

# Hybrid solar inverter



-----Please read carefully before operation-----

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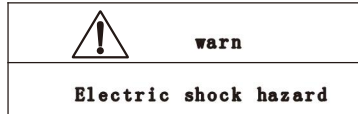
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## 1. Collect

This manual describes, installs, operates, and troubleshoots. Before installation and operation, read this manual carefully and save it for future reference.

## 2. Safety statement

Before using this product, please read the instructions provided by this product so that you are familiar with the safety features and instructions for use. This product is designed and tested in accordance with emergency power supply standards. Equipment must be used exclusively for the purpose for which it was designed.



The product is to be used with a rechargeable battery. Even when the device is turned off, the input or output terminals may still have dangerous voltages. Before installing or repairing the product, turn off the AC power supply and battery power supply.

The product is not equipped with parts that can be repaired by users. If any panel shows a fault, do not remove the front panel or operate the product, all operation steps must be operated by professional personnel.

Do not use this product where there is a risk of gas or dust explosion. Consult the battery manufacturer to make sure that the product can be used with the battery, and always follow the battery manufacturer's safety instructions.

## 3. Install

Before installing the device, read the installation instructions in the installation manual carefully.

Make sure the DC and AC input lines have fuses and are suitable circuit breakers. Do not replace the safety components with different specifications, and use the appropriate components required in the instructions.

Before wiring and installation, ensure that the battery voltage conforms to the parameters required in the product specification.

To ensure that products are used under standard environmental conditions. Will not operate in wet or dusty environments. Make sure there is enough space around the product and check that the vent is not blocked by other parts. Ensure that the required system voltage does not exceed the capacity of the product.

## 4. Transport and storage

If the equipment in transit is not in its original packaging, there is no liability for any transport damage. Store the product in a dry environment and the storage temperature must be between  $-20^{\circ}\text{C}$  and  $60^{\circ}\text{C}$

**5. Introduce**

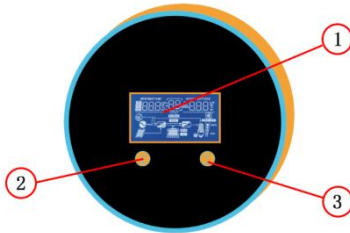
It is a functional inverter/charger that combines the functions of an inverter, solar charger and battery charger to provide uninterruptible power support. Its comprehensive LCD display provides user configurable and easy to operate push-button operations such as battery charging current, AC/solar energy. The priority of the charger is based on the acceptable input voltage for different loads.

**6. Trait**

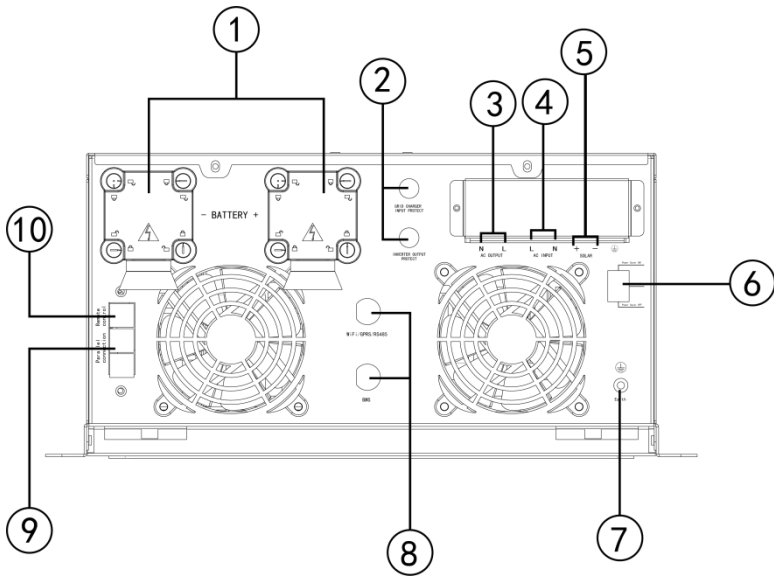
- Pure sine wave inverter
- The input voltage range can be configured for household appliances and personal computers through LOC Settings
- Set application-based configurable battery charging current via LCD
- AC/solar charger priority can be configured through LCD Settings
- Compatible with voltage voltage or power supply
- Communication is resumed when restart is known
- Overload/overheat/short circuit protection
- Smart battery charger design, user battery performance
- Cold start function

**7. Liquid crystal display screen**



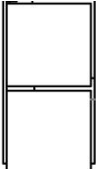

**Front Panel**



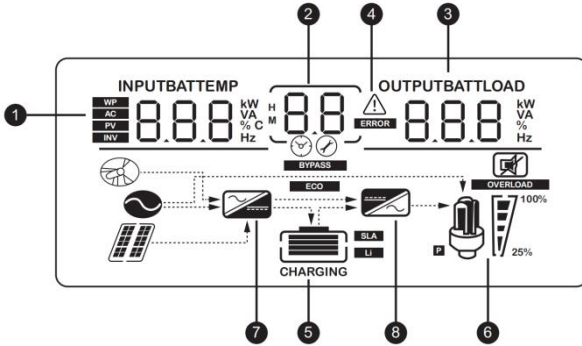
1		LCD Display	
2	 UP BACK	Up and back button	Press one second  to lighten LCD display
3	 ENER DOWN	Down and Enter button	Press one second  to lighten LCD display



