SUNGROW
Clean power for all

Quick Installation Guide

Single-phase Wireless Meter

WiMeter-S

1 About This Guide

This guide is intended for professional technicians who need to install and operate single-phase wireless meters. It is intended to provide readers with detailed information and instructions on installation and operation of the following products.

- WiMeter-S

NOTICE

- Read this guide carefully before using the product and keep the guide in a convenient place for future reference.
- The content of this guide will be updated from time to time as per the product development and for other reasons. The latest guide can be downloaded on http://support.sungrowpower.com or by scanning the QR code on the back cover of this guide.
- All operations must be performed by professional technicians who have received special training, read the guide thoroughly, master the safety instruction related to operation, and be familiar with local standards and safety specifications of the electrical system.
- Use insulation tools and wear personal protective equipment during operation.

2 Safety Instructions

SUNGROW shall not be held liable for any personal injury or device damage caused by violation of the operation instructions in this guide and the user manual.

DANGER

Lethal high voltage! Risk of electric shock!

- WiMeter-S can only be used in a dry environment and must be kept away from liquids.
- Install an external disconnector between the WiMeter-S and the grid-connected point. The external disconnector must be installed close to the WiMeter-S.
- Disconnect the WiMeter-S from the power supply before cleaning. The WiMeter-S can only be cleaned with a dry cloth.

WARNING

Fire hazard!

- If a fuse is missing or incorrectly used, a fire may be caused when a fault occurs, resulting in death or serious injury.
- Protect the circuit conductors of the WiMeter-S with a main fuse or a circuit breaker (max. 100 A).

WARNING

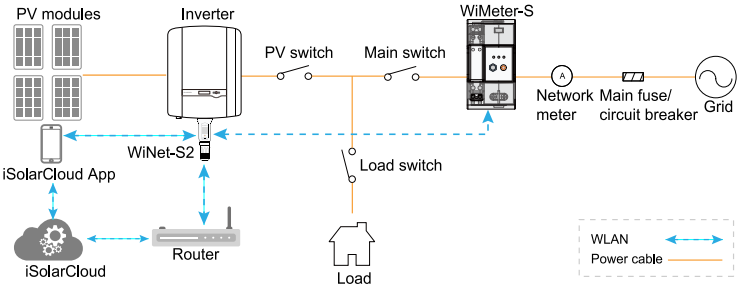
- The WiMeter-S is designed for indoor use only. It is a measuring device detecting the electrical values at the grid-connected point. It cannot be used for billing. The data collected by the WiMeter-S on the PV power generation may differ from the data of the main meter.
- Any modification to the product is prohibited.
- The WiMeter-S must be operated within the technical parameters, otherwise, damage or destruction may be caused to the WiMeter-S.

3 Application Scenarios

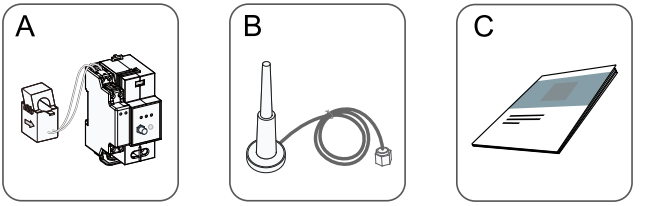
NOTICE

- WiMeter-S only adapt to WiNet-S2 communication module produced by SUNGROW.
- WiMeter-S transmits the collected measurement data to WiNet-S2 through WLAN to realize no wiring.

The following figure shows an application example of the single-phase wireless meter in the PV system. The inverter is for reference only.



4 Delivery Contents

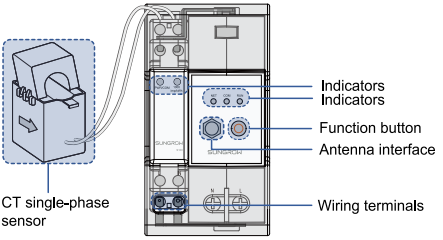


No.	Description	Quantity
A	WiMeter-S	1
B	Antenna	1
C	Relevant documents, including the certificate of quality, warranty card, quick installation manual etc.	1

NOTICE

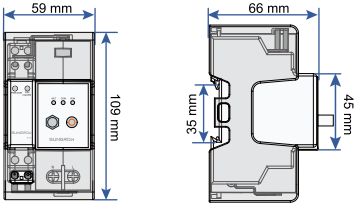
- Contact SUNGROW or the distributor in case of any damaged or missing components.
- Images in this manual are for reference only. The actual product received may differ.

