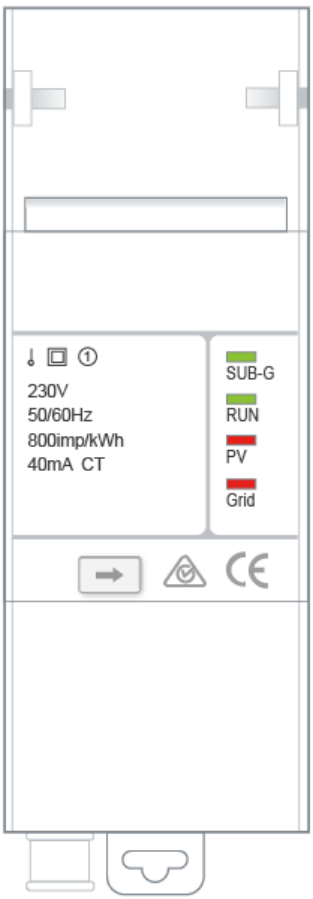
Sub-G (LoRa) Export Limitation Meter

Single-Phase (MH-100S2-L)

User Manual



Version 0.1

Revision history

Version	Date	Changes
V0.1	2026-09-22	2.3. Communication between inverter and meter *(on page 12)*
V0.0	2026-07-03	First version.

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1. Product introduction

1.1. Product overview

The Sub-G (LoRa) export limitation meter monitors the electrical parameters such as forward/reverse active power on both the grid side and inverter side in real time. Then, it transmits the monitored data to the inverter through Sub-G wireless or RS-485 wired communication. Using such data, the inverter supports:

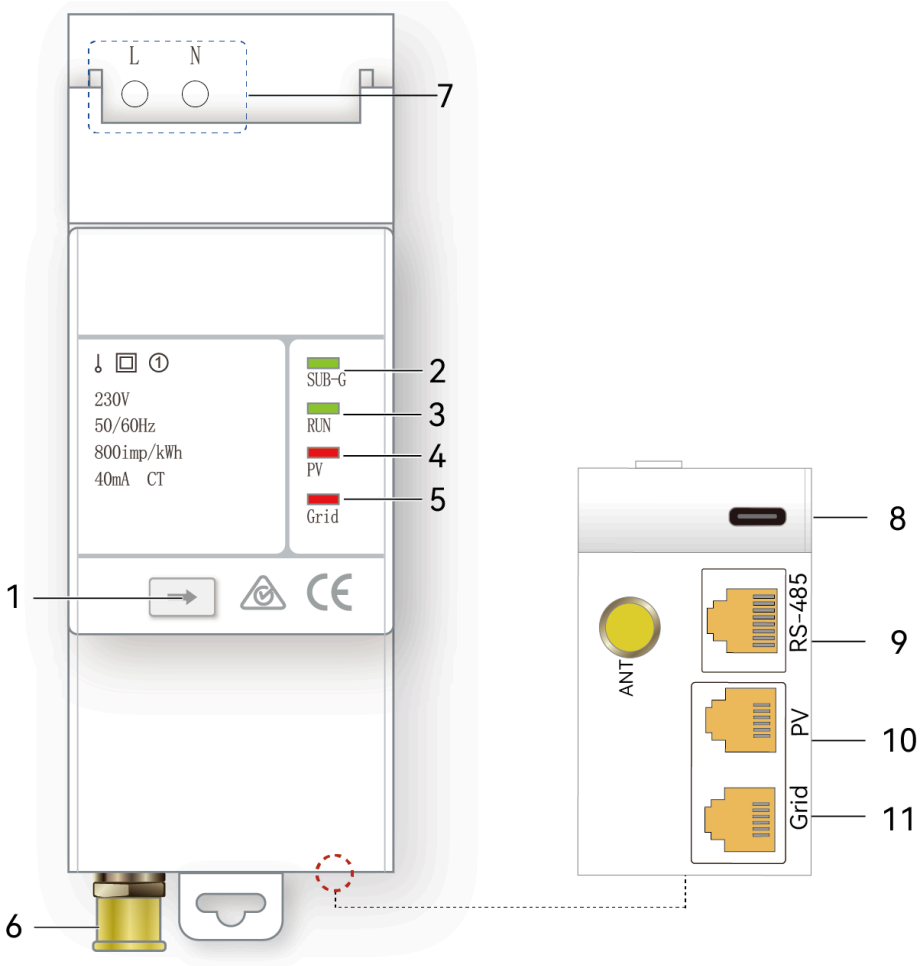
- Lowering power generation to prevent excess power from flowing back to the grid.
- Collecting statistics on power generation and consumption.
- Providing basic energy data for the App to enable remote monitoring and analysis.

1.2. Model description

MH-100S2-L
① ② ③ ④

①	This model is applicable to hybrid storage system.
②	It means the rated current of the CT is 100A.
③	Single-phase and single-circuit meter.
④	It means that the model supports LoRa communication.

