MidTeq

Hybrid Inverter

Quick Installation Guide
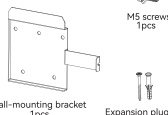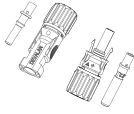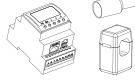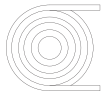
4/5/6/8/10/12kW-25A
10/12/15/20kW-40A

— ENGLISH VERSION —

1 Installation

HYBRID INVERTER Inverter 1pcs	Wall-mounting bracket 1pcs / M5 screws 1pcs / Expansion plug set 5pcs	On-grid connector set (Red) 1pcs	Back-up connector set (Black) 1pcs
PV terminal 4-12kW-25A 2 pairs / 10-20kW-40A 4 pairs	Battery terminal 1 pairs	Meter with 3 CTs 1pcs	COM2 connector set 1pcs
Monitoring device 1pcs	10m meter communication cable 1pcs 3m battery communication cable 1pcs	PE terminal 1pcs	User Manual User manual 1pcs

B Installation Location

C Installation Space

500mm

300mm   HYBRID INVERTER   300mm

500mm
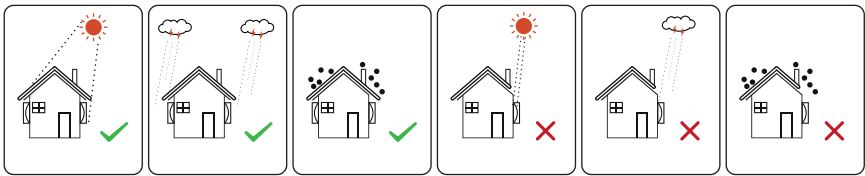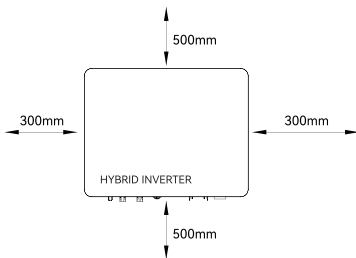
D Installation Angle

HYBRID INVERTER
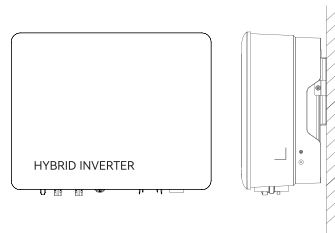
| E | Mark the Position and Drill Holes |

| F | Fix Wall Bracket |

| G | Mounting Inverter |

| H | Grounding Terminal Connection |
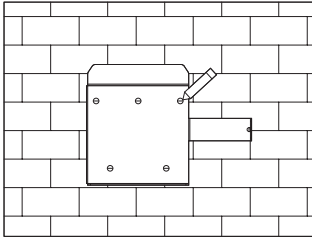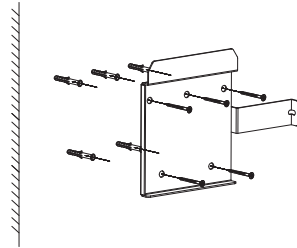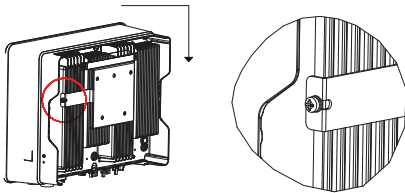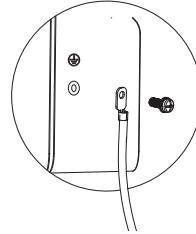
2 Electrical Connection

| A | Cable Requirements |

Cable types	Cable requirements	
	Outside diameter	Conductor core section
AC cable	13.0–18.0 mm	2.5–10.0 mm²
PV cable	5.9–8.8 mm	2.5–4.0 mm²
Battery power cable	5.0–8.0 mm	10 mm²

AC connector: Please distinguish the on-grid and back-up connector, On-grid connector is red and Back-up connector is Black.

Battery power cable: If the conductor core of the battery cable is too small, which may cause poor contact between the terminal and the cable, please use the cable specified in the above table, or contact manufacture to purchase terminals of other specifications.