5 Appearance



WiMeter-S

5-1 Dimensions



WiMeter-S

5-2 Indicator Status Description

Device	Indicator	Color	Status	Description
WiMeter-S	RUN	Green	Off	Not connected to external power supply
			Steady on	Connected to power supply
			Blinking	Normal operation
			Fast blinking	Manually finish device networking
	COM	Red	Blinking	Normal internal communication
			Steady on	Abnormal internal communication
	NET	Blue	Off	Not connected to WiNet-S2 or connection in process
			Steady on	Connected to WiNet-S2
			Blinking	Data communication in process
	PWR/COM	Yellow	Steady on	Normal internal power supply
			Blinking	Internal communication in progress
			Off	Abnormal internal power supply
	1000 imp/kWh	Red	Blinking	The active power is detected.
			Off	No active power is detected.

Note: Blinking interval is 1s, and fast blinking interval is 200 ms.

5-3 Function Button Description

Device	Function button	Description
WiMeter-S		Press and hold for 5~10 s to enter the network configuration mode

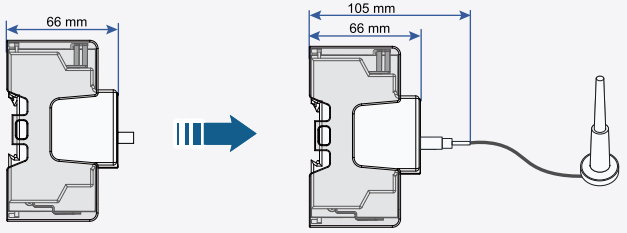
5-4 Wiring Terminal

Device	Mark	Description
WiMeter-S	L	Connected with line conductor
	N	Connected with neutral conductor

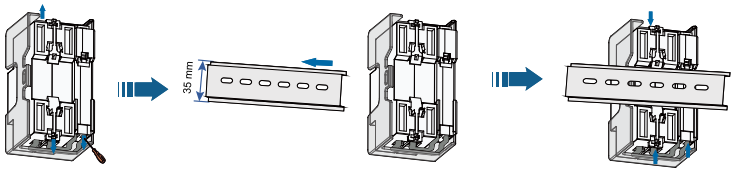
6 Installation

NOTICE

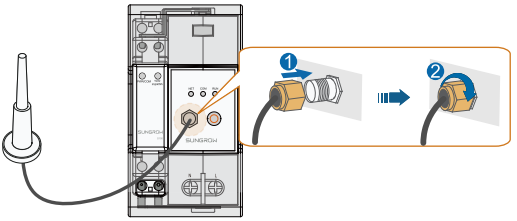
- Select a proper installation position considering the dimensions of the meter and the height of the antenna wiring terminal.



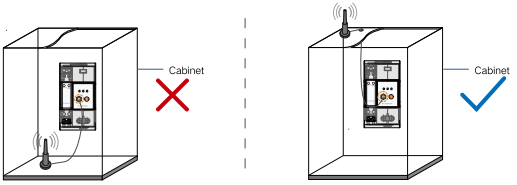
Step 1 Mount the WiMeter-S to a 35 mm DIN rail.



Step 2 Connect the antenna to the antenna interface on the WiMeter-S.



Step 3 Fix the antenna to an object outside the power distribution cabinet.



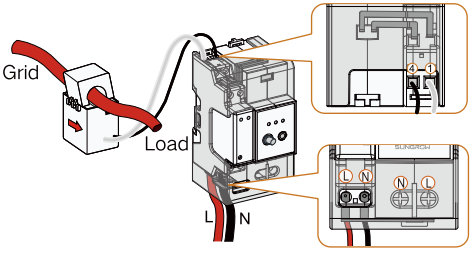
NOTICE

- It is recommended to place the antenna on the top of the cabinet.

7 Electrical Connection

Step 1 Disconnect the WiMeter-S from the voltage source and secure that it will not be connected.

Step 2 Ensure that the conductors to be connected are free of voltage. Tighten the power wires to terminal L and terminal N. Place the CT single-phase sensor around the phase wire (L).



NOTICE

- Terminals at the bottom are used to connect the power supply. Pay attention to distinguishing between the L terminal and the N terminal, and connect the power cable correctly.
- Make sure that the CT single-phase sensor is installed in the right direction: the arrow on the sensor must point away from the grid towards the load.