1.3. Indicators and ports



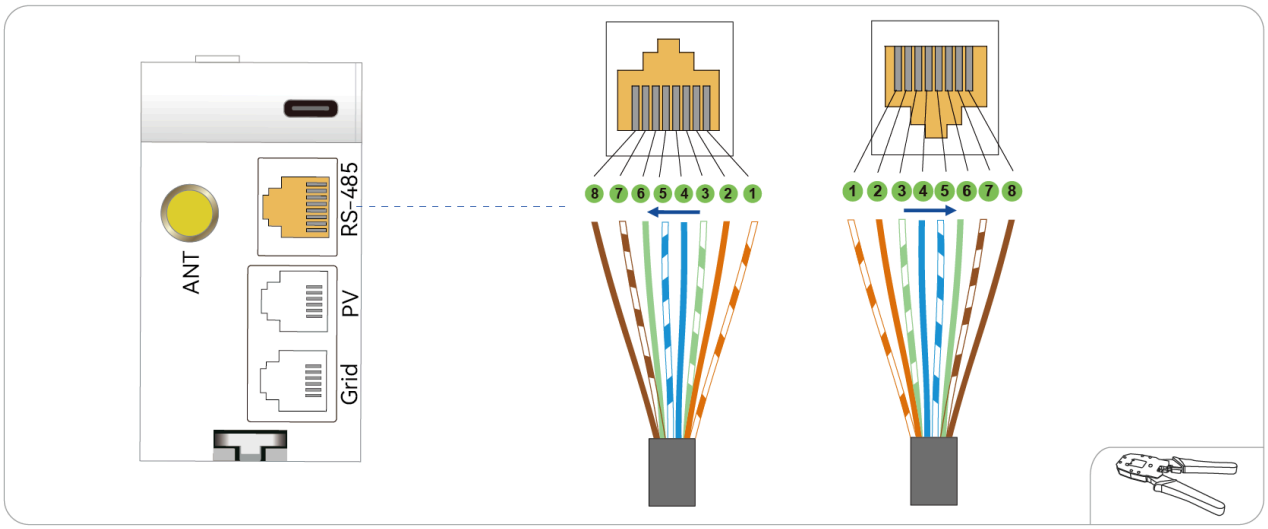
Callout	Key or indicator	Status	Description
1	Key	-	The factory reset button. 1. Press and hold the key for 10 seconds until all indicator lights illuminate. 2. Release the key within 10 seconds to restore default configurations. **NOTICE** **Proceed with caution.** Factory reset will clear the wireless pairing between the meter and inverter and revert the CT ratio to the default setting of 100A:40mA. After reset, take the following steps: • Re-pair the meter with the inverter on the elekeeper app by scanning the meter's SN. • Re-configure the CT ratio as needed.
2	Sub-G indicator	Solid on	The meter is connected to the inverter through wireless communication.

Callout	Key or indicator	Status	Description
		Off	The meter is not connected to the inverter through wireless communication.
3	RUN indicator	Slow flashing (idle)	The meter is idle. No data is transmitted between the meter and the inverter.
		Fast flashing	Data is transmitted between the meter and the inverter.
4	PV indicator	Pulse flashing	The forward active power at the PV side is detected.
5	Grid indicator	Pulse flashing	The forward active power at the grid side is detected.

Table 1.1. Key and indicator description

Callout	Description
6	The antenna port for wireless communication with the inverter.
7	• Phase L1 • Neutral line
8	The Reserved TYPE-C port.
9	The RS-485 port for wiring communication with the inverter.
10	The PV port.
11	The Grid port.

Table 1.2. Port description

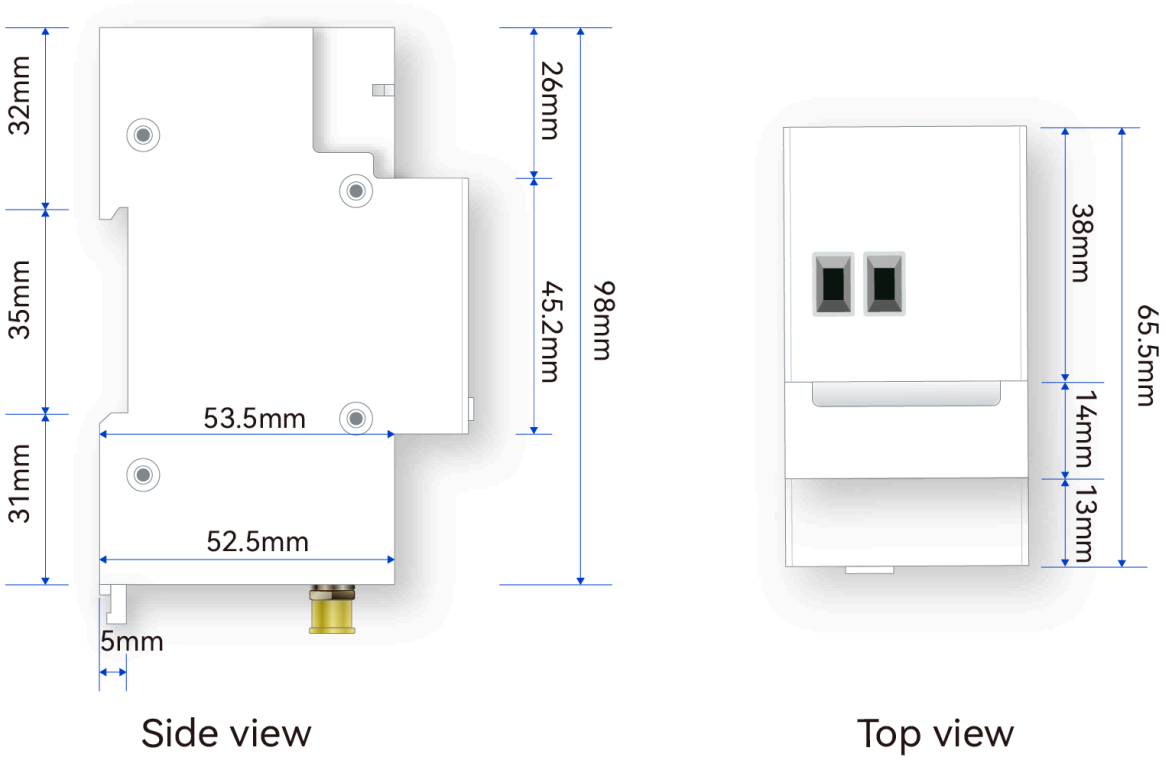


Callout	Description
1	RS-485 A.
2	RS-485 B.
3-8	Reserved.