PV Modules

Battery

1-Phase Loads

3-Phase Loads

AC Breaker

AC Breaker

AC Breaker

AC Breaker

To Smart Meter

*Smart Meter

CT-3
CT-2
CT-1

AC Breaker

Loads

002456

UTILITY METER FOR BILLING PURPOSES

House

Grid

S1(Red)
S2(Yellow)

PE
N
L3
L2
L1

UTILITY GRID
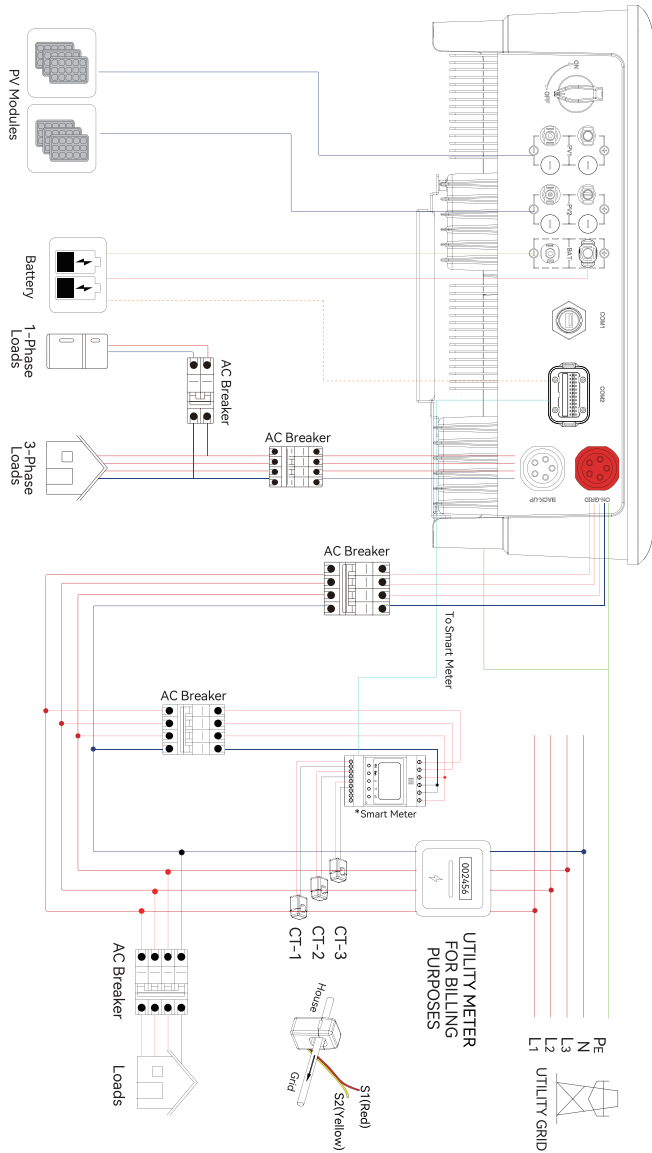
*Smart Meter consists of ACR10R and SM. Define the cable connections for the meter based on the actual meter model and refer to Meter Terminals Definition. This cable diagram is for reference only.
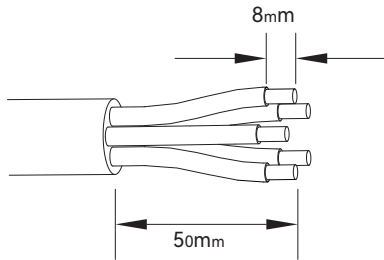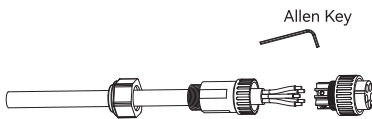
8mm

50mm

①

Allen Key

②

③

④

S1(Red)
S2(Yellow)

