# SEM1 Quick Installation Guide

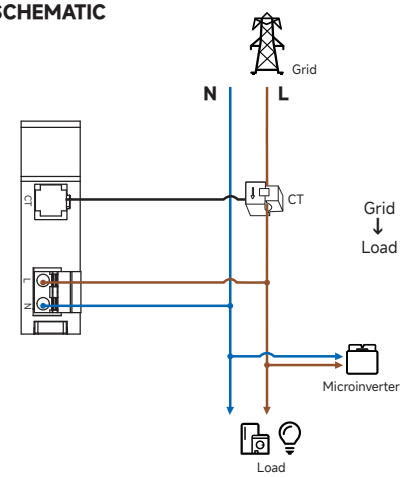
APsystems SEM1 is a new generation din rail mounted energy meter, equipped with Wi-Fi and RS485 connectivity. With multi parameters measurement, SEM1 can be used for energy monitoring of various applications, such as solar PV system, smart building, industrial equipment, etc.

APsystems SEM1 measures characteristics of 1P2W network, including voltage, frequency, current, power and active and reactive energy, imported or exported, power factor etc. Energy is measured in terms of kWh and kVArh.

APsystems SEM1 is designed in compact size. To save installation and maintenance cost, all terminals of SEM1 adopt spring terminals or RJ terminals for easy connection.

The measurement mode of SEM1 is total mode. In total mode, import and export energy will be measured separately. Total energy equals to import energy plus export energy.

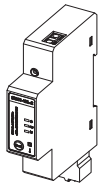
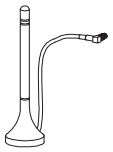
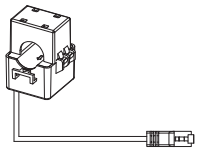
## WIRING SCHEMATIC




1.Prepare the corresponding color of voltage wire, then lead out the voltage wire from the idle terminal of the circuit breaker and connect it to the corresponding terminal of the single-phase smart electricity meter:
Users should prepare a screwdriver. They need to press the red button at the terminal block of the single-phase smart electricity meter with the screwdriver and then insert the wire of the corresponding color.
2.Insert the CT cables meters special CT interface.
3.In the direction of the current CT on, install it on the fire (L).

**NOTE:**
1.The current transformer (CT) must be installed on the phase conductor, with its polarity arrow oriented toward the load.
2.For residential three-phase systems, the CT installation, meter supply connection, and microinverter commissioning shall be on the same phase.

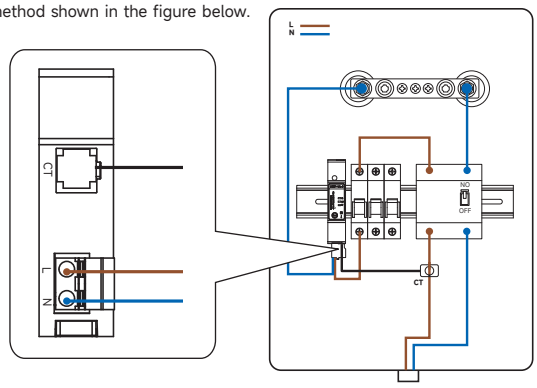
## Packing List

| Component Name | Graphic | Quantity |
|---|---|---|
| Multi-function single phase meter |  | 1 |
| Antenna |  | 1 |
| Current transformer (CT) (120A/40mA) |  | 1 |
| Electric meter wiring harness (Blue N Red L) |  | 2 |

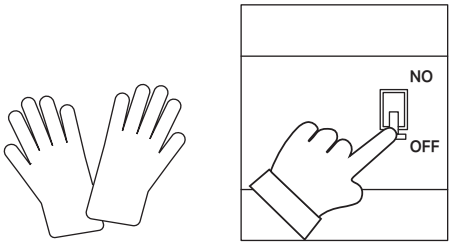
## Installation steps

Take the single-phase smart electricity meter and the matching current transformer (CT) out of the packaging box.

Step 1. Please distinguish the incoming wire first. Under normal circumstances, red or brown wires are the live wires (L), and blue wires are the neutral wires (N). For the final installation effect, please refer to the wiring method shown in the figure below.

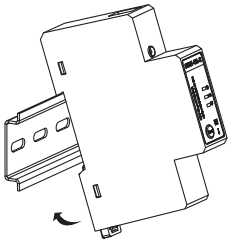


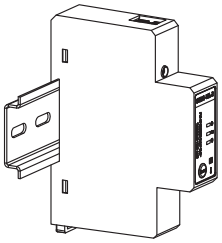

Step 2. Put on insulating gloves (prepared by the user themselves) and disconnect the main power supply to eliminate the risk of electric shock.

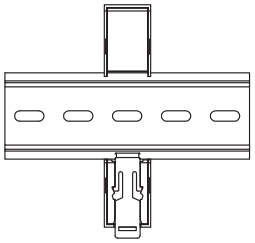



Step 3: Install the single-phase smart electricity meter onto the guide rail of the distribution box, and confirm that it is securely installed without any looseness.