1	Battery		Battery input terminals: Negative(-), Positive(+)
2	Communication ports:		Communication ports: Wi-Fi, GPRS, RS485, BMS
3	AC output		Input Line connect: L, N
4	AC input		Output connect: N, L
5	Solar		Solar input connect: PV+, PV-
6	Power Saver ON		Power ON with saver mode
	Unit OFF		Power totally OFF
	Power Saver OFF		Power ON without saver mode

7	Earth	 <p><b>Earth</b></p>	Earth grounding connection
8	Other communicate	 <p><b>WiFi/GPRS/RS48</b></p> <p><b>BMS</b></p>	<p>Communication ports:</p> <p>Wi-Fi, GPRS, RS485, BMS</p>
9	Multi-unit operation connect	<p><b>Parallel connection</b></p> 	<p>Multi-unit operation connect(RJ11):</p> <p>3 kW-6 kW parallel series have this function</p>
10	Remote control (only use for the front switch on “unit off” )stage	<p><b>Remote control</b></p> 	<p>PIN No:2 - Power Saver ON</p> <p>PIN No:4 - Unit OFF</p> <p>PIN No:6 - Power Saver OFF</p>



















## 8. LCD Indication



Icon	Function Description
1	Display battery and AC input voltage and frequency.
2	Fault: lighting with fault code.
3	Display output voltage and frequency and percent-load
4	Warning: flashing with warning code.
5	Display battery level.
6	Display the load level by 0%-25%, 26%-50%, 51 %-75%, 75%-100%.
7	Display the AC/DC is charging.
8	Display the DC/AC inverter circuit is working.

Grid Priority Mode	Charging by grid and PV energy. The unit will provide output power from the mains.	
	Charging by grid. The unit will provide output power from the grid.	
	Charging by PV energy. The unit will provide output power from the grid.	
Battery Priority Mode	The unit will provide output power from the battery and PV energy.	
	The unit will provide output power from the battery.	
No Fault: 2S	If the unit checks no fault, the solar charger restarts operation after 2 seconds	

## 9. Indication and Fault

Event	Event Type	Icon On	
0	9 V < Battery < 11 V	Alarm	
1	Inverter Fan Locked	Fault	
2	Inverter Overload	Fault	
3	Inverter Short Circuit	Fault	
4	Inverter Over Temperature	Fault	
5	Parallel ID Repeat	Fault	
6	Inverter Back Feed	Fault	
7	Parallel Power Imbalance	Fault	
8	Inverter Over Charge	Fault	
9	Battery Over Voltage	Fault	
10	Parallel Connection Failure	Fault	
11	Alarm for Communication Failure	Alarm	
12	Alarm for Lithium Battery Communication Failure	Alarm	
17	PV Voltage Low	Fault	
18	PV Voltage High	Fault	
22	Battery Voltage Low	Fault	
25	Sink Temperature High	Fault	
26	Battery Voltage Different	Fault	

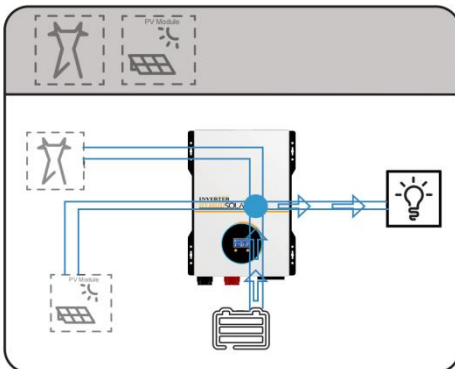
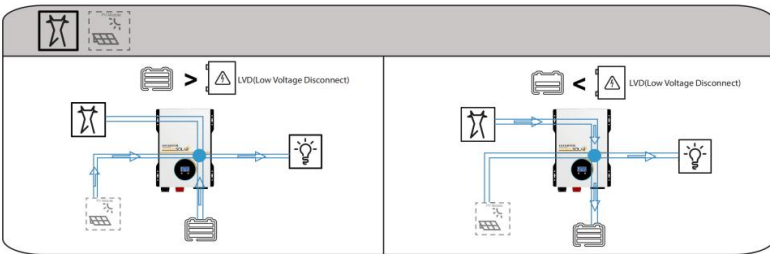
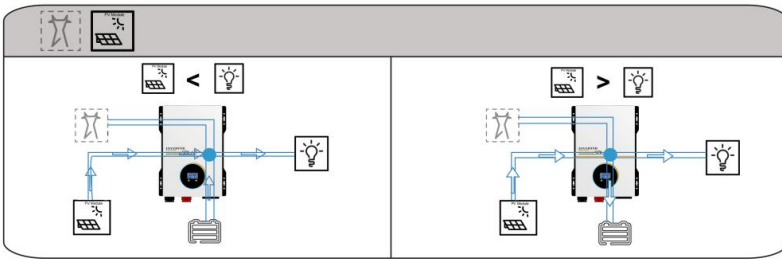
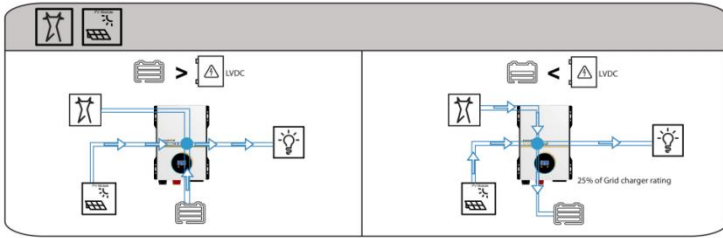
Fault: Product may not function as intended.

