Three-phase Hybrid Inverter

☐ 5 kW ☐ 6 kW ☐ 8 kW ☐ 10 kW ☐ 12 kW

YiNERGY

Quick Installation Guide

Version 2.0

General Notice

Make Life Better

1. Contents may be periodically updated or revised due to product development. The information in this guide is subject to change without notice. In no case shall this guide substitute for the user manual or related notes on the device.
2. Make sure to read over, fully understand and strictly follow the detailed instructions of the user manual and other related regulations before installing the equipment. The user manual can be downloaded by visiting the website at https://yinergy-solar.com/; or it can be obtained by scanning the QR code on the side of the equipment or the back cover of this guide.
3. All installations must be performed by qualified personnel who should have training for installation and commissioning of electrical system, as well as dealing with hazards, have knowledge of the manual and of the local regulations and directives.
4. Before installation, check that the package contents are intact and complete compared to the packing list. Contact YINERGY or the distributor in case of any damaged or missing components.
5. The cable used must be intact and well insulated. Operation personnel must wear proper personal protective equipment (PPE) all the time.
6. Any violation could result in personal death or injury or device damage, and will void the warranty.

Safety

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The inverter has been designed and tested strictly according to international safety regulations. Read all safety instructions carefully prior to any work and observe them at all times when working on or with the inverter. Incorrect operation or work may cause: Please follow the safety instructions related to the PV strings and the utility grid.

- Injury or death to the operator or a third party;
- Damage to the inverter and other properties.

Descriptions of Labels

Symbol	Description	Symbol	Description
CE	CE Mark.		Grounding point.
	Caution, hot surface.		Caution, risk of electric shock.
	Caution, risk of danger.		Read the enclosed documentations.
	Do not dispose of the inverter together with household waste.	5min	Danger of high voltage. Do not touch live parts for 5 minutes after disconnection from the power sources.

DANGER!

Lethal danger from electrical shock due to the inverter

- Only operate the inverter when it is technically faultless. Otherwise, electric shock or fire may occur.
- Do not open the enclosure in any case without authorization from YINERGY. Unauthorized opening will void the warranty and cause lethal danger or serious injury due to electric shock.

DANGER!

Lethal danger from electrical shock due to the PV

- When exposed to sunlight, high DC voltage will be generated by PV modules. Death or lethal injuries will occur due to electric shock.
- Never touch the positive or negative pole of PV connecting device. Touching both of them at the same time is prohibited as well.
- Do not ground the positive or negative pole of the PV modules.
- Only qualified personnel can perform the wiring of the PV panels.

WARNING!

Risk of personnel injury or inverter damage

- During operation, do not touch any parts other than DC switch and LED panel of the inverter.
- Never connect or disconnect the AC and DC connectors when the inverter is running.
- Turn off the AC and DC power and disconnect them from the inverter, wait for 5 minutes to fully discharge the voltage before attempting any maintenance, cleaning or working on any circuits connected.
- Make sure that the input DC voltage ≤ Maximum DC input voltage of the inverter. Overvoltage may cause permanent damage to the inverter, which is NOT covered by the warranty.

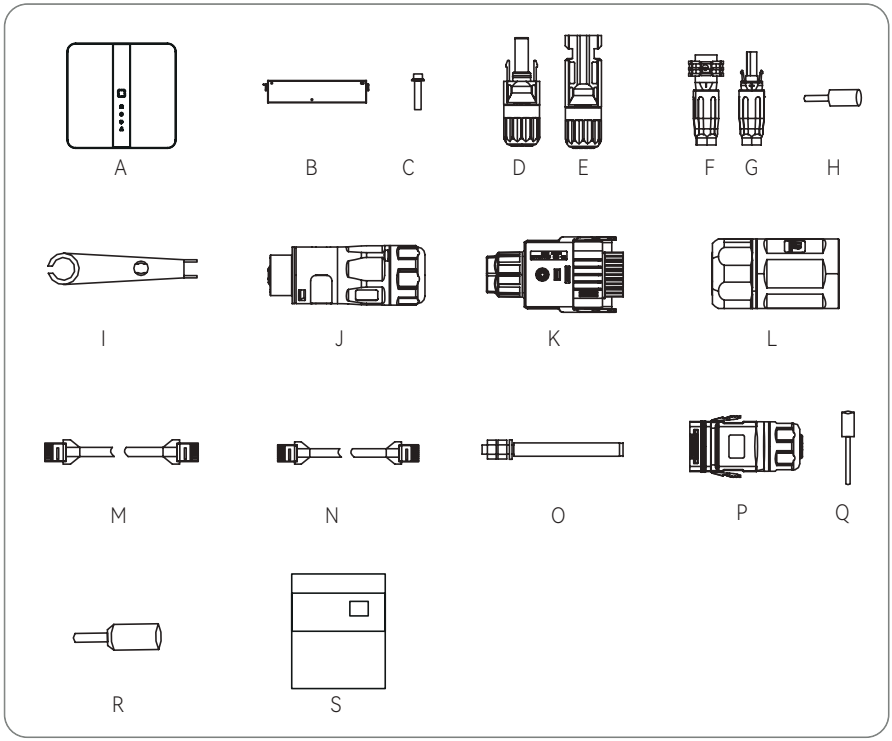
CAUTION!

- Keep children away from the inverter.
- Pay attention to the weight of the inverter. Personal injuries may be caused if not handled properly.

NOTICE

- All the product labels and nameplate on the inverter shall be maintained clearly visible.