House
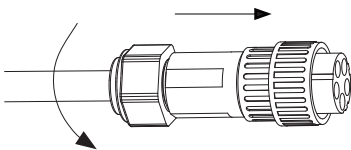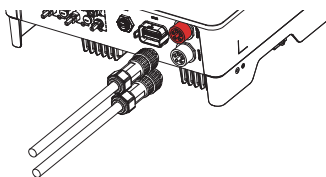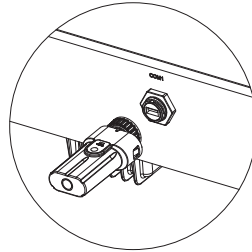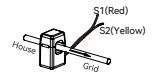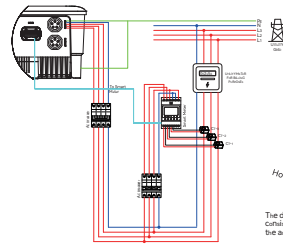
Grid

The direction of the arrow is consistent with the direction of the arrow inside the CT.

L2 N L
L1 L3 N

S2
S1   CT-3
S2
S1   CT-2
S2
S1   CT-1

S1(Red)

S2(Yellow)

House
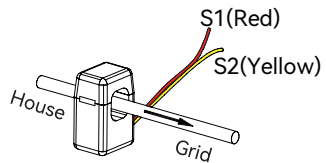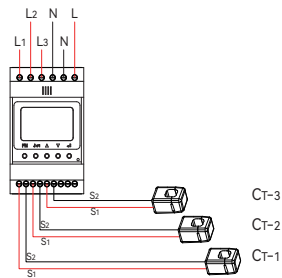
Grid

Meter Terminals Definition

No.	Definition		Function
	ACR10R	SM	
1	L1		L1/L2/L3/N connect to grid to detect power grid voltage
2	L2		
3	L3		
4	N		
5	L1-S1		To detect the CT current and direction
6	L1-S2		
7	L2-S1		
8	L2-S2		
9	L3-S1		
10	L3-S2		
11	/	PE	Ground connection
12	L	/	Power supplied from grid
13	N	/	
RS485	/	Reserve	
	RS485	RS485-2	Communicate with hybrid inverter
ANT	/	Reserve	
LAN	/	Reserve	
Type-C	/	Type-C	Specified Debug Interface. Do not use it by non-professionals

F Communication Connection

①

② Press
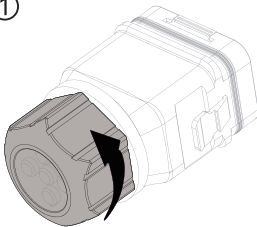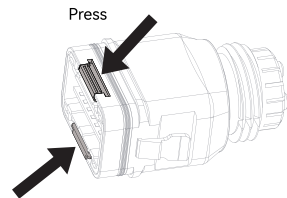
③
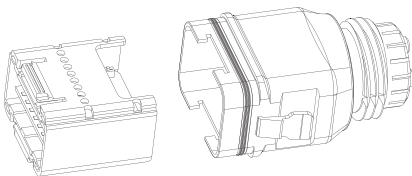
④
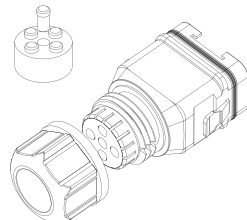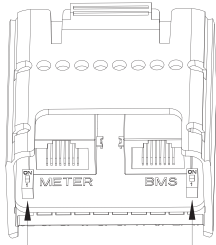
Terminating resistor for CAN(Parallel)   Terminating resistor for RS485(EMS)
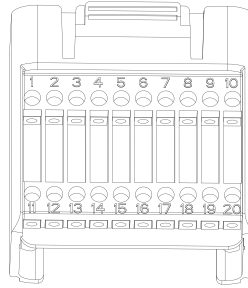
Pin	Definition	Function
METER（RJ45-1）	RS 485	Communicate with Meter
BMS（RJ45-1）	CAN	Communicate with BMS
1	COM	Multifunction Relay
2	NO (Normally Open)	
3-4	/	Reserved
5	DRM4/8	DRED For Australia and New Zealand RCR For Germany and some other European countries
6	DRM3/7	
7	DRM2/6	
8	DRM1/5	
15	COM D/0	
16	REF D/0	
9-10	/	Reserved
11	Emergency stop +	Emergency stop
12	Emergency stop -	
13	485 B1	EMS
14	485 A1	
17	CANL_P	CAN for parallel connection of inverters
18	CANH_P	
19-20	/	Reserved