Alarm: Product will function, but needs attention.



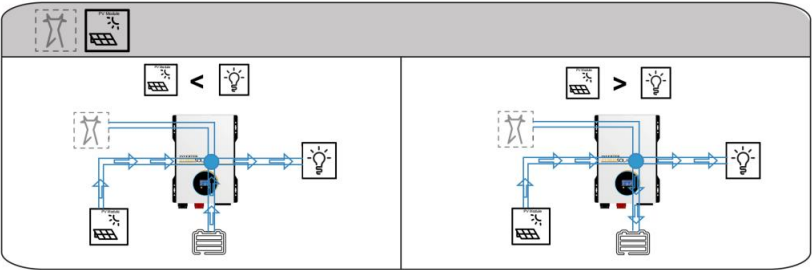
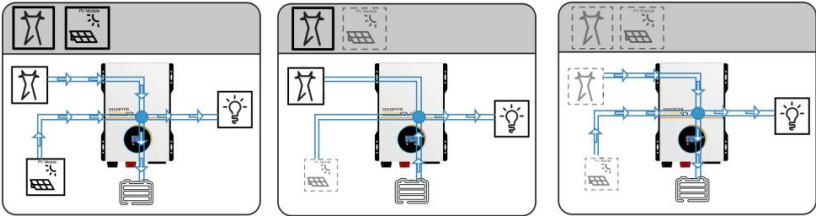
## 10. Battery and Grid Priority

The battery priority mode is recommended for off-grid applications and reducing grid consumption.



# Grid Priority Mode

The grid priority mode is recommended for unreliable grid and backup applications.



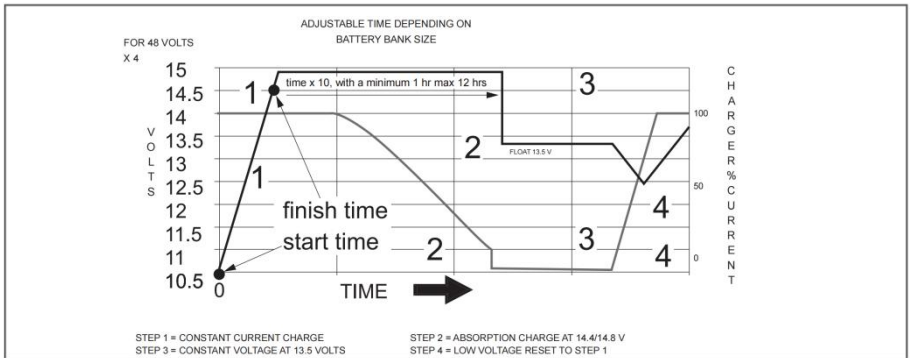
## 11. LCD Settings

1. Press and hold **ENTER** button for 3 seconds. The inverter will be in setting mode.
2. Press **UP** or **DOWN** button for setting programs.
3. Press **ENTER** button for 2 seconds to confirm the selection.
4. Press **BACK** button for 2 seconds to exit.

Main Menu	Secondary Menu	Function	Description	Default Value
00	000	Charging current setting	No charging	004
	001		25% charging	
	002		50% charging	
	003		75% charging	
	004		100% charging	
01	000	Battery type setting	Reference "Battery Type Setting"	004
	009			
	010		Lithium battery (battery priority)	
	011		Custom setting	
	012		Lithium battery (grid priority)	
02	000	Lithium battery agreement setting	PYLON	000
03	53.3	Lithium battery voltage setting	Set the range	53.3
04	25.0	Lithium battery current setting	Set the range	25.0
05	47.0	Lithium battery shutdown voltage	Set the range	47.0
06	050	Output frequency setting	50Hz	050
	060			
07	000	Standalone	-	000
	001	Parallel		
08	032	X Parallel ID Setting	-	032
	037			
09	002	Parallel Number Setting	-	002
	006			
10	44.0	Setting voltage for the battery switching to the grid.	Note: Battery type setting "011"	44.0
11	52.0	Voltage setting for AC grid switching to battery	Note: Battery type setting "011"	52.0
12	52.0	Floating charging voltage	Note: Battery type setting "011"	52.0