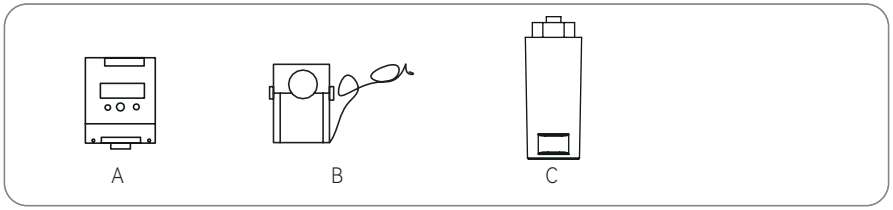
Inverter



Item	Description	Quantity
A	Inverter	1 pc
B	Bracket	1 pc
C	M4 Setscrew	2 pcs
D	Positive PV Connector	3 pcs
E	Negative PV Connector	3 pcs
F	Positive Battery Connector	1 pc
G	Negative Battery Connector	1 pc
H	End Terminals	4 pcs

Item	Description	Quantity
I	PV Disassembly Tool	2 pcs
J	Back Up Connector AC 5 Pin	1 pc
K	Grid Connector AC 5 Pin	1 pc
L	RJ45 Connector	2 pcs
M	Meter Network Cable	1 pc
N	Battery Network Cable	1 pc
O	M6 Expansion Screws	2 pcs
P	Communication Box	1 pc
Q	Communication Terminals	22 pcs
R	AC Terminals	5 pcs
S	Documents	/

Accessory Box



Item	Description	Quantity
A	Smart Meter	1 pc
B	CT	3 pc
C	DTS, Optional (Wi-Fi, Ethernet, 4G)	1 pc

Installation Environment

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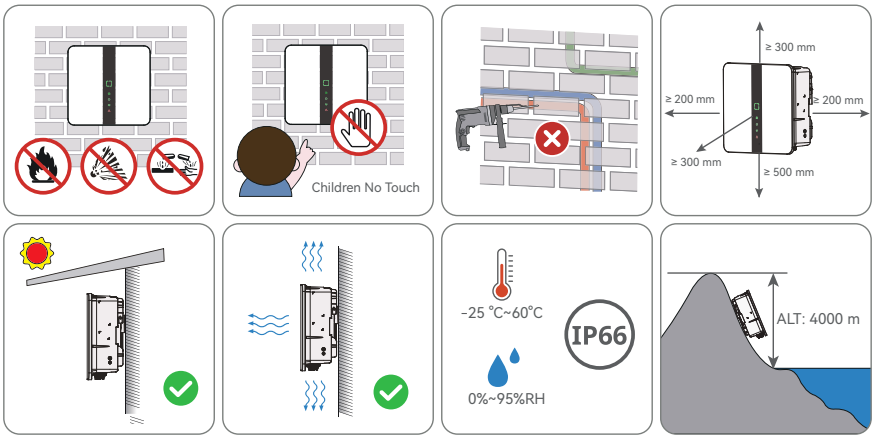

Installation Angle

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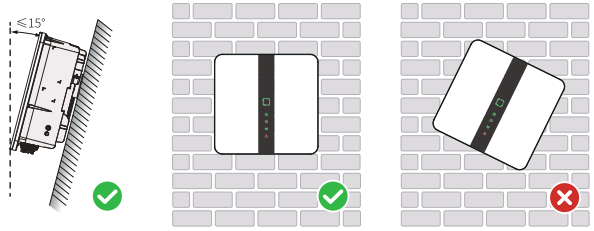

Installation Tools

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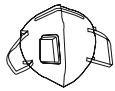
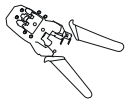
Goggles

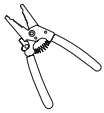

Safety shoes

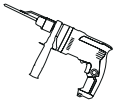

Safety gloves


Dust mask


RJ45 crimping tool

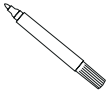

Diagonal pliers


Wire stripper


Hammer drill


Heat gun

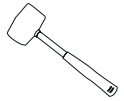

Vacuum cleaner

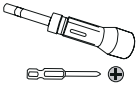

Marker

Level

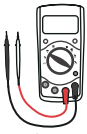

Heat shrink tube


Cable tie


Rubber hammer


M2 M3 M4 M5

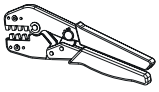
Torque wrench

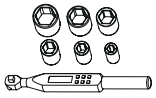

Multimeter

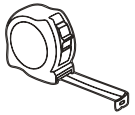

PV crimping tool


Tube type terminal crimping tool


YQK-70 hydraulic pliers


Crimping tool 4-6 m^2


Hex socket


Measuring tape

Mechnical Mounting

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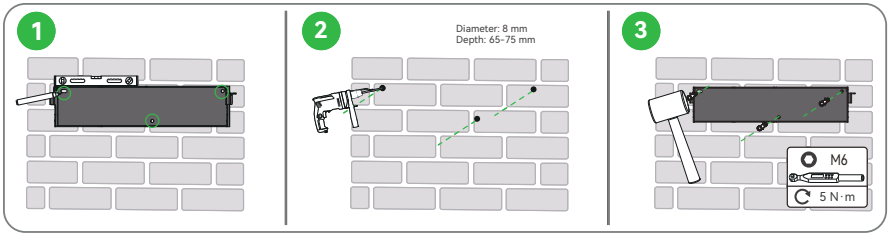