Connect the Meter and BMS Communication Cables

Open side

Connect Other Cables

Wire Diameter
4~6.5mm

8mm

Cross-sectional Area
0.5~1.5mm^2

55mm
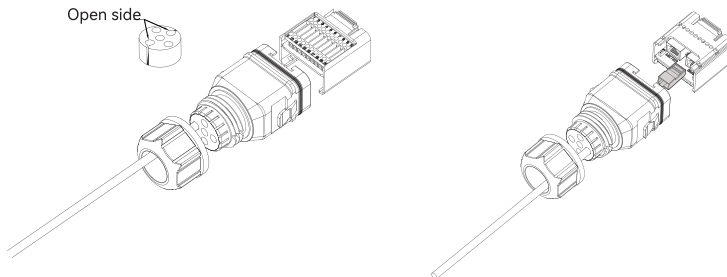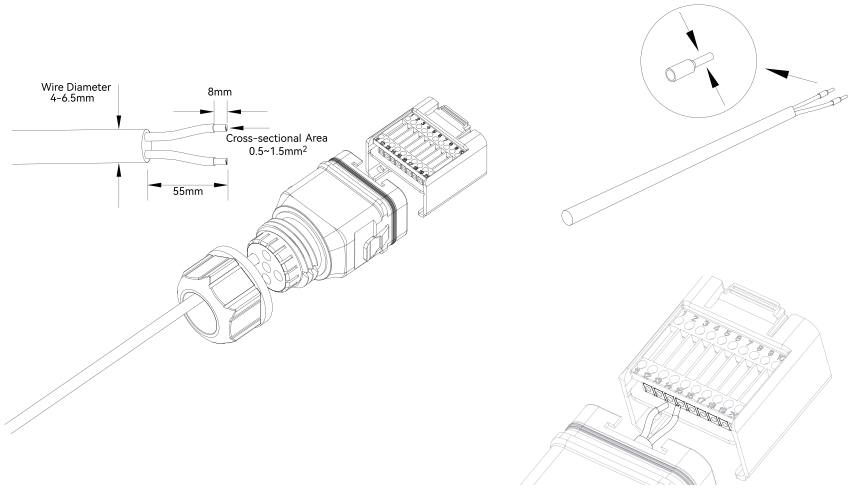
Installing the COM Connector