Table 1.3. RS485 pin definition

1.4. Product specifications

Meter

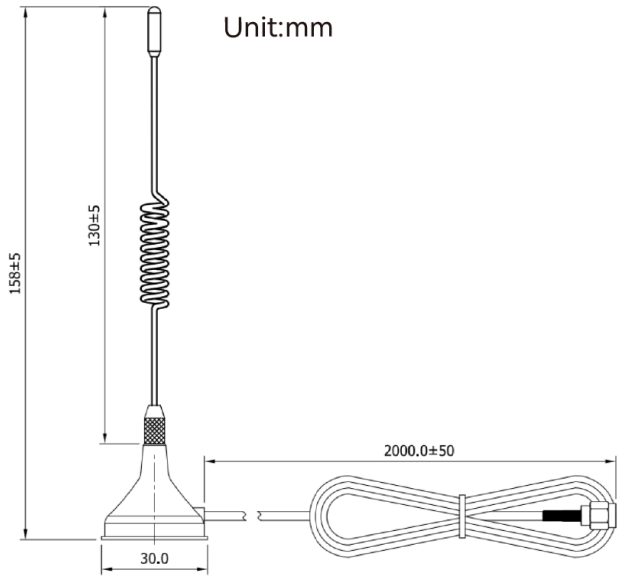


Electric parameters	
Rated AC Voltage [V]	110/220/230/240
Operating AC Voltage Range[V]	100-276
Rated AC Frequency [Hz]	50/60
AC Frequency Range [Hz]	45-65
Rated AC Current [A]	100/300/600[1]
Sensor	CT
Active Energy Accuracy	Class 1 or class B
Communication	
Sub-G Frequency Range (Europe and Australia) [MHz]	860-960
Sub-G Frequency Range (China) [MHz]	410-520
Sub-G Starting Frequency (Australia) [MHz]	920.1
Sub-G Starting Frequency (Europe) [MHz]	866.1
Sub-G Starting Frequency (China) [MHz]	490.1
Bluetooth Frequency Range [MHz]	2402-2480
Bluetooth Communication Distance [m]	10
RS-485 Communication Distance [m]	≤1000
RS-485 Baud Rate Range [bps]	1200-115200
RS-485 Default Baud Rate [bps]	9600
Environmental Parameters	

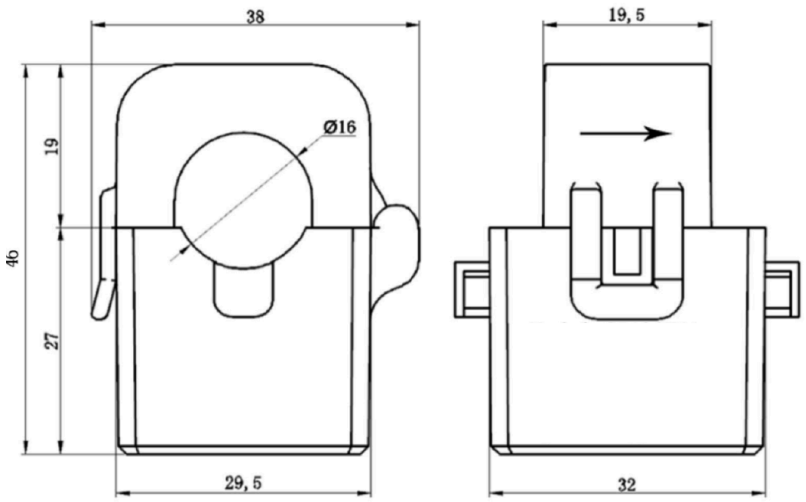
Ambient Temperature [℃]	-25 to +60
Storage Temperature [℃]	-40 to +85
Relative Humidity	≤95%
Altitude [m]	≤2000
Protection Rating	IP20
General Parameters	
Installation	Standard DIN rail (35mm)
Weight [g]	390
Warranty [Year]	3

1. The rated current of the external sampling CT is 100A, 300A, or 600A.

Antenna



CT

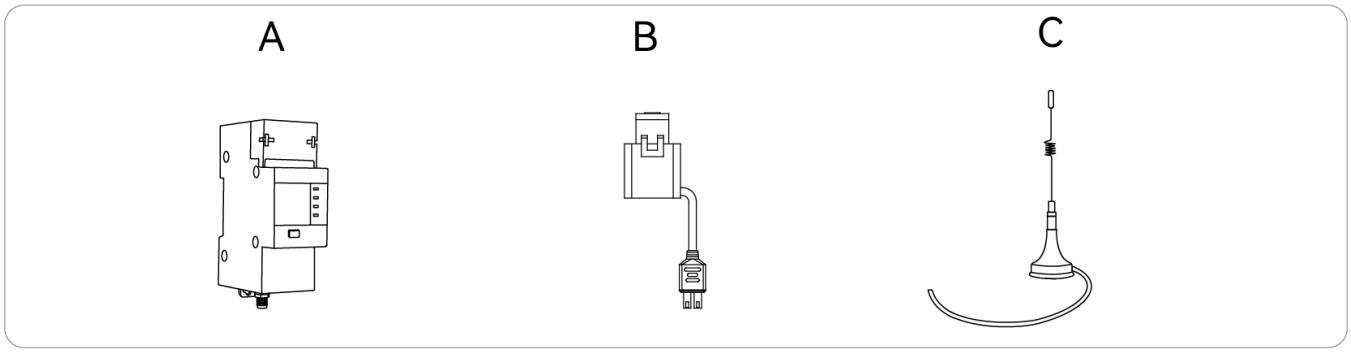


Ratio	100A:40mA
Cable length	2000 ± 80 mm

Note: The appearance, size and information are subject to actual objects.