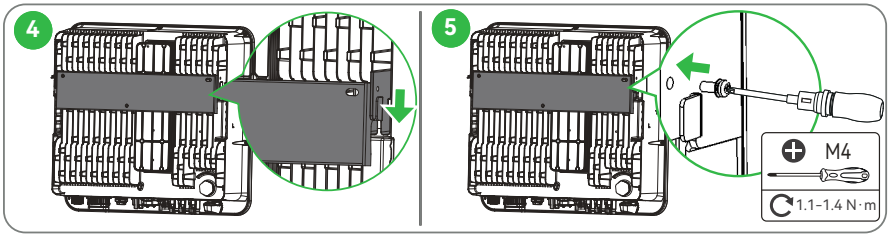

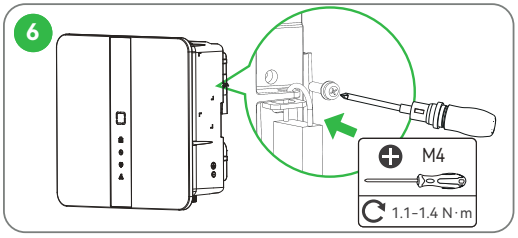

Grounding Connections

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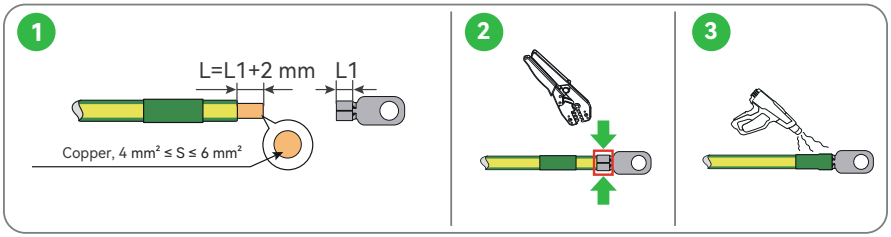
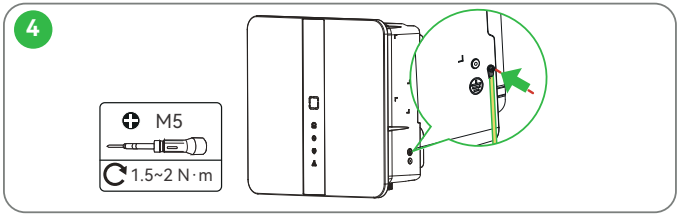
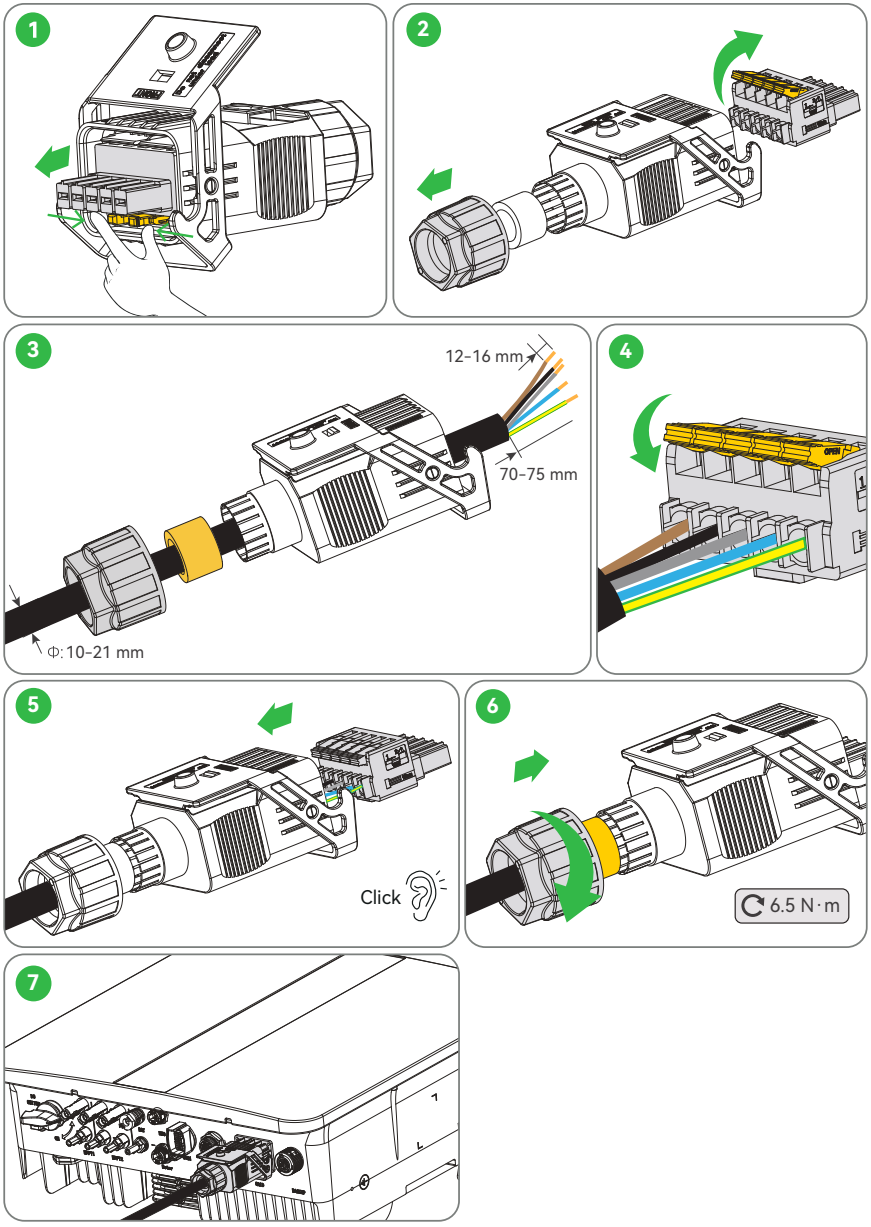
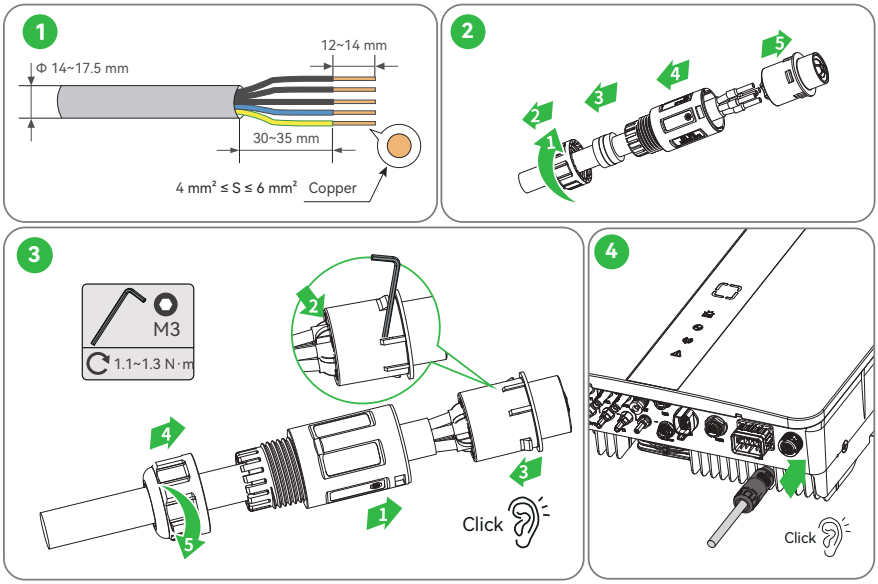