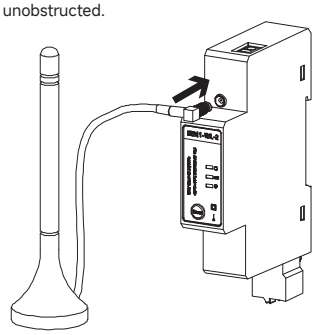
(1): Select a 35mm-wide DIN rail, Pull down the back-end clip on the meter to unlock the mounting mechanism.
(2) First, clamp the upper end of the guide rail slot of the meter onto the guide rail, as shown in Figure 1;
(3) Then clamp the lower end of the guide rail slot of the meter onto the guide rail, as shown in Figure 2;
(4) Push up the buckle at the lower end of the meter, so that the three-phase electric meter is firmly clamped on the guide rail, as shown in Figure 3.


Figure 1


Figure 2


Figure 3

Step 4: Insert the antenna
NOTE:
If the single-phase smart electricity meter is installed in a closed distribution box, please place the antenna outside the distribution box and ensure that the wireless network signal around the antenna is unobstructed.

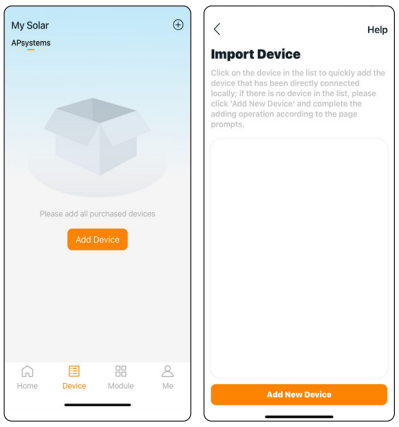


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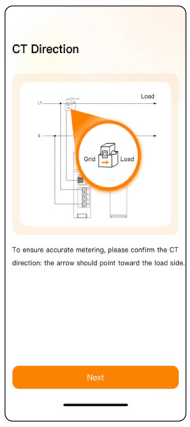
## Using the App

**Account login Settings**

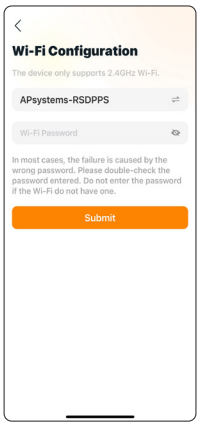
1. Log in to your account, go to the "Devices" page and click "Add Device", then import device via the list or by clicking "Add New Device".



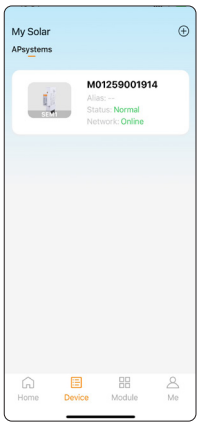

2. Confirm whether the CT is installed correctly.
Note: you can also adjust CT direction later through "CT Reversal" function of the App.



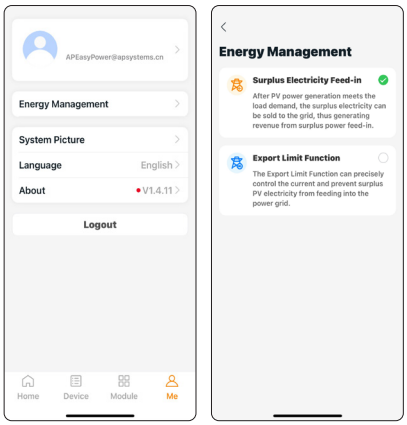

3.Select the Wi-Fi network from the list and enter the password.



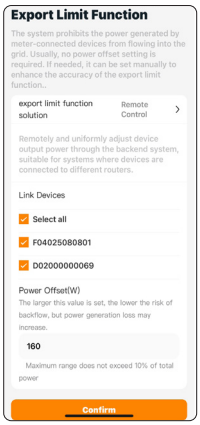

4.Ensure that the smart meter is successfully configured.



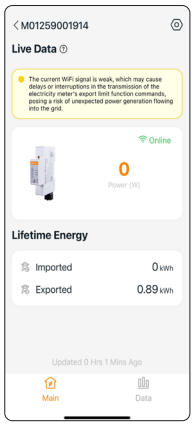

5.Select "Me" page and click "Energy Management " .




6. Click " Export Limit Function ", Select the devices that need to be associated.
Note: If you want to disable " Export Limit Function ", please select "Surplus Electricity Feed-in" again on the "Energy Management" page.




NOTE:
If the WiFi signal is weak, it may cause the transmission of the anti-reverse flow command of the electricity meter to be delayed or interrupted, and there is a risk that the generated electricity will accidentally flow into the power grid.




**IF you have any question, please feel free to contact our sales team.**
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