2. Installation and Connection

2.1. Packing list



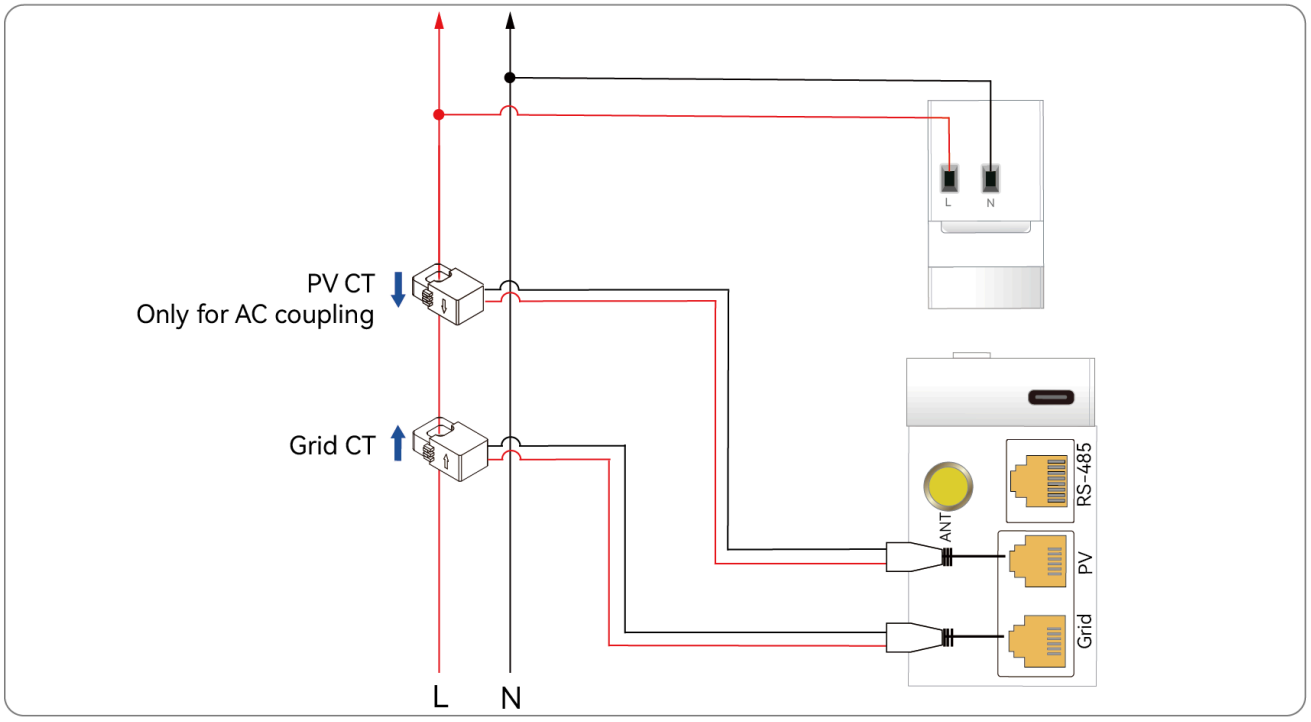
Number	Designation	Quantity
A	Meter	1
B	Current transformer (CT)	1
C	Antenna	1

2.2. Electrical connection diagram

This section provides diagrams for different meter wiring and system connection scenarios.

- Standard 2-wire: 1 live line with the neutral line. It is applicable to conventional single-phase grid supplies.
- 2-live-wire: 2 live lines without the neutral line. It is applicable to a scenario where two phases tapped from a three-phase grid.
- System connection diagram: This diagram illustrates the wiring among the inverter, the meter, and the grid in a standard single-inverter setup. For more complex setups, such as parallel connections, see the *System Connection Diagrams* or the inverter user manual.

Meter wiring for standard 2-wire (1L + N)



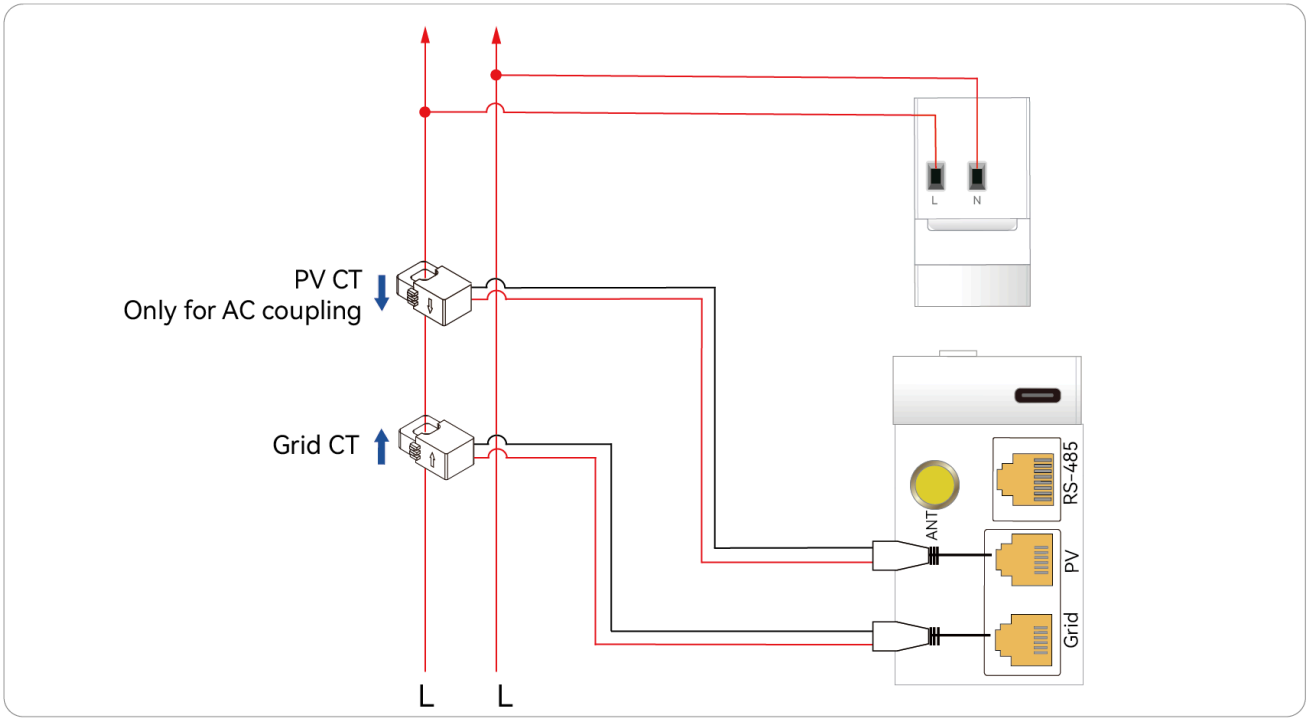
2-live-wire (L1+L2, no N)