②

2.5+/-0.1N · m

①

Click

③

HYBRID INVERTER

Click
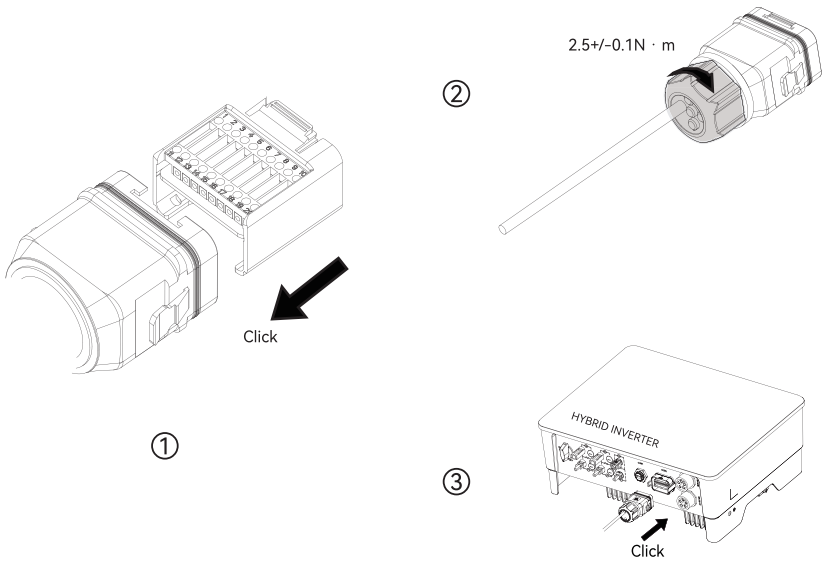
G PV String Connection
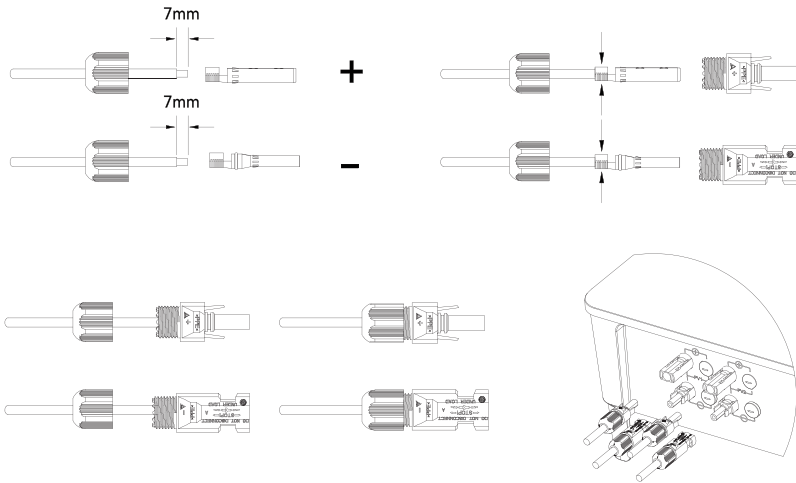
PV Max. Input voltage is 950V without battery, or 850V with battery, otherwise inverter will be waiting.

H Power Cable of the Battery Connection
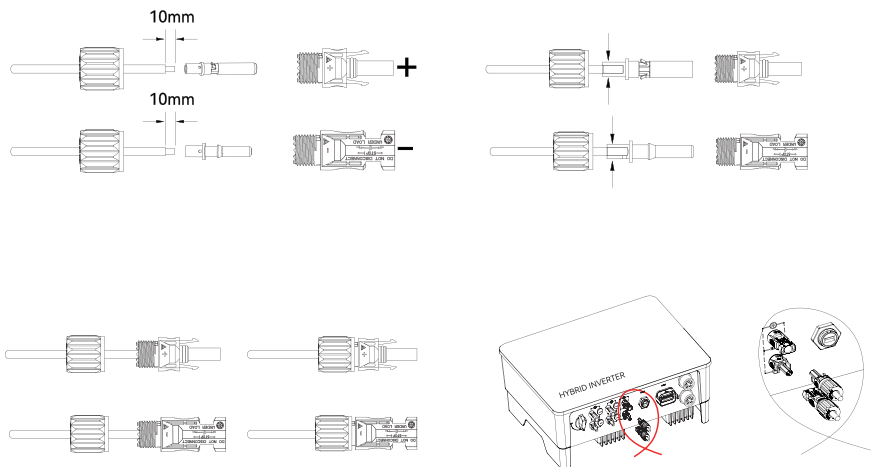
3 Commissioning

A App Preparation

① Install the Setup and Monitoring App with latest version. Please refer to the product nameplate on side of enclosure to get the application.

② Register an account on Monitoring APP. If you have got the account and password from the distributor/installer or Midcosta, skip this step.

B Inspection Before Commissioning

Check the following items before starting the inverter:

① All equipment has been reliably installed.

② DC switch(es) and AC circuit breaker are in the "OFF" position.

③ The ground cable is properly and reliably connected.

④ The AC cable is properly and reliably connected.

⑤ The DC cable is properly and reliably connected.

⑥ The communication cable is properly and reliably connected.

⑦ The vacant terminals are sealed.

⑧ No foreign items, such as tools, are left on the top of the machine or in the junction box (if there is).

⑨ The AC circuit breaker is selected in accordance with the requirements of this manual and local standards.

⑩ All warning signs & labels are intact and legible.
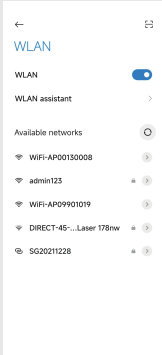
C Commissioning Procedure

If all of the items mentioned above meet the requirements, proceed as follows to start up the inverter for the first time.