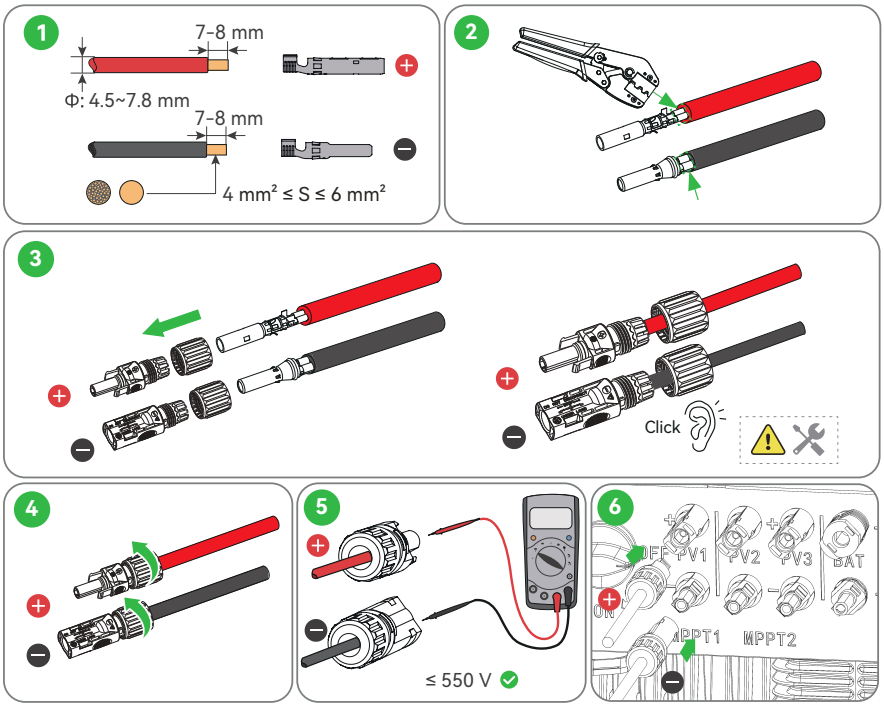


On Grid



Off Grid


1
Φ 14~17.5 mm
12~14 mm
30~35 mm
4 mm² ≤ S ≤ 6 mm² Copper
2
1
2
3
4
5
3
M3
1.1~1.3 N·m
2
4
5
1
3
Click
4
Click


1
7-8 mm
Φ: 4.5~7.8 mm
7-8 mm
4 mm² ≤ S ≤ 6 mm²
2
3
Click
4
5
≤ 550 V
6
OFF
PV1
PV2
PV3
BAT
ON
MPPT1
MPPT2