⚠ CAUTION

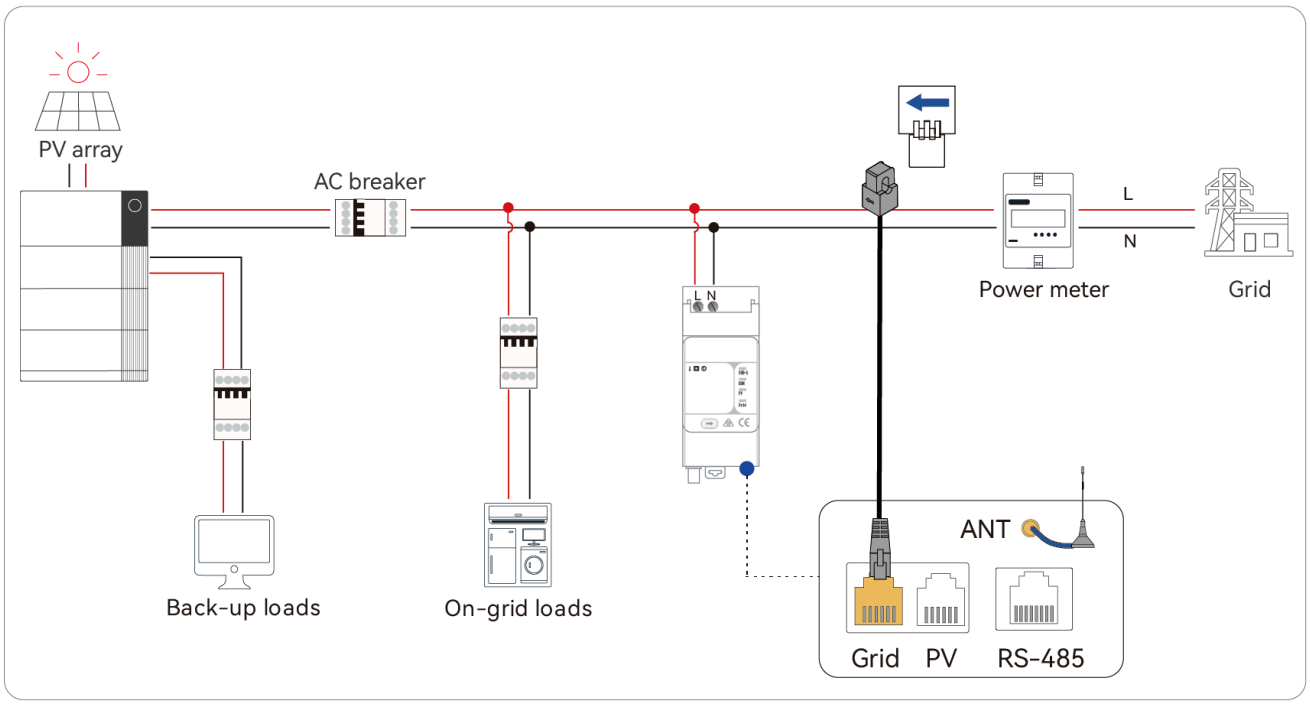
Risk of equipment damage and metering inaccuracies.

Cross connection of different live phases causes system malfunction.

For the 2-live-wire (L1+L2, no N) connection, ensure all live wires connected to the L terminals on the inverter, meter and loads are tapped from the same grid live phase.



System connection diagram



2.3. Communication between inverter and meter

The single-phase meter MH-100S2-L and three-phase meter MH-100T2-L support both wireless and RS-485 wired communication with the inverter. Wireless communication is recommended for most installations.

Wireless communication

The following figure shows the wireless communication between the inverter and the meter. Connect the antenna on the inverter and the meter respectively.