① Turn on the AC breaker.

② Turn on the lithium battery breaker. Power on the battery pack manually if a battery is equipped.

③ Turn the DC switch, the DC switch may be integrated in the inverter or installed by the customer.

④ If the irradiation and grid conditions meet requirements, the inverter will normally operate. The connection time for inverter to gird may take few minutes or even to more according to different country code chosen in the initial settings and the real site grid condition.

⑤ Observe the LED indicator to ensure that the inverter operates normally.

4 WiFi Module Configuration Guide
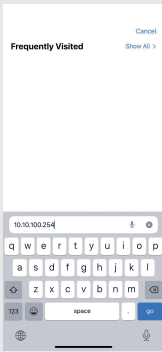
A

Prepare a laptop or Smartphone and turn on the WLAN connection.

B

Searching for the corresponding WLAN in the WLAN connection list "WIFI-AP********" (*represents the last 8 numbers of the inverter SN), and tap connect.
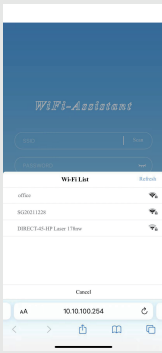
C

Open the browser and enter 10.10.100.254.

D

Tap"Scan", A list of WiFi network names pop up.

E

Click and select the corresponding router network you want to configure.

F

Input the password of wireless network, (note the case difference), Tap"Connect"

G If connected successfully "Connection succeeded" will displayed. After successful configure, the indicator status of WIFI module will be steady on.
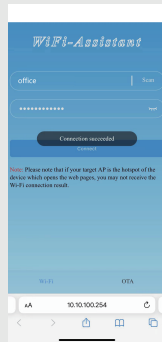
5 LAN Module Configuration Guide

If DHCP is enabled on the router, the LAN module does not need to be configured. Otherwise, the LAN module will need to be configured on inverter screen.

① Find the "General Settings" by short pressing the button on the inverter screen.

② Enter the "General Settings" by long pressing the button on the inverter screen.

③ Find "DHCP set" by short pressing the button, then turn off DHCP function by short pressing and long pressing the button on the inverter screen.

④ Then set the "IP Address", "Gateway Address", "Subnet Mask" and "DNS Address". Short press to change the number, long press to confirm the number and jump to the next number.
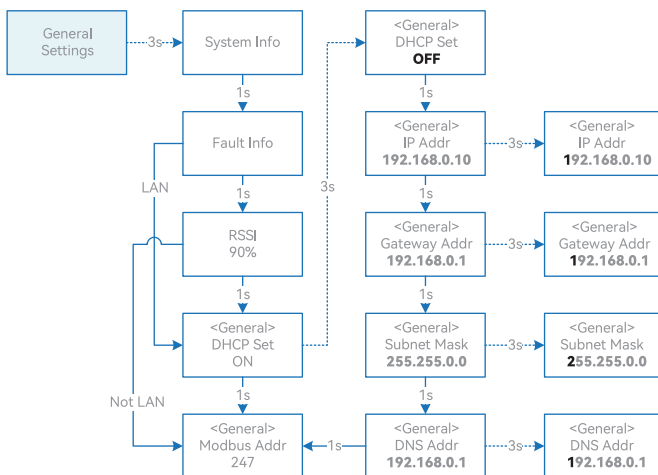
6 Local configuration App

Local configuration App is designed for quick configuration of MidTeQ hybrid inverters, offering features such as safety code, battery brand and type, work modes, and off-grid application settings through WiFi direct connection, etc.

There are two connection modes, WiFi direct connection and router connection.