13	52.0	Voltage setting for automatic restart after shutdown	Note: Battery type setting "011"	52.0
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<b>Charge Stage Transition</b>	
Stage transition	Three stage Boost CC (constant current stage) → Boost CV (constant voltage stage) → Float (constant voltage stage)
<p>Charge Stage Transition Definitions:</p> <ul style="list-style-type: none"> <li>• Boost CC Stage: If AC input is applied, the charger will run at full current in CC mode until the charger reaches the boost voltage.</li> <li>• Software timer will measure the time from AC start until the battery charger reaches 0.3V below the boost voltage, then take this time as T0 and <math>T0 \times 10 = T1</math>.</li> <li>• Boost CV Stage: The charger will keep the boost voltage in Boost CV mode for T1 timer. Then drop the voltage down to the float voltage. The timer T1 is between 1 hour to 12 hours.</li> <li>• Float Stage: In float mode, the voltage will stay at the float voltage.</li> <li>• If the AC is reconnected or the battery voltage drops below 48Vdc, the charger will reset the cycle above.</li> <li>• If the charge maintains the float state for 10 days, the charger will reset the cycle.</li> </ul>	



Multi-Unit Operation(Parallel System)								
Battery Type Setting	Menu Setting		Description	Boost Voltage	Float Voltage	Battery Reconnect Voltage(No Grid)	Battery Low Voltage Disconnect(LVD)	Low Voltage Trip to AC+Alarm ON/Alarm OFF
	Grid Priority	1	Gel 1	56.0	54.8	1 minute auto reconnect	44.0	45.2/46.0
		2	AGM 1	56.4	53.6		44.0	45.2/46.0
		3	AGM 2	58.4	54.8		44.0	45.2/46.0
		4	Sealed lead acid	57.6	54.4		44.0	45.2/46.0
		5	Gel 2	57.6	55.2		44.0	45.2/46.0
		6	De sulphation cycle	62.0	4 hours then off		44.0	45.2/46.0
	Battery Priority	7	Battery Type Setting	58.4	54.8	1 minute auto reconnect	44.0	45.2/46.0
		8		57.6	55.2		44.0	45.2/46.0
		9		62.0	60.0		44.0	45.2/46.0
0		LFP -Battery priority	53.3	-	47.0		LVD+1V/ LVD +2V	
1		Customized setting	Customized setting					
	1	LFP -Grid	53.3	-	1 minute auto reconnect	47.0	48*49	
	2	Priority						

Remark:

- “0” : Do not charge at AC input, charge by solar energy at level 1.
- “1” ~ “6” level: Grid priority mode, namely AC input is preferred for offering load energy and the above three-stage charging mode will be applied to the battery based on the set charging voltage; however, when AC input exceeds AC input range, it will convert to inverter mode for offering load energy, namely the battery discharges. After AC input restores again, switch to AC input accordingly and recharge the battery per three stages.
- “7” ~ “9” level: Battery priority mode, namely battery discharge will take precedence. When battery voltage is lower than the voltage

corresponds to each level, convert to AC input for offering energy to load, during which AC input will charge the battery at 25% of AC

charge current value to avoid insufficient charge via solar. When solar energy and AC input charges the battery to the voltage higher than

battery reconnect voltage, inverter discharge will start supplying the load.

- If in doubt call your battery supplier and ask which charge voltage, they want you to use for their battery type. Then select the closest to it to ensure battery lifetime.

- In solar charge, battery will be charged based on the voltage corresponds to each level. For instance (S4000/ S6000): In “1” level, when battery voltage is lower than 56V, solar energy charges at max power; when it is close to 56V, convert to constant voltage charge.

- MPPT Boost Voltage and MPPT Float Voltage Regulation  $\pm 0.2Vdc$  per 12V cell.