Battery Connections

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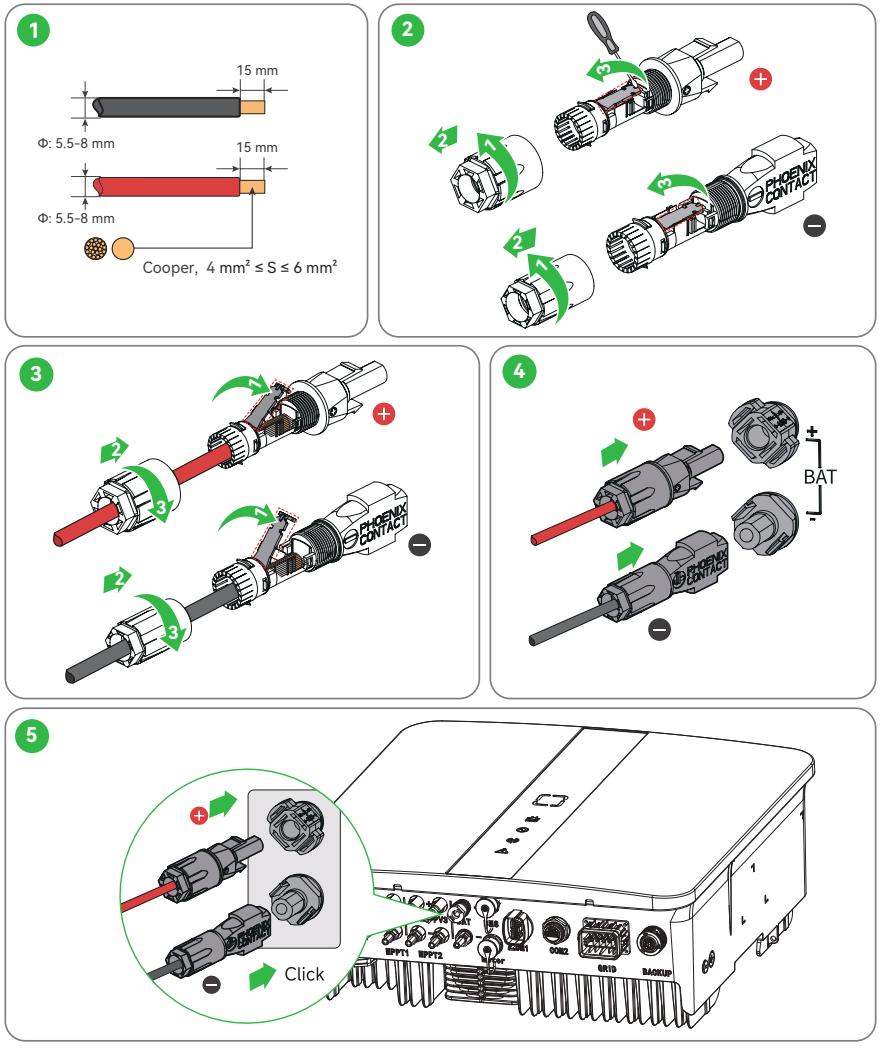
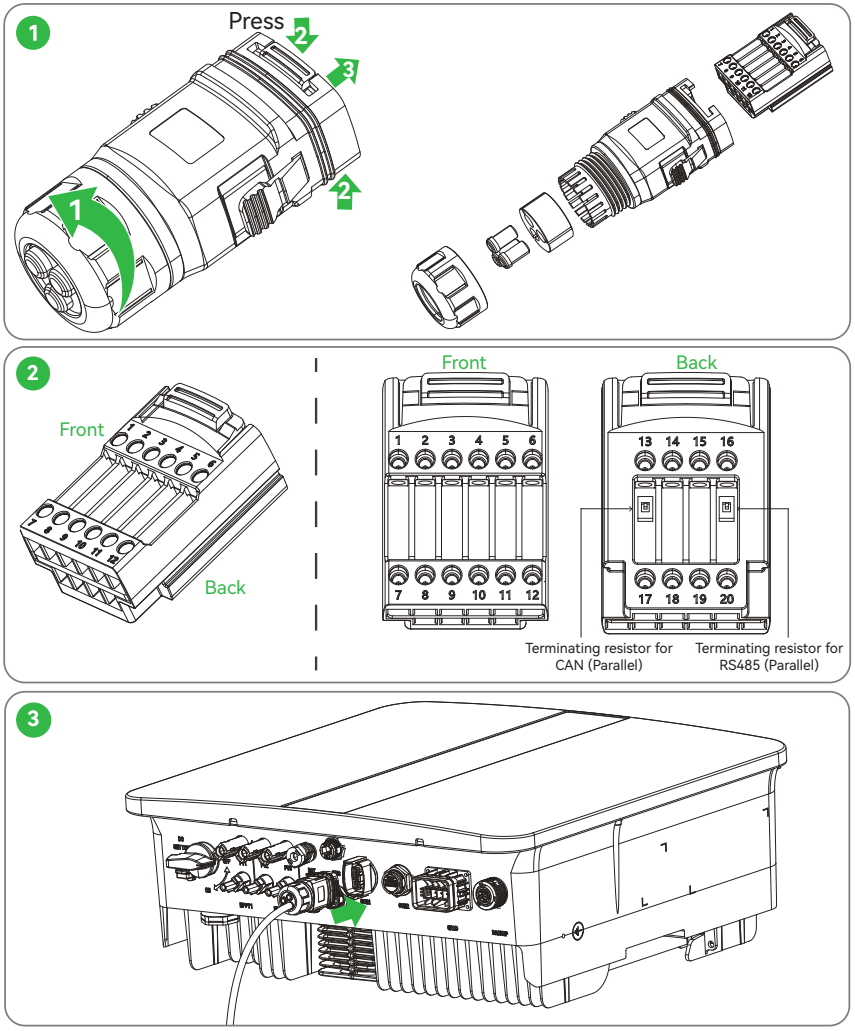
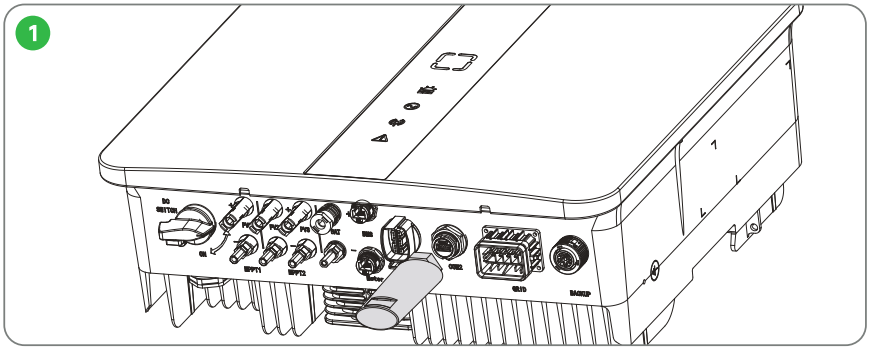


COM1 Connection

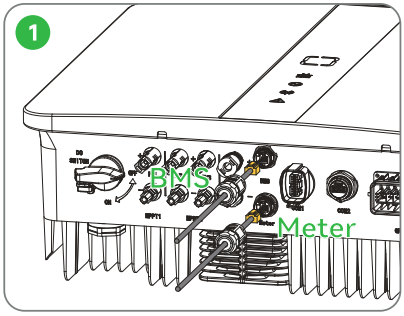


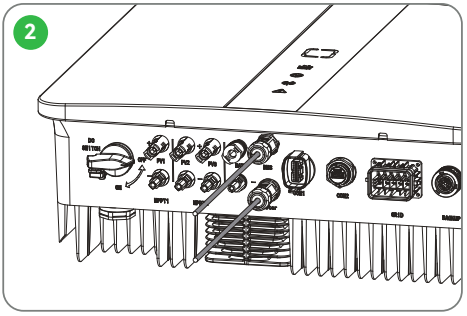
No.	Pin Description	Function	Description
1	DO1 +	Dry Contact	It is used to connect dry contact signals and realize functions such as load control, earth fault alarm, and generator control.
2	DO1 -		
3	DO2 +	Dry Contact	
4	DO2 -		
5	FB_CTR_B	Dry Contact	
6	FB_CTR_A		
7	DRM 1/5	DRED	DRED (Demand Response Enabling Device): Provides a DRED signal control port to meet the DERD certification requirements of Australia and other regions. For better use, suggest use CAT 5E outdoor shielded network cable for DRM connection. Pin7-Blue White, Pin8-Blue, Pin9- Green White, Pin10-Green, Pin11-Brown White, Pin12-Brown.
8	DRM 2/6		
9	DRM 3/7		
10	DRM 4/8		
11	COM/DRM0		
12	REF/GEN		
13	NC	NC	No connection.
14	NC		
15	NC		
16	NC		
17	CAN_L	CAN	For parallel operation.
18	CAN_H		
19	RS485_A	RS485	For parallel operation and debug.
20	RS485_B		

COM2 Connection

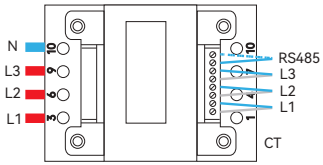


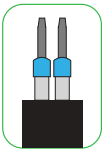
BMS, Smart Meter and CT Connection



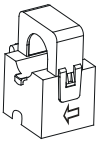


Meter





CT



Arrow pointing to grid.