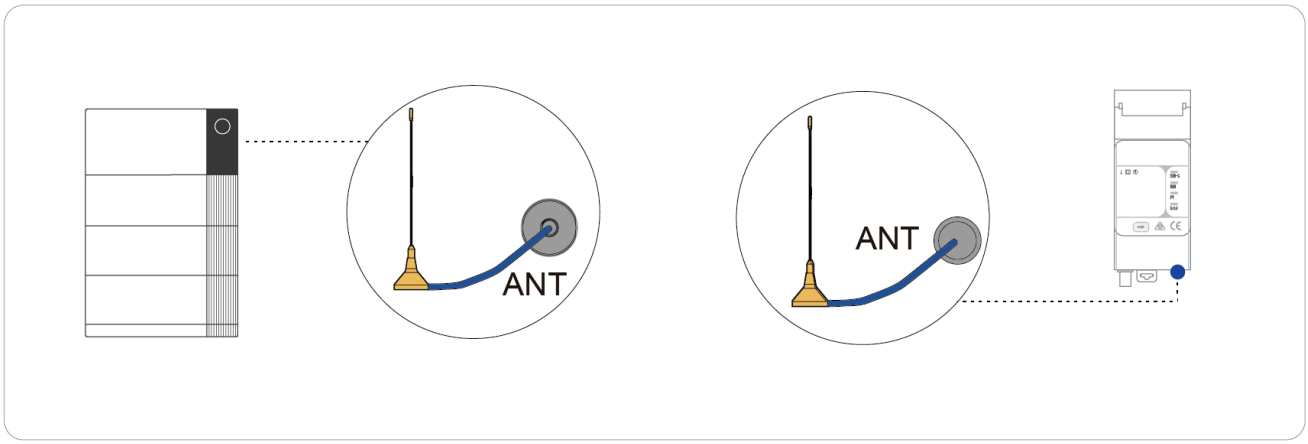
With the antennas installed, the inverter is wirelessly pre-paired with the meter included in delivery. If you want to replace or add a meter, pair the meter and inverter through elekeeper app.

NOTICE

For better signal reception:

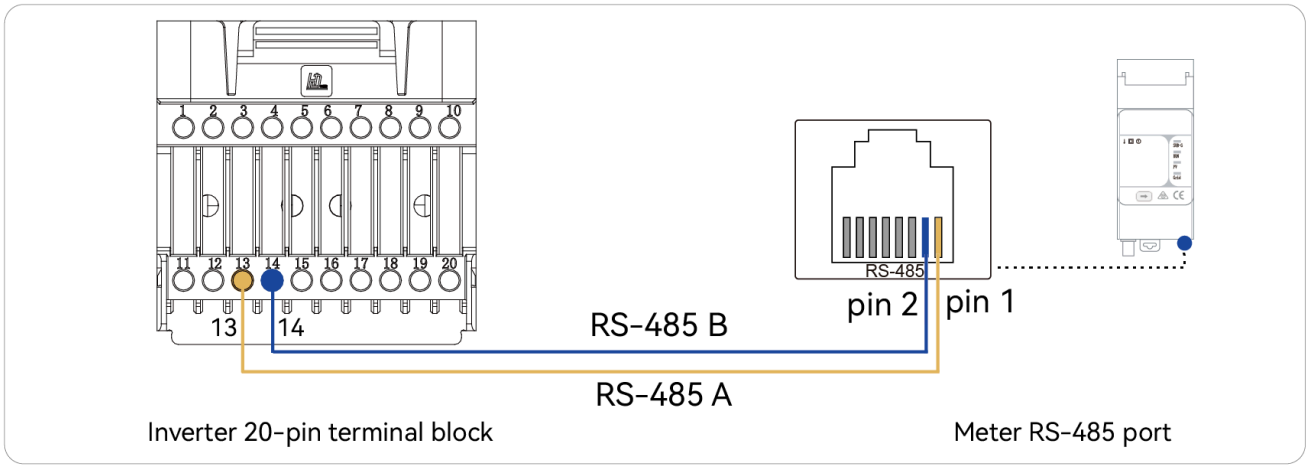
- Install the antennas on top of the inverter and the distribution box where the meter is installed.
- Install the antennas vertically.

Otherwise, signal loss may occur.



Wired communication

Connect the cable from the 20-pin terminal block at the inverter's **COM** port to the meter's **RS-485** port.



2.4. Install and connect the meter

Before you begin

DANGER

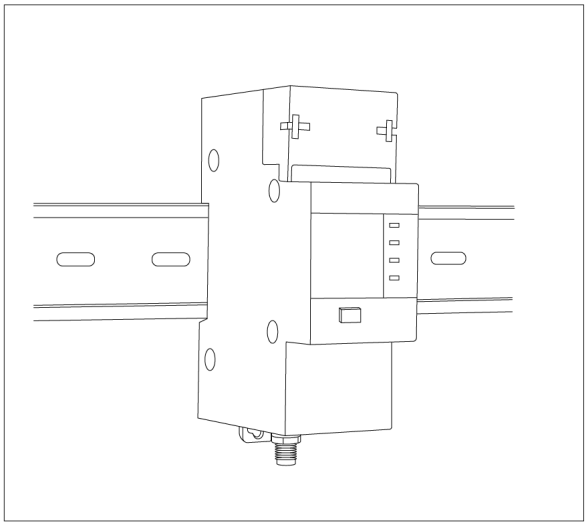
- Cut off the power supply before any operation on the meter to avoid electric shock that could result in death or severe injury.
- Use insulated tools and test for electricity before any operating.
- An overloaded current transformer accessory can lead to overheating
- Do not expose this device to damp or rainy conditions to avoid the risk of fire or electric shock. Install the device in a location with proper ventilation.

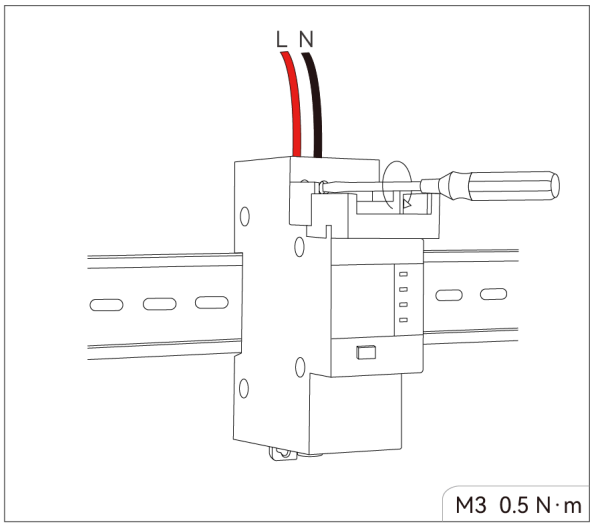
Prepare the cables according to the following table.