Standalone System									
	Menu Setting	Description	Boost	Float	Battery	Battery Low	Low Voltage Trip		
			Voltage	Voltage	Reconnect Voltage(No Grid)	Voltage Disconnect (LVD)	to AC+Alarm ON/Alarm OFF		
Battery type Setting	Grid Priority	1	Gell	56.0	54.8	52.0	44.0	45.2*46.0	
		2	AGM 1	56.4	53.6	52.5	44.0	45.2*46.0	
		3	AGM 2	58.4	54.8	54	44.0	45.2*46.0	
		4	Sealed lead acid	57.6	54.4	53.2	44.0	45.2*46.0	
		5	Gel 2	57.6	55.2	53.2	44.0	45.2*46.0	
		6	De sulphation cycle	62.0	4 hours then off	56	44.0	45.2*46.0	
	Battery Priority	7	Battery type	58.4	54.8	54.0	44.0	45.2*46.0	
		8	Setting	57.6	55.2	53.2	44.0	45.2*46.0	
		9		62.0	60.0	56.0	44.0	45.2*46.0	
		10	LFP -Battery priority	53.3	-	52.0	47.0	LVD +1V/LVD +2V	
		11	Customized setting	Customized setting					
	Grid Priority	12	LFP -Grid priority	53.3	-	52.0	47	48/49	

<b>Protection</b>	
Over temperature protection	Heat sink temp, $\geq 105^{\circ}\text{C}$ , Fault (shutdown output) after 30 seconds, solar charger heat sink temp. $\geq 75^{\circ}\text{C}$
Fault recovery	Restart the inverter

<b>FAN Operation</b>			
<p>Variable speed fan operation is required in invert and charge mode. This is implemented to ensure high reliability, and safe operating temperature for the unit. The maximum operating ambient temperature is <math>50^{\circ}\text{C}</math>.</p> <ul style="list-style-type: none"> <li>• Speed is controlled as a function of internal temperature and/or current.</li> <li>• Fan runs at minimum speed required to cool the unit.</li> <li>• Fan noise level target <math>&lt; 60\text{db}</math>.</li> </ul> <p>The fan operation logic is as below:</p>			
<b>Condition</b>	<b>Start Condition</b>	<b>Stop Condition</b>	<b>Speed</b>
Heat sink temperature	$T \leq 80^{\circ}\text{C}$	$T > 85^{\circ}\text{C}$	50%
	$T > 85^{\circ}\text{C}$	$T \leq 80^{\circ}\text{C}$	100%
Line Charge Current	$I \leq 40\%$	$I > 50\%$	50%
	$I > 50\% \text{ Max}$	$I \leq 40\% \text{ Max}$	100%
Load% (Inverter mode)	Load $< 40\%$	Load $\geq 50\%$	50%
	Load $\geq 50\%$	Load $\leq 40\%$	100%

## 12. Customized Setting

Example: (Battery Type: Main Menu 01 and Secondary Menu 011)

Menu Description	Main Menu	Secondary Menu	Function
Charging current derating setting	00	004	Applicable only for PV
Battery type selection	01	11	Custom type - Battery priority
Charging cut-off voltage setting	03	53.3	Function as boost voltage setting
Charging current setting	04	60	Maximum charge current limit
Discharge shutdown voltage setting	05	47	Low voltage disconnect
Voltage setting for switching from battery to grid (DC to AC)	10	44	Low trip to AC
Voltage setting for switching from AC grid to battery. (AC to DC)	11	52	High trip to DC
Float charge voltage setting	12	52	Function as float voltage setting
Voltage setting for automatic restart after shutdown	13	52	Reconnect voltage



### 13. Menu Setting for Multi -Operation

<b>Inverter</b>	<b>Menu</b>	<b>Sub Menu</b>	<b>Setting</b>
Inverter -01 (Master)	07	001	Parallel
	08	032	ID
	09	006	Parallel Number
Inverter -02 (Slave)	07	001	Parallel
	08	033	ID
	09	006	Parallel Number
Inverter -03 (Slave)	07	001	Parallel
	08	034	ID
	09	006	Parallel Number
<b>Inverter</b>	<b>Menu</b>	<b>Sub Menu</b>	<b>Setting</b>
Inverter -04 (Slave)	07	001	Parallel
	08	035	ID
	09	006	Parallel Number
Inverter -05 (Slave)	07	001	Parallel
	08	036	ID
	09	006	Parallel Number
Inverter -06 (Slave)	07	001	Parallel
	08	037	ID
	09	006	Parallel Number

## 14. Standalone to Multi unit Configuration

### Before you begin:

1. Verify the inverters operation in standalone mode with the power saver mode OFF.
2. Do not connect the AC output and CAN communication cables yet.

### To setup a multi-unit system of inverters:

1. Press and hold **ENTER** button for 2 seconds. The inverter will be in setting mode.
2. Ensure every setting on the main menus **00**, **01**, **06**, and **09** of the master inverter must be consistent with the menu settings of each slave inverter in the system.
3. On the main menu **08**, based on the number of inverters to be connected in parallel, set the second menu as

below:

Master: **032**

Slave 1: **033**

Slave 2: **034**

Slave 3: **035**

Slave 4: **036**

Slave 5: **037**

4. On the main menu **07**, select the secondary menu **001**.
5. Power OFF all the inverters and disconnect from battery, grid, and PV.
6. Connect the CAN communication cable, power on the inverters and verify the connections.

Note: If the inverters do not power on repeat steps 1 to 5.