Pin	Pin Definition	Description
3	L1	L1/L2/L3/N connect to grid to detect power grid voltage and obtain electricity.
6	L2	
9	L3	
10	N	
13	L1 IA* terminal	To detect the L1 phase current and direction.
14	L1 IA terminal	
16	L2 IB* terminal	To detect the L2 phase current and direction.
17	L2 IB terminal	
19	L3 IC* terminal	To detect the L3 phase current and direction.
21	L3 IC terminal	
24	RS485_A	Communicate to meter.
25	RS485_B	

Check before Power on

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Serial	Checklist
1	The inverter installed firmly that easily for operation and maintenance.
2	All lines, including PE, PV, Battery, AC and communication, are connected correctly and firmly.
3	The cable bundling complies with the wiring requirements, is properly distributed, and free from damage.
4	Ensure that a waterproof cover is installed for unused wire holes.
5	Ensure that the used wire holes have been sealed.
6	Verify that the voltage and frequency of installed location meet the grid-tied requirement.

Power On

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Before turning on the AC switch between the inverter and the grid, use a multimeter to check that the AC voltage is within the allowed range.

Step 1: Turn on the AC circuit breaker on the ON-GRID side of the inverter.

Step 2: Turn on the AC circuit breaker on the BACK-UP side of the inverter.

Step 3: Turn on the energy storage circuit breaker between the inverter and the battery.

Step 4: Turn on the DC switch of the inverter.

NOTICE

Please set the inverter parameters first via YiCloud app to ensure its normal operation. For details, please refer to **Set Parameters via YiCloud.**

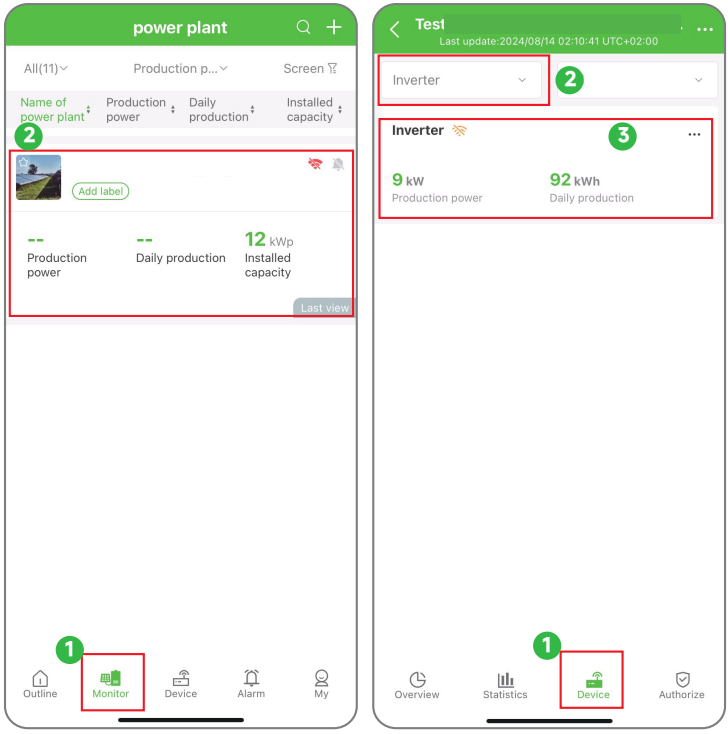
Step 5: Send a system check command on the APP (optional).

Step 6: Observe the LEDs to check the inverter operating status.

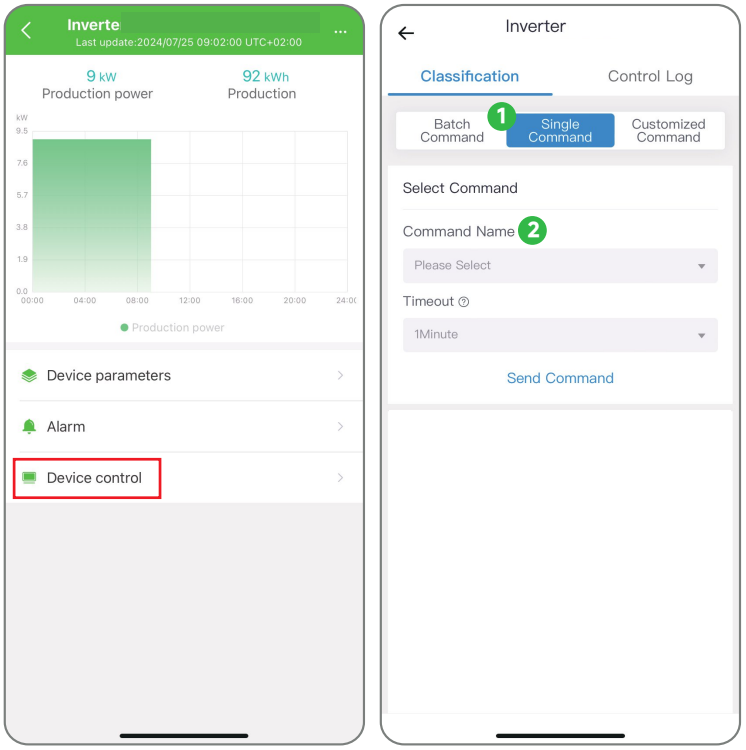
Set Parameters via YiCloud

Step 1: Log in to the YiCloud app. On the **Monitor** screen, find your own power plant.

