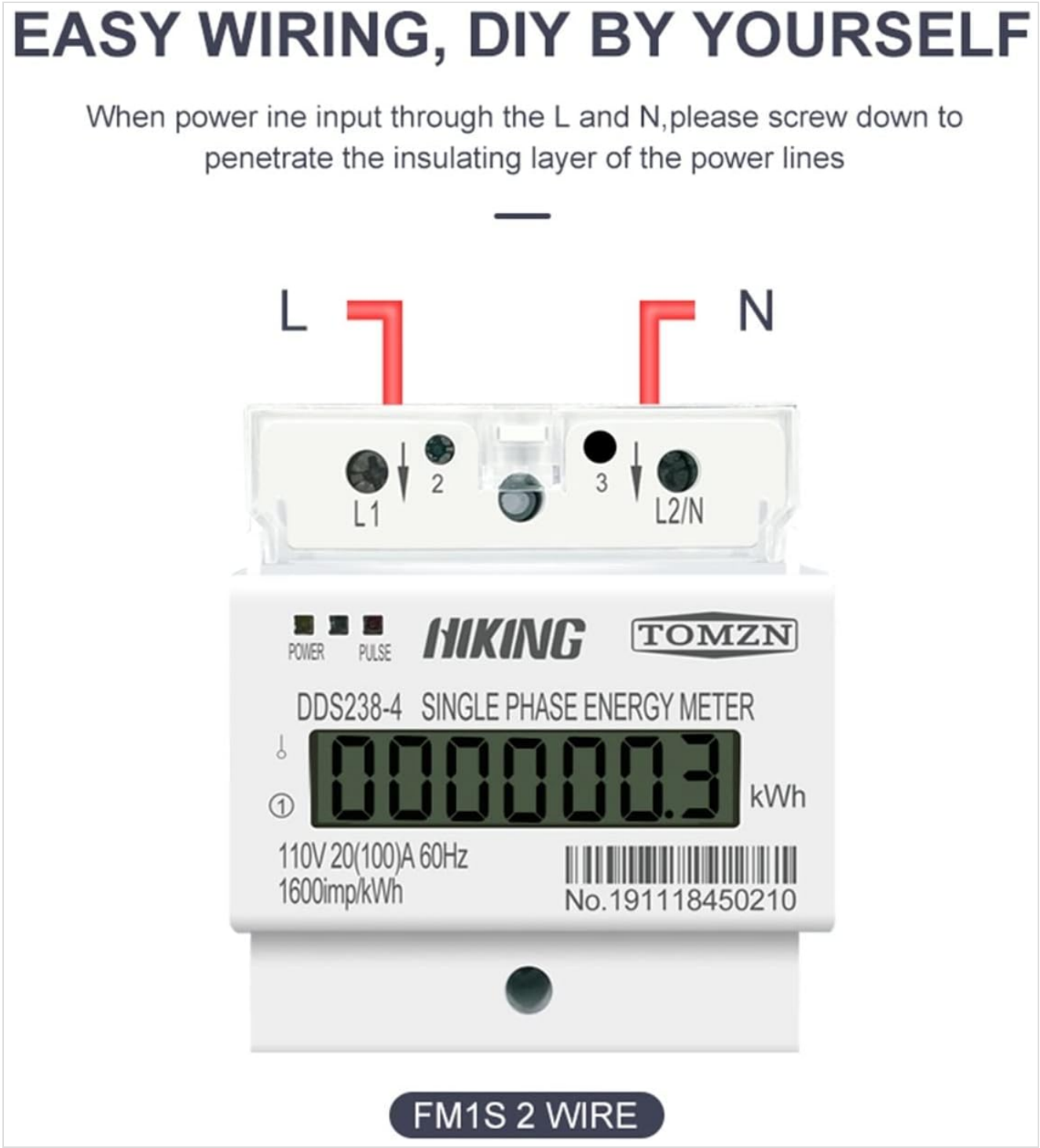

Figure 4.1: The energy meter securely mounted on a standard 35mm DIN rail.

To mount the meter, simply clip it onto a standard 35mm DIN rail in your electrical panel. Ensure it is firmly seated.

4.2 Wiring Instructions

IMPORTANT: Ensure power is disconnected at the main circuit breaker before proceeding with any wiring.

1. Identify the Live (L) and Neutral (N) wires of your single-phase circuit.
2. Connect the incoming Live wire to terminal L1 (input).
3. Connect the incoming Neutral wire to terminal L2/N (input).
4. Connect the outgoing Live wire (to load) to terminal 2.
5. Connect the outgoing Neutral wire (to load) to terminal 3.

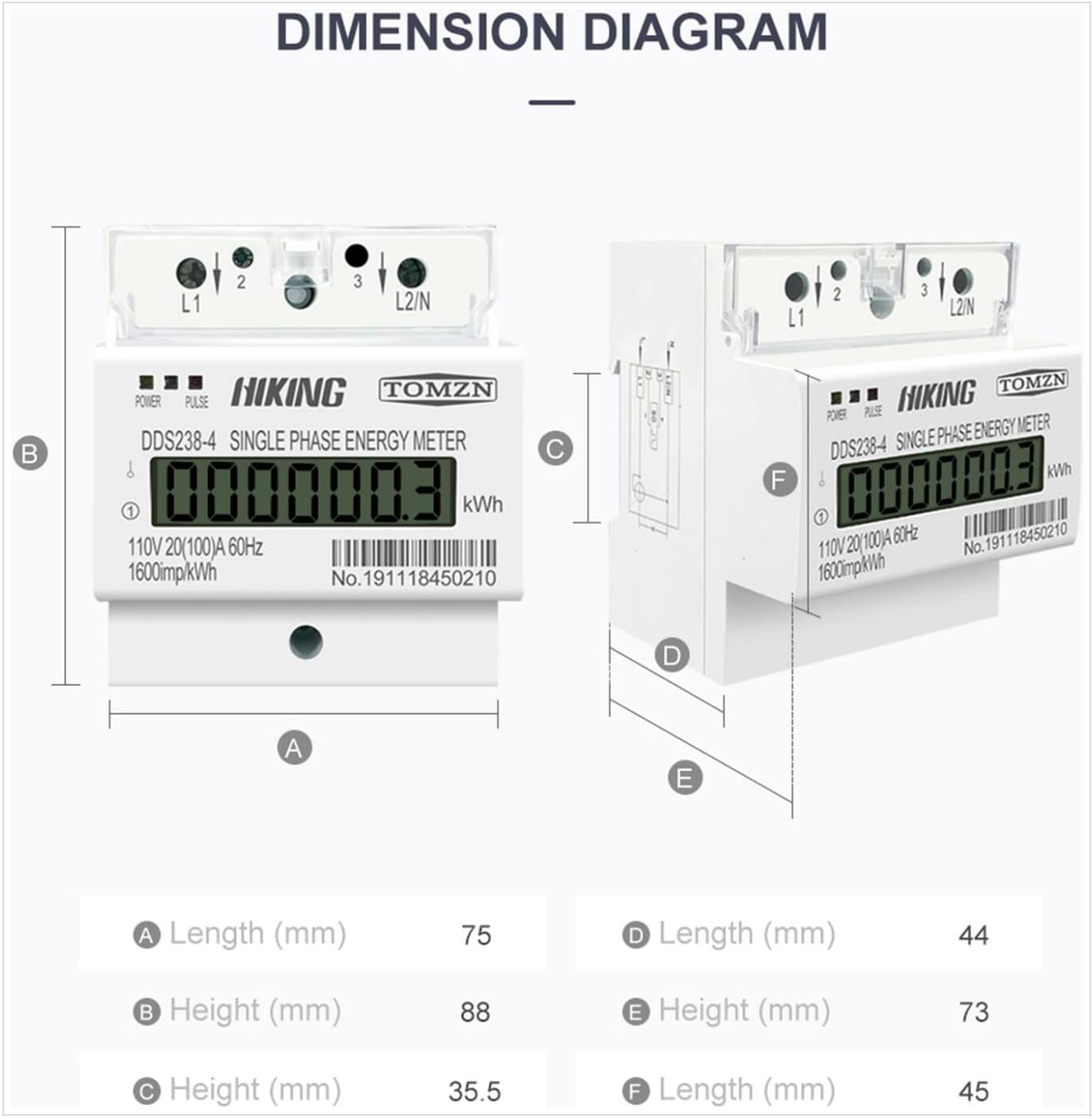

Figure 4.2: Wiring diagram for a single-phase 2-wire connection (FM1S 2 WIRE).

When connecting the power lines, screw down to penetrate the insulating layer of the power lines for a secure "puncture connection".

Figure 4.3: Example of a puncture connection for wiring.

5. Operation

Once correctly installed and powered, the DDS238-4 meter will begin measuring energy consumption automatically.

- **Power Indicator:** A steady light indicates the meter is receiving power.
- **Pulse Indicator:** This LED will flash proportionally to the energy being consumed. A faster flash rate indicates higher power consumption. The pulse constant is 1600 imp/kWh.
- **LCD Display:** The 6+1 digit display shows the cumulative energy consumption in kilowatt-hours (kWh). The last digit (after the decimal point) represents tenths of a kWh.

6. Specifications

Technical specifications for the DDS238-4 Single Phase Energy Meter:

Parameter	Value	Parameter	Value

Parameter	Value	Parameter	Value
Rate Voltage AC	110V~±10% 60Hz (0.8~1.2UN)	Power consumption	Pulse output
Rate Current	20(100)A	AC voltage withstand	4000V/25mA for 60s
Start current	0.004Ib*10=40mA	Over current withstand	30Imax for 0.01s
Max current	100A	Installation	35mm Din Rail
Accuracy class	0.5%	IP grade	IP20
Impulse output	1600imp/kWh	Pulse output	Passive pulse, 80±5 ms
LCD display	6+1	Housing material	PC raw materials, Environmental friendly and flame retardant

6.1 Dimensions

SINGLE PHASE ENERGY METER

Rate Voltage AC	110V+-10% 60Hz (0.8~1.2UN)	Power consumption	Pulse output
Rate Current	20(100)A	Work temperature	-25℃ ~70℃
Start current	0.004Ib*10=40mA	AC voltage withstand	4000V/25mA for 60s
Max current	100A	Over current withstand	30Imax for 0.01s
Accuracy class	0.5%	Installation	35mm Din Rail
Impulse output	1600imp/kWh	IP grade	IP20
LCD display	6+1	Pulse output	Passive pulse, 80± 5 ms
Housing material	PC raw materials, Environmental friendly and flame retardant		

Figure 6.1: Dimension diagram of the DDS238-4 Energy Meter.

Measurement	Value (mm)
A (Length)	75
B (Height)	88
C (Height)	35.5
D (Length)	44
E (Length)	73

Measurement	Value (mm)
F (Length)	45

7. Maintenance

The DDS238-4 energy meter is designed for long-term, maintenance-free operation. However, periodic checks are recommended:

- **Cleaning:** Gently wipe the exterior of the meter with a dry, soft cloth. Do not use abrasive cleaners or solvents.
- **Connections:** Periodically check that all wiring connections remain secure.
- **Environment:** Ensure the operating environment remains within the specified temperature range (-25°C to 70°C) and free from excessive dust or moisture.
- There are no user-serviceable parts inside the meter. Do not attempt to open the casing.

8. Troubleshooting

If you encounter issues with your DDS238-4 energy meter, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
No display/No power indicator	No power supply; incorrect wiring; faulty meter.	Check power supply to the circuit. Verify wiring connections (L1, L2/N). If problem persists, contact support.
Pulse indicator not flashing with load	No load connected; incorrect wiring; faulty meter.	Ensure a load is connected and drawing power. Recheck wiring.
Incorrect energy reading	Incorrect wiring; meter calibration issue.	Double-check all wiring connections. If readings are consistently inaccurate, contact support.

9. Warranty & Support

Sanzla products are manufactured to high-quality standards. For specific warranty information, please refer to the documentation provided at the time of purchase or contact your retailer.
For technical support or inquiries, please contact Sanzla customer service through your purchase platform or the official Sanzla website.