7. Power OFF all the inverters and connect the AC outputs.
8. Power ON all the inverters and verify correct operation.
9. Power ON PV and grid if available

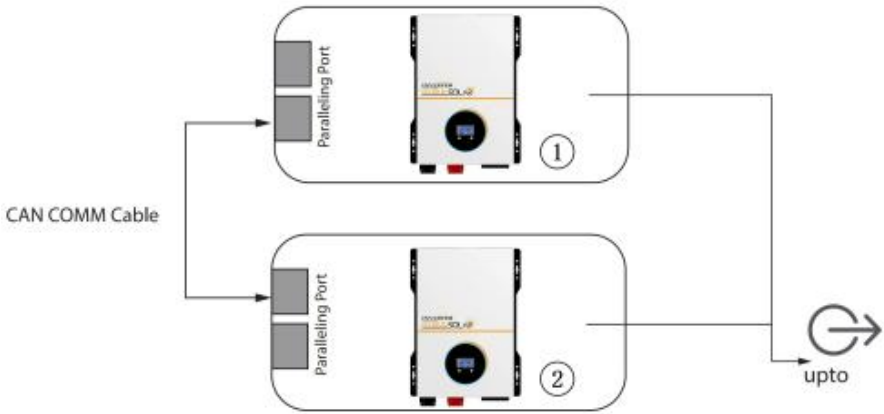
## 15. Multi-Unit to Standalone Configuration

### To change a multi-unit system to standalone mode:

1. Disconnect the AC output cables or turn off each circuit breaker.
2. Disconnect the CAN communication cables.
3. On the main menu **07** change the menu settings of the inverters to standalone mode **000**.
4. Power OFF the battery supply.
5. Power ON the battery supply and the inverter Verify for standalone operation.

## 16. Example for Inverter Multi-Unit Operation

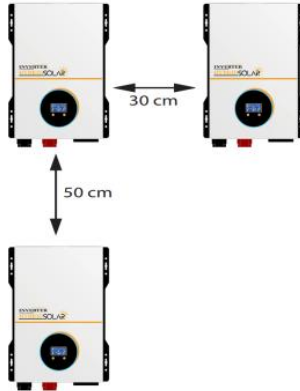
Multi-Unit operation Setting of 2 Inverters



### Inverter - Setting

Inverter	Menu	Sub Menu	Setting
Inverter -01 (Master)	07	001	Parallel
	08	032	ID
	09	002	Parallel Number
Inverter -02 (Slave)	07	001	Parallel
	08	033	ID
	09	002	Parallel Number