Step 2: Select **Device**, choose **Inverter** in the drop-down list. Find your inverter in the table.

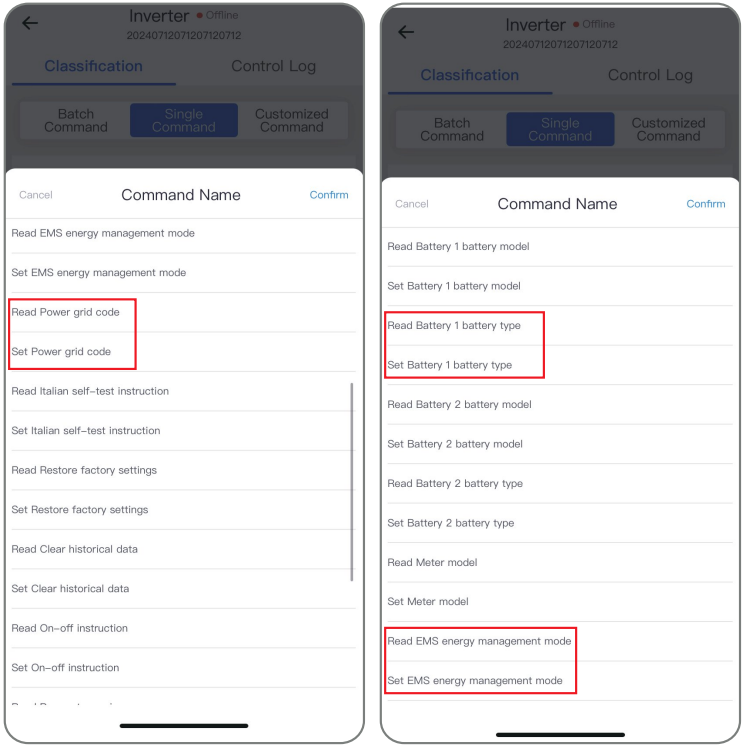


Step 3: Select certain Inverter, then **Device Control** > **Single Command**. The Command name is displayed.


Inverte
Last update:2024/07/25 09:02:00 UTC+02:00
9 kW
Production power
92 kWh
Production
kW
9.5
7.6
5.7
3.8
1.9
0.0
00:00
04:00
08:00
12:00
16:00
20:00
24:00
Production power
Device parameters
Alarm
Device control
Inverter
Classification
Control Log
Batch Command
1
Single Command
Customized Command
Select Command
Command Name
2
Please Select
Timeout
1Minute
Send Command

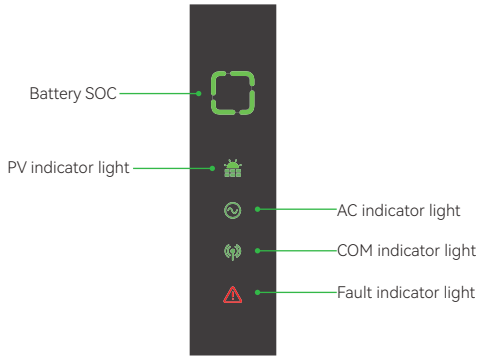
Step 4: Select **Set Power Grid**, and select the corresponding Country's name or Country Code.

You can also **Set Battery Type** and **Set EMS Energy Management Mode** through selecting the corresponding commands in the list, and then set the **Inputs**.



Step 5: Click **Send Command**.

LED Panel



LED	Indicator	Status	Description
PV		LED indicator on	PV is generating power
		LED indicator blink1	PV power is low (≤30% rated power)
		LED indicator off	PV is not working
AC		LED indicator on	Grid is active and connected
		LED indicator blink1	Grid is disconnected but EPS is on
		LED indicator off	Grid is disconnected and EPS is off
COM		LED indicator on	Both BMS and meter communication are OK
		LED indicator blink1	BMS communication is OK; meter communication fails
		LED indicator blink2	BMS communication fails; meter communication is OK
		LED indicator off	Both BMS and meter communications are fails
FAULT		Red LED indicator on	A fault has occurred
		Red LED indicator blink1	RCM or IRD fault
		Off	No fault

LED	Indicator	Status	Description
SOC		Full LED indicators on	Battery SOC is 75%~100%
		3/4 LED indicators on	Battery SOC is 50%~75%
		2/4 LED indicators on	Battery SOC is 25%~50%
		1/4 LED indicator on	Battery SOC is 10%~25%
		1/4 LED indicator blink1	Battery SOC is below 10%
		Full LED indicators off	Battery is disconnected / not active

Operation on the YiCloud

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YiCloud provides customers with a platform that can monitor Yinergy inverter data and set it remotely. You can log in to your user account at any time through a personal computer, IOS or Android device to view real-time monitoring data or historical data, and perform remote settings as needed.

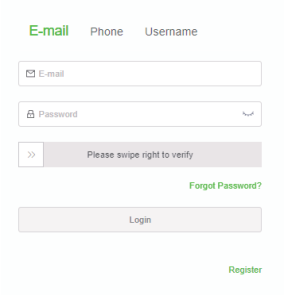
Downloading and Installing App

Select and scan the QR code below to download YiCloud APP. In addition, you can search with the key word YiCloud in Apple Store or Google Play to download it.

Android & IOS

Operation on YiCloud Web

Open a browser and enter globalhome.yienergy.com to complete registration, login, add sites and other related operations according to the guidelines of user guide.



YiCloud Web

- PV Input

Model	HI-3P5K-H-Y1	HI-3P6K-H-Y1	HI-3P8K-H-Y1	HI-3P10K-H-Y1	HI-3P12K-H-Y1
Max. Input Power [W]	7500	9000	12000	15000	15000
Max. Input Voltage [V]			1000		
Rated Input Voltage [V]			650		
Start-up Input Voltage [V]			180		
MPPT Operating Voltage Range [V]			200 - 950		
Max. Input Current per MPPT [A]	14	14	14	14 / 28	14 / 28
Max. Short-circuit Current per MPPT [A]	17	17	17	17 / 34	17 / 34
No. of MPP Trackers			2		
No. of Strings per MPP Tracker	1	1	1	1 / 2	1 / 2

- AC Output (On Grid)

Model	HI-3P5K-H-Y1	HI-3P6K-H-Y1	HI-3P8K-H-Y1	HI-3P10K-H-Y1	HI-3P12K-H-Y1
Rated Output Power [W]	5000	6000	8000	10000	12000
Max. Output Apparent Power [VA]	5500	6600	8800	11000	12000
Max. Output Current [A]	8.3	10	13.3	16.7	17.4
Power Factor			-1 (Adjustable from 0.8 leading t o 0.8 lagging)		
Total Harmonic Distortion, THDi			< 3%		

- AC Input (On Grid)

Model	HI-3P5K-H-Y1	HI-3P6K-H-Y1	HI-3P8K-H-Y1	HI-3P10K-H-Y1	HI-3P12K-H-Y1
Max. Input Apparent Power [VA]	12000	12000	16000	16000	16000
Rated Grid Voltage [V]			3L / N / PE, 380 / 400		
Rated Grid Frequency [Hz]			50 / 60		
Max. Input Current [A]	18.2	18.2	24.2	24.2	24.2

- Battery

Model	HI-3P5K-H-Y1	HI-3P6K-H-Y1	HI-3P8K-H-Y1	HI-3P10K-H-Y1	HI-3P12K-H-Y1
Battery Type			Li-ion		
Battery Voltage Range [V]			170 - 600		
Max. Charge / Discharge Current [A]	20 / 20	20 / 20	30 / 30	30 / 30	30 / 30
Rated Power [W]	5000	6000	8000	10000	10000
Communication Interface			CAN, RS485		
Compatible Battery Brand			Sunwoda, Pylontech, CESC		

- Backup Output (Off Grid)

Model	HI-3P5K-H-Y1	HI-3P6K-H-Y1	HI-3P8K-H-Y1	HI-3P10K-H-Y1	HI-3P12K-H-Y1
Rated Output Power [W]	5000	6000	8000	10000	12000
Peak Output Apparent Power, 10s [VA]	10000	12000	16000	16000	16000
Switch Time [ms]			< 10		
Rated Grid Voltage [V]			3L / N / PE, 380 / 400		
Rated Grid Frequency [Hz]			50 / 60		
Max. Output Current [A]	8.3	10	13.3	16.7	17.4
Total Harmonic Distortion, THDv			< 3%		

- Efficiency

Model	HI-3P5K-H-Y1	HI-3P6K-H-Y1	HI-3P8K-H-Y1	HI-3P10K-H-Y1	HI-3P12K-H-Y1
Max. Efficiency			98.0%		
Euro Weighted Efficiency			97.3%		
Max. Battery Discharge Efficiency			97.0%		

- Protection & Feature

Model	HI-3P5K-H-Y1	HI-3P6K-H-Y1	HI-3P8K-H-Y1	HI-3P10K-H-Y1	HI-3P12K-H-Y1
DC Reverse Polarity Protection			Yes		
PV String Current Monitoring			Yes		
Insulation Resistor Monitoring			Yes		
Residual Current Monitoring			Yes		
Anti-islanding Protection			Yes		
AC Overcurrent Protection			Yes		
AC Short-circuit Protection			Yes		
AC Overvoltage Protection			Yes		
DC Circuit			Yes		
Pollution Degree			III		
Surge Protection Device, SPD			DC Type II / AC Type III		
Arc Fault Circuit Interrupter, AFCI			Optional		
Rapid Shutdown, RSD			Optional		

- General Data

Model	HI-3P5K-H-Y1	HI-3P6K-H-Y1	HI-3P8K-H-Y1	HI-3P10K-H-Y1	HI-3P12K-H-Y1
Dimensions (W x H x D Bare Machine) [mm]			520 x 490 x 195		
Net Weight [kg]			28.5		
Installation			Wall-mounted		
Operation Temperature [℃]			-25 ~ +60 (> 45 Derating)		
Operation Humidity			0~95% RH, No Condensing		
Protection Degree			IP66		
Max. Operating Altitude [m]			4000		
Cooling Method			Natural Convection		
Noise Emission [dB]			< 40		
Topology			Transformerless		
Display			LED Indicators; APP		
Signal Input and Output			DRM, 1 × DI, 2 × DO		
Standby Consumption [W]			< 15		

- Standard Compliance

Model	HI-3P5K-H-Y1	HI-3P6K-H-Y1	HI-3P8K-H-Y1	HI-3P10K-H-Y1	HI-3P12K-H-Y1
Grid Regulation	EN 50549-1, VDE-AR-N 4105, DIN VDEV0124 -100, TOR Generator Type A, NA/EEA-NE7-CH2020, AS/NZS 4777.2, G98, G99, CEI 0-21, PPDS Anne x 4, NC fG P TPiREE				
Safety Regulation	IEC/EN 62109-1, IEC/EN 62109-2				
EMC	IEC/EN 61000-6-1, IEC/EN 61000-6-3				

Warranty Registration Form

For Customer (Compulsory)

Name	Country
Phone Number	Email
Address	
State	Zip Code
Product Serial Number	
Date of Commisssioning	
Installation Company Name	
Installer Name	Electrician License No.

For Installer

Module (If Any)

Module Brand	
Module Size (W)	
Number of String	Number of Panel Per String

Battery (If Any)

Battery Type	
Brand	
Number of Battery Attached	Number of Panel Per String
Date of Delivery	Signature

For more detailed warranty terms, please visit YINERGY official website: www.yinergy-solar.com to check it.

More information in the QR code or at http://yinergy-solar.com/

YINERGY

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