Step 3 Cover the WiMeter-S with the insulating cover or contact protection of the power distribution cabinet. Connect the power distribution cabinet to the power supply.

8 Troubleshooting

Device	No.	Fault name	Corrective measures
WiMeter-S	1	Meter offline	Check the COM indicator and the Net indicator of the WiMeter-S: If the COM indicator is always on, communication between the WiMeter-S and the meter is abnormal. Check the 485 connections inside the WiMeter-S. If the COM indicator blinks, communication between the WiMeter-S and the meter is normal. Further check the Net indicator. If the Net indicator is always off, the networking is abnormal. Refer to the corrective measures of abnormal networking. If the Net indicator is always on, wait for a few minutes to see if the meter can come back online. If so, there is no abnormality. If the meter goes repeatedly online and offline, the wireless communication quality is poor, causing serious packet loss. Please check whether the wiring of the WiMeter-S antenna is normal and whether it has been moved.
	2	Abnormal networking	(1) Check whether the WiMeter-S is normally powered on. (2) Check whether the wiring of the WiMeter-S antenna is normal and whether it is moved. (3) Check the blue WLAN indicator on the WiNet-S2: If it blinks quickly, EasyConnect mode is enabled. Press the button 3 times quickly to exit the EasyConnect mode and check whether the networking is normal 2 mins later; (4) Check the blue Net indicator on the WiMeter-S: If it is always off, the WiMeter-S is not connected to any hot spot. Press the button for 5 - 10 s and check whether the networking is normal. If it is always on or blinks slowly, the WiMeter-S is connected to other device's hot spot rather than WiNet-S2's. Press the button for 5 - 10 s and check whether the networking is normal. (5) Check that the WiNet-S2 hot spot can be connected at the WiMeter installation location. Try to connect a computer or a mobile phone to the WiNet-S2's hot spot. If the connection fails, the WiNet-S2's hot spot has been connected by two other people. Disconnect other connections and check whether the networking is normal 2 mins later. If the hot spot of WiNet-S2 cannot be searched or the hot spot signal is weak, it is recommended to use WiFi Extender to boost the signal. Press the button for 5 - 10s and check whether the networking is normal. For more information on the use and installation of WiFi Extender, please contact SUNGROW Customer Service Centre.

9 Commissioning

9-1 Networking Procedure

Step 1 Press and hold the function button on WiNet-S2 for 5 ~ 10 s, and release it after the RUN indicator turns to fast blinking in green. The WiNet-S2 is in networking mode.

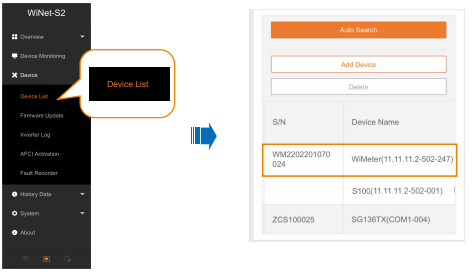
Step 2 Press and hold the function button on WiMeter-S for 5 ~ 10 s, and release it after the RUN indicator turns to fast blinking in green. The WiMeter-S is in networking mode.

NOTICE

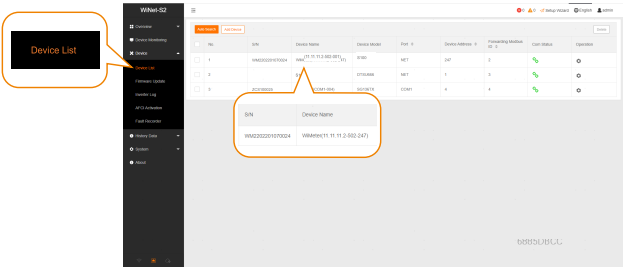
- Steps 1 and 2 are in no particular order, but make sure to finish the two steps within 2 minutes.
- After the WiMeter-S and WiNet-S2 are successfully networked, the NET indicator blinks blue, and the WiMeter immediately exits the networking mode.

Step 3 Check whether the WiMeter is online.