Cable type	Specification
L/N power supply cables	• Single-core solid wires: 26 AWG–10 AWG • Stranded wires: 0.2 mm^2–6.0 mm^2
RS485 communication cable. Only for wiring communication with the inverter.	Standard network cable

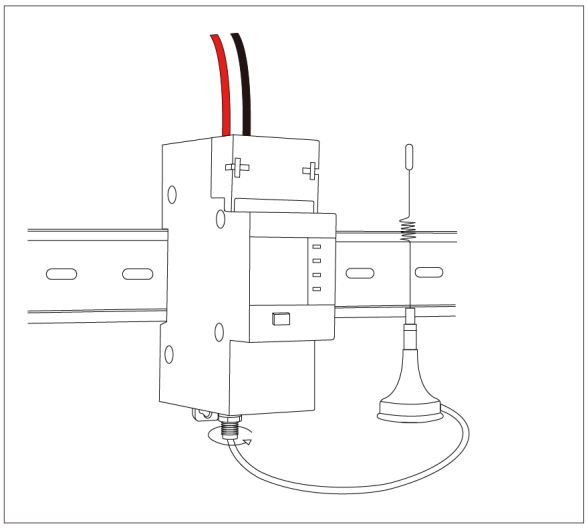
Table 2.1. Cable specifications

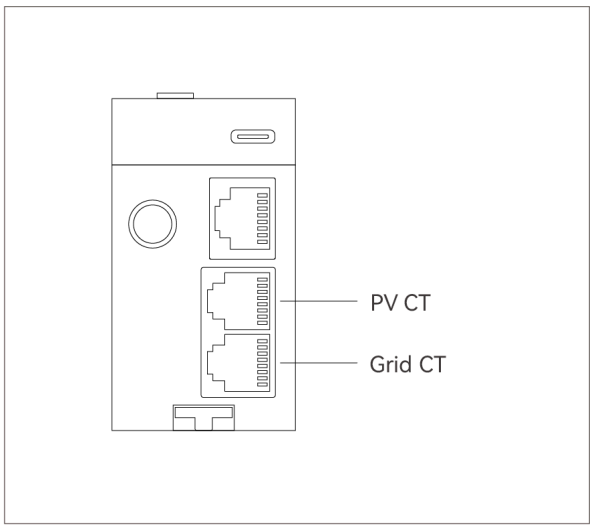
1. Install the meter on the DIN rail.
2. Connect the live and neutral wires.





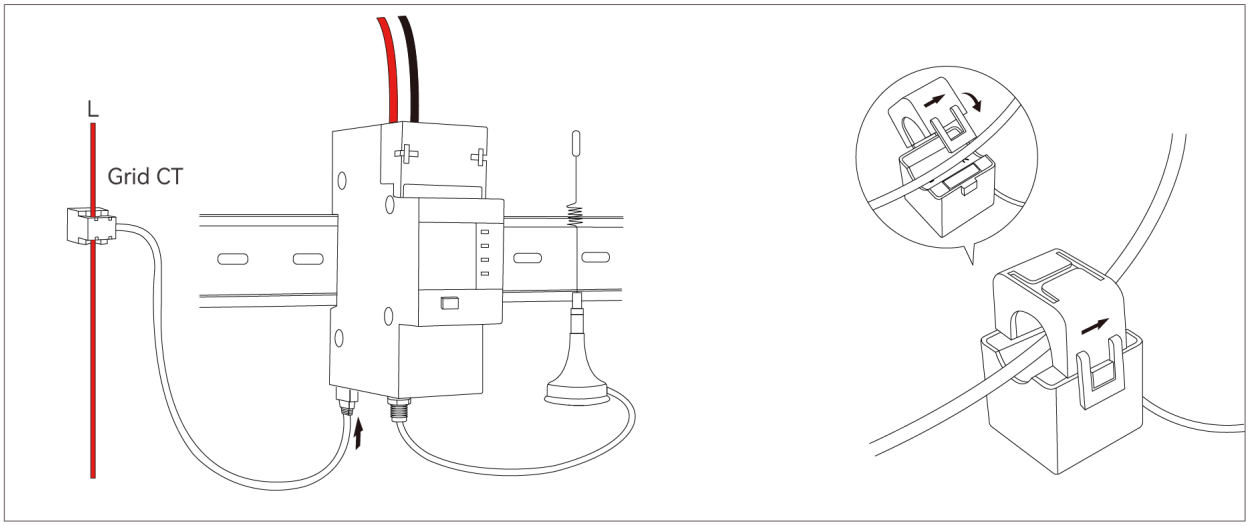
3. Connect the antenna.
4. Identify the grid and PV CT ports. The PV CT is an optional configuration.