HYBRID INVERTER

Smart phone

HYBRID INVERTER

LAN
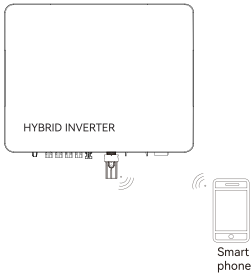
Router

Smart phone

Smartphone connects WIFI monitoring device directly.
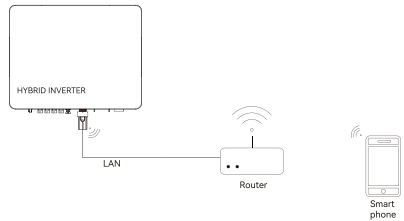
Smartphone and the monitoring device are connected to the router together.

Connection steps:

①-a. Refer to "WiFi module configuration guide step1~2" to connect the smartphone to the WiFi module. If it is connected, skip this step.

①-b. Refer to "WiFi module configuration guide" or "LAN module configuration guide" to connect the WiFi/LAN module to the router. Then connect smartphone to the same router. If it is connected, skip this step.

② Open "Setup APP", Tap"Scan", A list of inverter WiFi-AP names pop up.

③ Click and select the inverter WiFi-AP which you want to connect.

④ Select the login role.

⑤ Input the password(123456), Tap"Login In".

⑥ If connected and logined, the Setup APP main interface will be displayed.
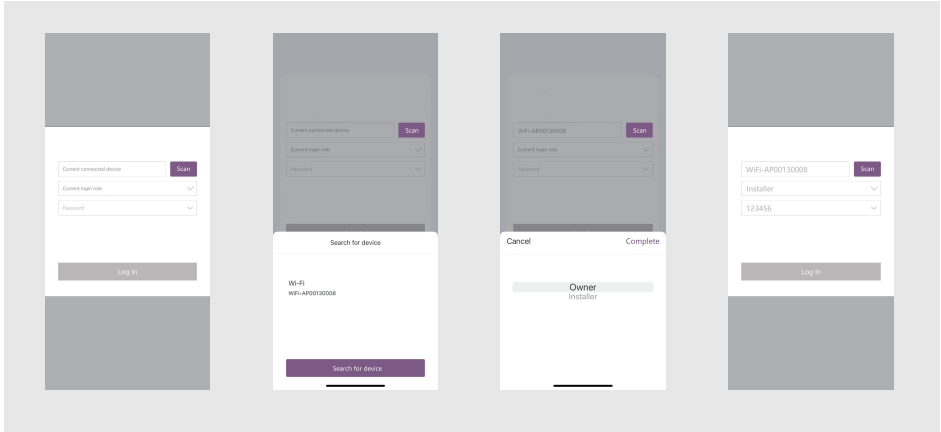
7 Indicator

A Inverter

Indicator	Status		Description
Power and Alarm Indicator	Off		No power.
	Green	Quick flashing	Inverter entered self-test status.
		Slow flashing	Inverter entered waiting status.
		Breathe flashing	Inverter works normal.
	Orange	Breathe flashing	Low battery warning, the battery power is about to reach the SOC protection value.
	Red	Always on	An alarm or fault is detected, view the fault info on the display.
Grid Indicator	Off		Grid lost.
	Slow flashing		Inverter detected grid but not running in on-grid mode.
	Always on		Inverter works in on-grid mode.
Communication Indicator	Green	Always on	The inverter communication is running normally.
	Green	Flashing	The inverter communicates with EMS or Master inverter through RS485 or CAN.
	Orange	Always on	The inverter isn't communicating with smart meter.
	Red	Always on	The inverter isn't communicating with the BMS.

B Monitoring Device

Indicator Status	Description
Off	Connection abnormal
Always On	Communicate with the server normally
Slow flashing	The monitoring device is not connected to the router or is not connected to the base station.
Quick flashing	The monitoring device is connected to the router or connected to the base station but not connected to the server.

Button	Description
Press 1 second	Reset device, the indicator goes off for 2 seconds, then flashes normally.
Press 5 second	Restore factory default settings, the indicator goes off for 2 seconds, then flashes once every 2 seconds, until the factory restore is completed.

Disclaimer:

The product warranty does not cover product damage caused by failure to follow the storage, transportation, installation, and usage guidelines specified in this document and the user manual. You can also download this quick use guide in your language by scanning below QR code:

SCAN ME

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