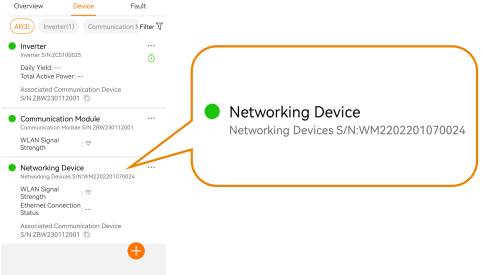
Method 1 Connect the cell phone to the hotspot of WiNet-S2, open a browser, and enter 11.11.11.1 in the address bar to enter the built-in web page. After logging in, check whether the S/N of the WiMeter displayed on the "Device List" page is the same as the S/N of the WiMeter that is manually networked. If it is the same, the WiMeter-S is successfully online.



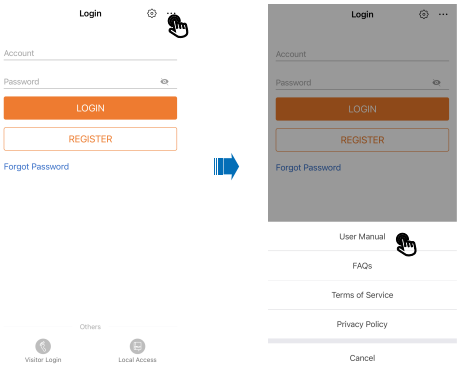
Method 2 Connect the WiNet-S2 to the PC by a network cable, open a browser, and enter 169.254.12.12 in the address bar to enter the built-in web page. After logging in, check whether the S/N of the WiMeter displayed on the "Device List" page is the same as the S/N of the WiMeter that is manually networked. If it is the same, the WiMeter-S is successfully online.



Method 3 Log in to iSolarCloud App, select the corresponding plant, and check whether the S/N of "Networking Devices" displayed on the "Device" page is consistent with the S/N of the WiMeter that is manually networked. If it is the same, the WiMeter-S is successfully online.



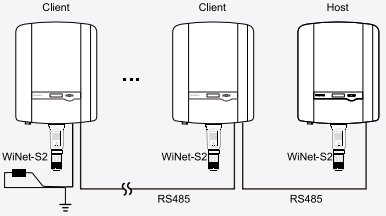
Prerequisite: The user has created a plant and added the device on iSolarCloud App. For specific operations, please refer to the iSolarCloud App User Manual.



Step 4 If the WiMeter goes online in step 3, the networking is successful. If the WiMeter does not come online within 5 minutes, repeat step 1 and 2.

NOTICE

- One WiMeter can only be networked with one WiNet-S2. If there are multiple WiNet-S2 on site, please carry out networking one by one following the above steps.
- If multiple inverters are connected in parallel on site, the WiNet-S2 mentioned in step 1 should be connected to the host inverter.



- If the WiNet-S2 that the WiMeter-S has been successfully connected to is damaged, replaced, or has a networking error, repeat the above steps.

9-2 Viewing Information

Step 1 After powering on the WiMeter-S, observe the Net indicators on them, and enter the Web page of Winet-S2 when the Net indicators are steady on.

Login steps of WiNet-S2

Step 1 Connect your PC or iPad to the WLAN hotspot named "SG-WiNet-S2 communication module S/N".

Step 2 Open the browser (Chrome 60 or newer version is recommended) and enter 11.11.11.1 in the address bar to access the built-in Web. Click "Login" in the upper right corner of the interface, and enter the user name "admin" and the default password "pw8888".

Step 2 Click "Device" --> "Device List" to check whether the device S/N is correct.

> **NOTICE**
>
> - If the S/N is not the same, please carry out networking again referring to "9-1 Networking Procedure".

Step 3 If the device S/N is correct, view the information of the wireless meter on the page.

10 Technical Data

Type Designation	WiMeter-S
Communication	
RS485 interface	1
LED indicator	3
WLAN	802.11 b/g IEEE802.11n HT20@2.4GHz IEEE802.11n HT40@2.4GHz
Measurement Range	
Phase voltage range	180 Vac ~ 288 Vac
Current	0 ~100 A
Measurement Accuracy	
Voltage/Current/Power	±0.5 %
Energy	±1 %
Power Supply	
Power supply	220 ~ 240 Vac
Max. Power consumption	2.5 W
Ambient Conditions	
Operating ambient temperature range	-30℃~60℃
Allowable relative humidity range	≤ 95 %(non-condensing)
Max. operating altitude	≤ 4000 m
Degree of protection	IP20
Mechanical Parameters	
Dimensions（W×H×D）	59 X 109 X 66 mm
Weight	350 g
Mounting type	DIN-Rail Mounting

More information in the QR code or
at http://support.sungrowpower.com

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