17.Distance between inverters



18.Parallel installation mode

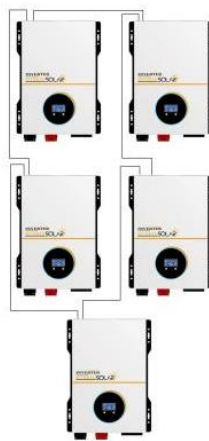


2Inverter

3Inverter



4Inverter



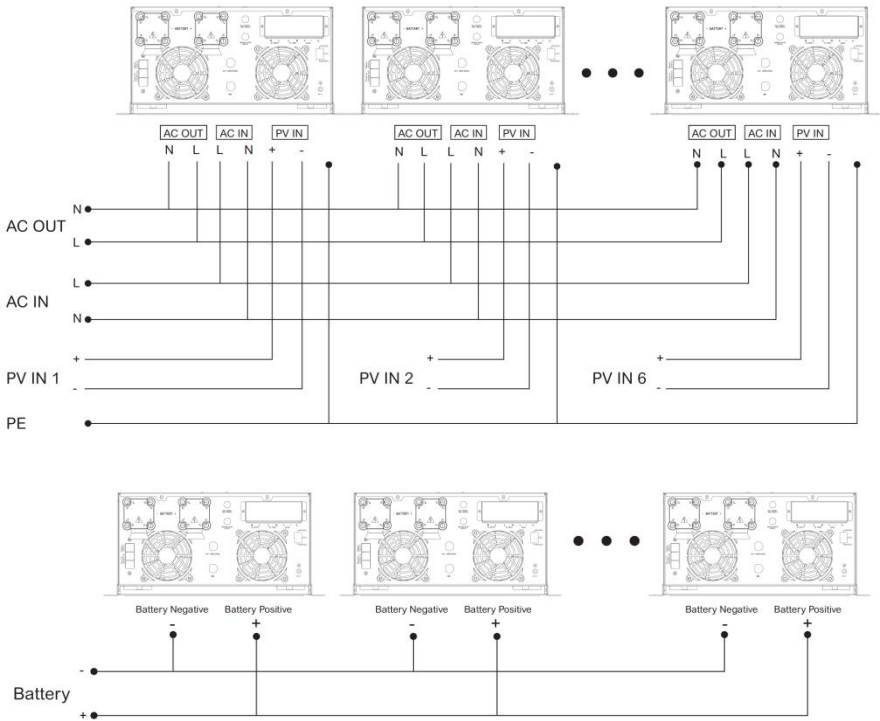
5Inverter



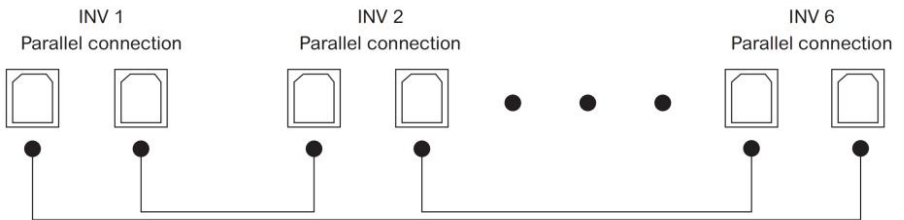
6Inverter

# 19. Parallel wiring connection

## Wiring Connection



## Communication Connection

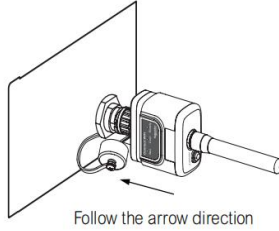


## 20. Communication

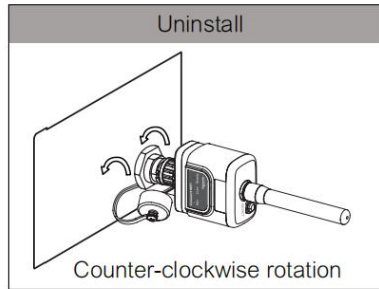
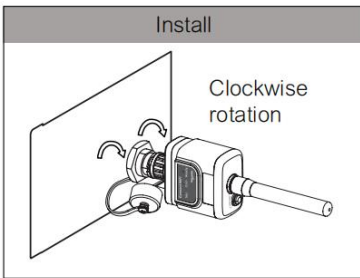
The Homaya Pro inverters are compatible with Homaya Wi-Fi connect AEH-SP01-CW.

To connect the Homaya Wi-Fi connect AEH-SP01-CW to an Homaya Pro solar off-grid inverter:

1. Assemble logger to the inverter communication interface
- 2.



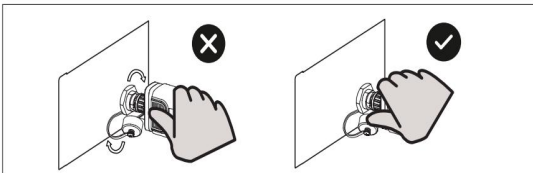
3. Rotate clockwise to install or anti clockwise to uninstall.



### ⚠ CAUTION

#### HAZARD OF EQUIPMENT DAMAGE

Do not hold the logger body to rotate while installing or uninstalling.

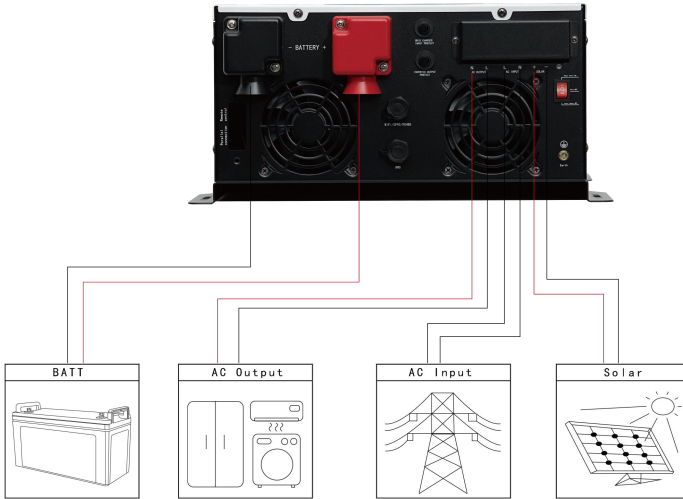


Failure to follow these instructions could result in minor or moderate injury.

## 21. Troubleshooting

Problem	Possible Cause	Solutions
Unit will not power ON (LED/LCD display is OFF).	Insufficient battery voltage to power ON the Inverter	Connect a fully charged battery
	(Battery Low Voltage) – Fully drained	Contact the battery service provider or a battery expert to check the battery health condition.
Unit is ON but no AC output	The battery has reached its low voltage cut off value, or the battery voltage is less than the reconnect voltage (in case of no grid)	Charge the battery until reconnect voltage
	Tripped due to fault	Check LED/LCD and Fault Code. Reset or recover the fault
	Load is < 50 W The unit's power saver mode is ON.	Switch the unit's power saver mode to OFF
Back-up is lesser than expected	Battery not fully charged due cloudy weather	Solar insolation might be low. Connect more solar panels using additional MPPT
	The battery is sized less for the connected load	Resize the battery for the required backup
	Additional load added	Optimize the additional load.
	Battery degradation	Contact the battery service provider or a battery expert to check the battery health condition.
Battery drains even when the unit is under no load condition.	The unit is in power saver mode is OFF	When the unit is under no load it is recommended to use the unit in power saver mode ON.
Battery not charging	No solar input and grid input power available.	Check solar input and grid input power availability
	Battery already full	-
	Wrong battery profile configuration	Check battery profile configuration
*. If the problem persists, contact a local representative		