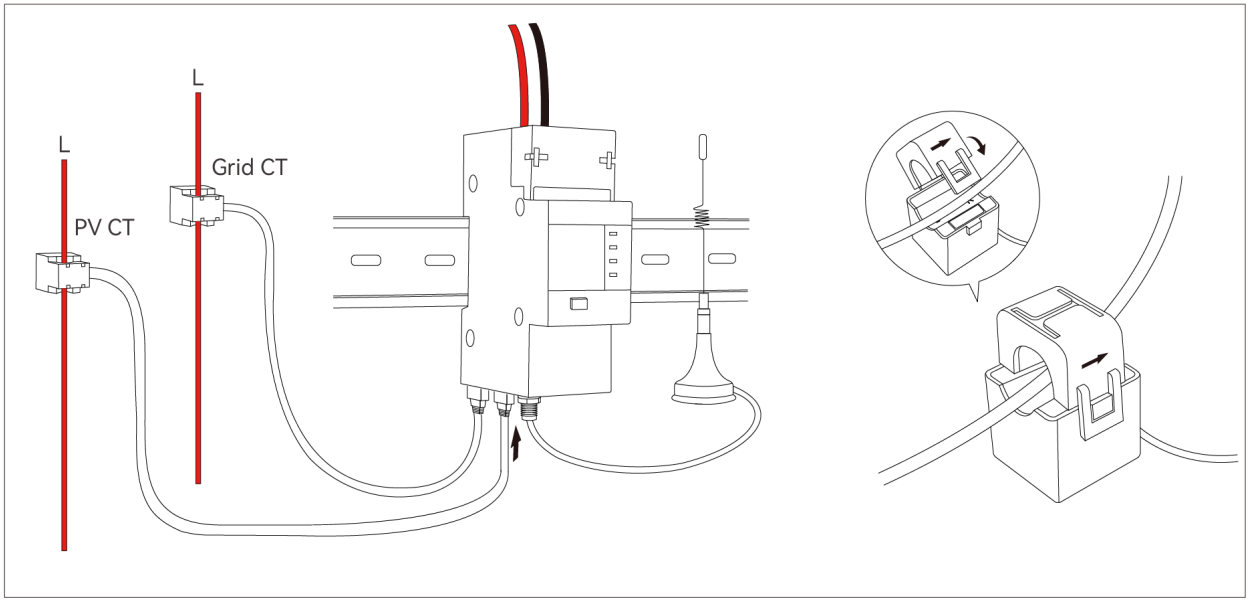
5. Connect the grid CT on the grid side to the **Grid** port.

Note: Ensure that the CT arrow points to the inverter.



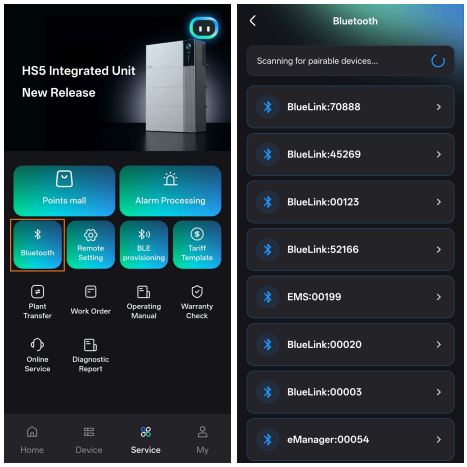
6. (Optional) This step is only required for AC coupling. Connect the PV CT on the inverter side to the **PV** port.

Note: Ensure that the CT arrow points to the grid.

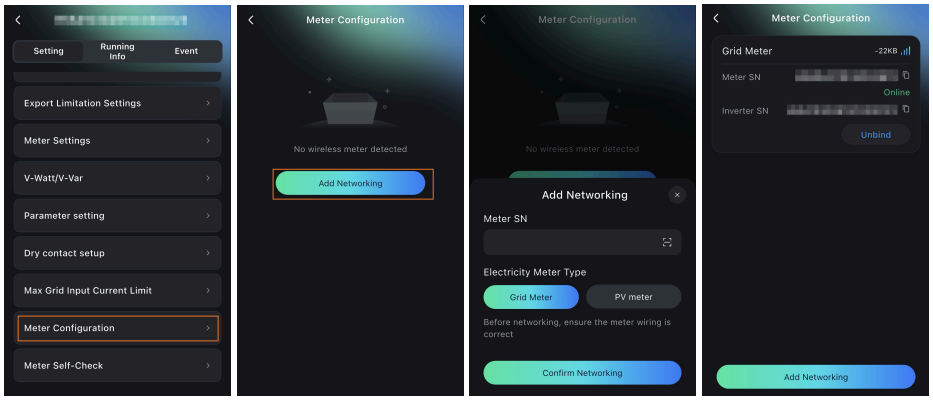


3. Configure meter connection

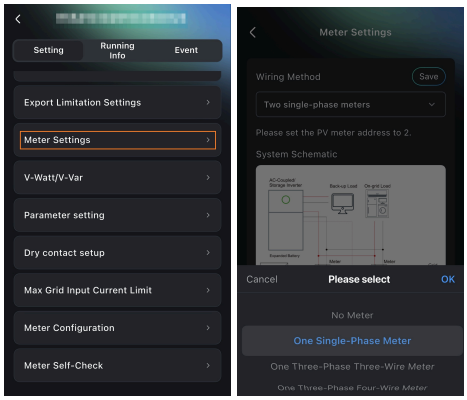
1. On page **Service**, tap **Bluetooth**. Select the communication module, inverter or EMS according to the last five digits of the serial number (SN).
   Example:
   - **BlueLink: 45269** for a communication module or inverter.
   - **EMS: 00199** for EMS units.



2. (Optional) To pair a meter with the inverter, on the **Setting** page, tap **Meter Configuration** and scan the meter's SN. This configuration is only available for specific meter models such as MH-100S2-L and MH-100T2-L LoRa meter. For EK90/EK70 series, the LoRa meter is wirelessly pre-paired with the inverter at the factory. Take this step under the following circumstances:
   - Adding or replacing the meter.
   - After a factory reset.



3. On the **Setting** page, tap **Meter Setting** to configure the wiring method according to your networking scenario.
   Example:



4. (Optional) To perform meter self-check, on the **Setting** page, tap **Meter Self-Check** and enable the self-check function.

   This configuration is only available for specific meter models such as MH-100S2-L and MH-100T2-L LoRa meter. It performs automatic detection and correction for typical meter wiring issues, including meter phase sequence, CT polarity and voltage phase sequence.

   Example:

