



新开普电子股份有限公司
NEWCAPEC ELECTRONICS CO., LTD.

DDSU1354

**DIN Rail Single-Phase Electronic
Energy Meter
User Manual**

Newcapec Electronics Co., Ltd.

Declaration

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Document Revision History

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*Change Status: A——Added; M——Modified; D——Deleted



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1. Product Overview

The model DDSU1354 DIN rail-mounted single-phase electronic energy meter meets the requirements of standard IEC 62053-21. The meter integrates one independent measurement channel, which is equipped with an 80 A latching relay and an energy accumulation register. The rated maximum current of the complete meter can reach 63 A. The meter has a built-in real-time clock and supports network time calibration. It provides tiered tariff and multi-tariff functions, as well as sub-metering and consolidated calculation of energy data. The meter can automatically record key operating events, electricity freeze data and operating status data, and can collect voltage and current data in real time for reporting through the serial bus communication port according to host computer requirements.

The meter is equipped with a wide-temperature LCD and a query button for convenient checking of operating status information. This intelligent energy meter features accurate metering, reliable disconnection and a clear display. It can be widely used in apartments, dormitories, shopping malls and other locations to provide energy metering, energy control and management, and prepaid functions.

2. Technical Specifications

2.1. Electrical Specifications

Item	Specification
Accuracy Class	Class B, compliant with IEC 62053-21
Insulation Protection Category	Class II protective-insulated enclosed meter
Rated Operating Ambient Temperature	-25℃ ~ 55℃
Storage and Transport Temperature Range	-40℃ ~ 70℃
Voltage Range (AC)	176V ~ 253V
Current Rating	0.1-0.5(63)A
Power Consumption	≤ 2W (10VA)
Serial Communication Baud Rate	4800 bps
4G Wireless Communication	Built-in antenna (optional)
Pulse Constant	1600 imp/kWh
LCD Digits	8-digit number
Data Retention After Power Failure	≥ 30 years
Electrical Life of Built-in Relay	≥ 10,000 operations
Maximum Short-Circuit Surge Current Withstand of Current Circuit	1900A/10ms
Maximum Permitted Conductor Size of Current Circuit	Maximum Permitted Conductor Size of Current Circuit: 25 mm ²

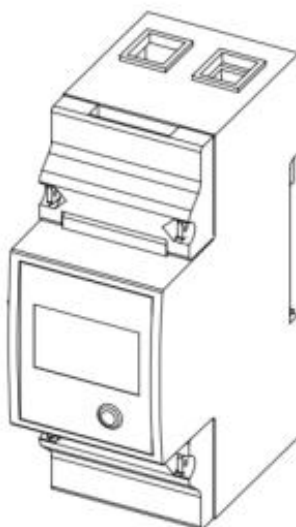
Overall Dimensions	100 mm (L) × 37.5 mm (W) × 66.5 mm (T)
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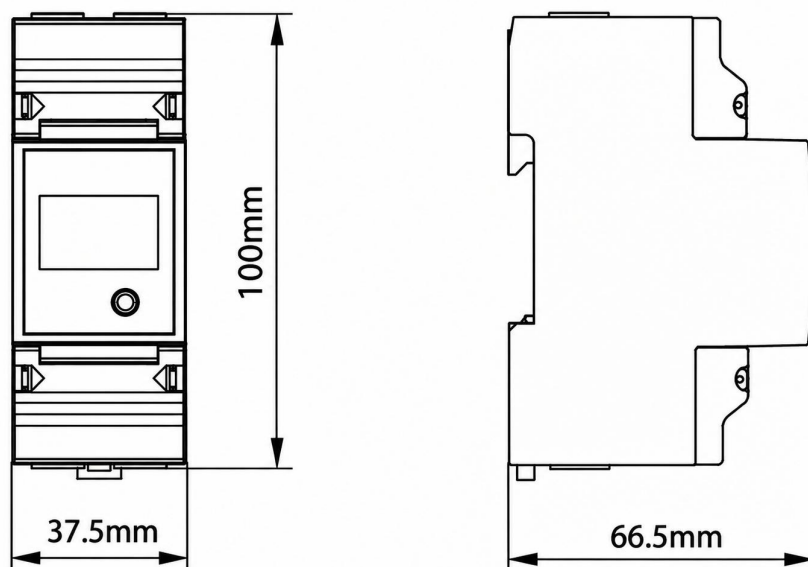
2.2. EMC Specifications

Item	Specification
Electrostatic Discharge Immunity	Contact: 8 kV; Air: 15 kV
Radiated RF Electromagnetic Field Immunity (current in current circuit)	10 V/m
Radiated RF Electromagnetic Field Immunity (no current in current circuit)	30 V/m
Conducted RF Field Immunity	10 V/m
Electrical Fast Transient/Burst Immunity	4kV
Surge Immunity	4kV

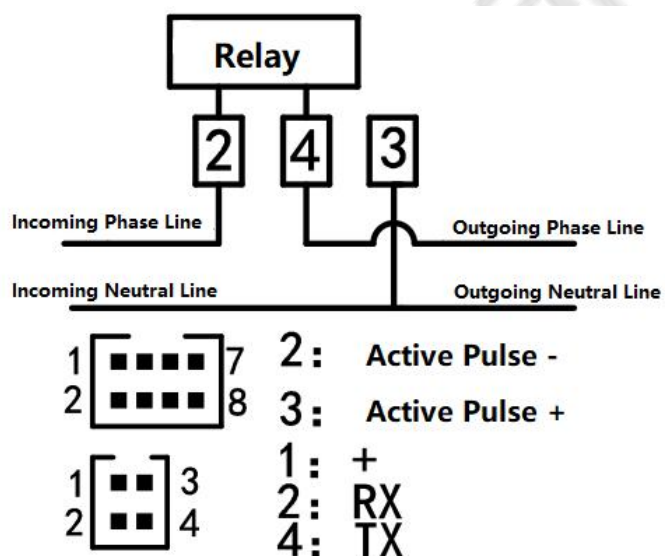
3. Appearance, Dimensions and Installation

3.1. Appearance and Dimensions





3.2. Terminal Wiring Logic Diagram



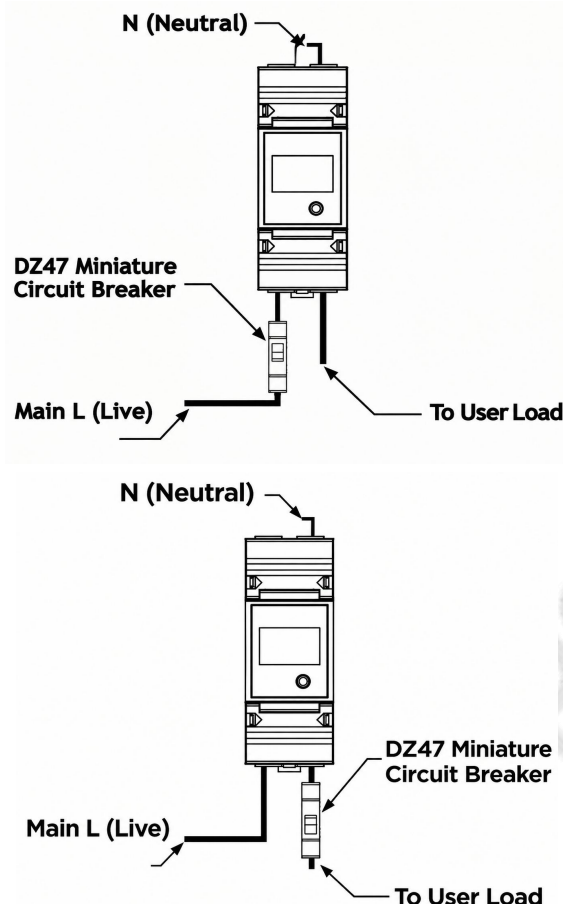
3.3. Mechanical Installation

The DDSU1354 single-phase DIN-rail energy meter shall be installed indoors in a dry and well-ventilated location protected from direct sunlight. The installation shall be provided with a meter box to prevent harmful dust and moisture from entering. The meter housing is suitable for mounting on a 35 mm standard DIN rail.

3.4. Electrical Installation

For installation of the DDSU1354 single-phase DIN-rail energy meter, wiring may be

performed using either of the two methods shown below:



4. Features

- LCD display for convenient viewing of the current meter operating status, accumulated energy consumption and remaining energy;
- Equipped with a three-wire serial communication interface, it can be connected to a host computer to complete parameter downloading, remote load control and other functions;
- Built-in operating temperature detection: together with a host computer, it enables temperature data collection, warning and over-temperature protection;
- Load type identification: distinguishes different load types and enables release or blocking control for specified load types according to their characteristics;
- General scheduled power-on/off: allows flexible daily power-on and power-off schedules for each day of the week (up to eight daily switching-time parameters);
- Holiday load power-on/off control: in addition to scheduled power-on/off, holidays can be enabled or disabled; when enabled, scheduled power-on/off is suspended during holidays;
- Time-period power limitation: allows flexible daily power limits for each day of the week (up to four daily power-limit parameters).

4.1. LCD Display Information

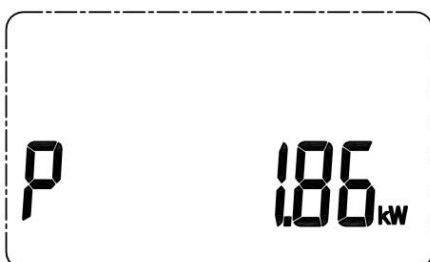
All segments on at power-up



Accumulated energy consumption



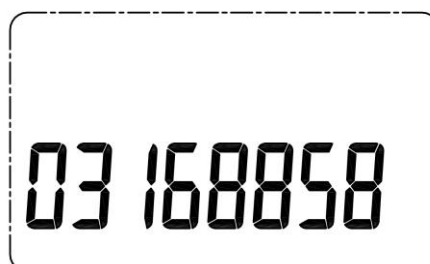
Current load power



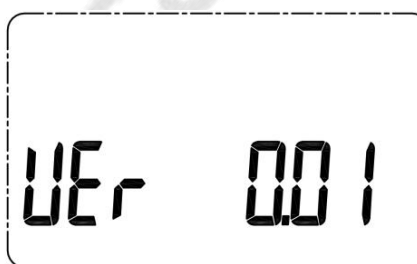
Remaining energy



Device MAC address



Device version



Explanation of Chinese Text on the LCD

Display Content	Description
房间	Room, used to display the room number corresponding to this meter
累计	Accumulate, used to display accumulated energy
剩余	Remaining, used to display the balance of purchased energy
异常	Abnormal, used to display meter abnormal-status prompts

4.2. Power-On/Off Status Display

The power-on/off status identifier is "r5". After the separator "—" is the power-on/off

symbol. The status represented by the symbol is shown in the table below.

r5--8

Status Code	Status Description
0	Over-temperature power-off protection
1	Over-safe-current power-off protection
2	Forced power-on status
3	Forced power-off status
4	Power-off after energy is depleted
5	Scheduled power-off
6	Manual power-off (general power-off)
7	Illegal load detected (load suspension)
8	Power-off due to illegal load (load disconnection)
9	Overload suspension
10	Overvoltage power-off
A	Overload power-off
B	Scheduled power-on
C	Manual power-on (general power-on)
D	Water-electricity interlocking power-off (power-off when water is depleted)

4.3. Operating Status Error Display

The device data error identifier is "Err". After the separator "—" is the error code. The meter displays only the highest-priority error prompt. Priority decreases from top to bottom, as shown in the table below.

Err- 8

Operating Status Code	Status Description
0	Normal
1	MAC address checksum error
2	System or module parameter checksum error
3	Meter calibration parameter checksum error
4	Purchased energy data checksum error
5	Accumulated energy data checksum error
6	Relay information checksum error
7	Room setting information checksum error

5. Installation and Operation

- a. The energy meter has passed inspection and been sealed with a lead seal before leaving the factory and may be installed and used. If the seal is missing or the meter has been stored for an extended period, it shall be re-inspected and resealed by the relevant authority before installation and use;
- b. The energy meter shall first be installed in a meter box complying with applicable national standards. The meter box shall be mounted vertically and securely, without inclination, indoors in a dry, well-ventilated location protected from direct sunlight. The bottom plate of the meter box shall be fixed to a solid, fire-resistant and low-vibration wall. The installation height should be approximately 1.8 m. The air shall be free of corrosive gases and dust;
- c. Wire the meter according to the terminal wiring diagram. Insert the wires into the terminal holes and tighten the terminal screws;
- d. In areas with frequent thunderstorms, lightning protection measures shall be taken for the power lines;
- e. Operating display: during meter operation, the LCD alternately displays accumulated energy, remaining energy and other information. Other information can also be selected using the button.

6. FAQ

(1) Q: The LCD does not display after power-on

A: Check whether the power supply to terminals N and L is correct.

(2) Q: Power is displayed as a negative value

A: The load current circuit is connected in reverse and must be corrected.

(3) Q:The LCD displays normally after power-on, but there is no current output

A: Connect the meter communication line and inspect it using the dedicated tool.