## 22. Connection diagram



## 23. Technical parameter

Device Short Name	XTLPH3000-PRO	XTLPH4000-PRO	XTLPH6000-PRO
<b>Inverter AC Output</b>			
Output power (continuous) up to 40° C	3000 W / 3000 VA	4000 W / 4000 VA	6000 W / 6000 VA
Overload 15 min / 30s - 60s at 25° C	3750 W / 4500 W	5000 W / 6000 W	7500 W / 9000 W
Surge rating for 10s	26A	35A	52A
Maximum output current 30s - 60s (rms)	19.5A	26A	39A
Output current (continuous) at 40° C	13.0A	17.4A	26.1 A
Output frequency	50 Hz ± 0.3 Hz (when connected off-grid)	50/60 Hz (±0.3 Hz)	50/60 Hz (±0.3 Hz)
Output voltage	L-N: 230 V +/- 10%	L-N: 230 V +/- 10%	L-N: 230 V +/- 10%
Output voltage waveform	Sinewave	Sinewave	Sinewave
Idle consumption	< 25 W	<25 W	<25 W
Input DC voltage range	20 V - 32.0 V (24 V nominal)	40 V - 64 V (48 V nominal)	40 V - 64 V (48 V nominal)
Maximum input DC current	188A	125A	188A
Motor load*	Up to 2HP	Up to 3HP	Up to 4HP
Scalability	-	Up to 6 inverters in parallel, 1-Ph, 230 V	Up to 6 inverters in parallel, 1-Ph, 230 V



<b>MPPT Charger DC Output</b>			
Maximum output charge current	45A	60A	60A
Maximum output power	1100W	3000W	3000W
Output charge voltage range	20 V - 31.4 V (24 V nominal)	40 V - 62.8 V (48 V nominal)	40 V - 62.8 V (48 V nominal)
Charge control	Three stage	Three stage (Lead) and two stage (LFP)	Three stage (Lead) and two stage (LFP)
Compatible battery types	Flooded, Gel, AGM,	Flooded, Gel, AGM, LiFePo4	Flooded, Gel, AGM, LiFePo4
PV input voltage range (Vmp)	30 V - 72 V DC	80 V - 230 V DC	80 V - 230 V DC
Max PV array open circuit voltage (Voc)	76 V DC	250 V DC	250 V DC
Max PV withstanding voltage	100V DC	300 V DC	300 V DC
PV Input maximum Power (Wp)	1200 W	3200 W	3200 W
Tracking efficiency	98%	99%	99%
<b>AC Charger DC Output</b>			
Maximum output charge current	50A	35A	50A
Output charge voltage range	20 - 31.4 V (24 V nominal)	40 V - 62.8 V (48 V nominal)	40 V - 62.8 V (48 V nominal)
Charge control	Three stage	Three stage (Lead) and two stage (LFP)	Three stage (Lead) and two stage (LFP)
<b>AC Input</b>			
AC (grid) input current max	30A	40A	40A
Automatic transfer relay rating/typical transfer time	30 A / < 10 mS	40A / < 10 mS	40A / < 10 mS
AC input voltage range	L-N: 165 V - 265 V	L-N: 165 - 265 V	L-N: 165 - 265 V
Frequency	50 Hz/ 60 Hz (Auto detection)	50 Hz/ 60 Hz (Auto detection)	50 Hz/ 60 Hz (Auto detection)
AC input frequency range (bypass/charge mode)	47±0.3 Hz ~ 55±0.3 Hz for 50 Hz; 57±0.3Hz ~ 65 ±0.3Hz for 60Hz;	47±0.3 Hz ~ 55±0.3 Hz for 50 Hz; 57 ± 0.3Hz ~ 65±0.3Hz for 60Hz;	47±0.3 Hz ~ 55± 0.3 Hz for 50 Hz; 57 ±0.3Hz ~ 65±0.3Hz for 60Hz;

<b>Efficiency</b>			
Inverter efficiency peak	90%	91%	91.5%
MPPT efficiency peak	97%	95%	95%
<b>Features</b>			
System monitoring	Local Monitoring with Wi-Fi dongle (Optional)		
Intelligent features	Battery priority (Bill Saver) mode operation & Grid priority mode operation Remote Wired Inverter ON / OFF	Battery priority mode (Bill Saver) operation & Grid priority mode operation, Remote wired inverter ON/OFF, LFP battery supported with BMS port integrated	
Communication ports	RS485 for Wi-Fi dongle	RS485 -1 for BMS (LFP battery) RS485-2 for Wi-Fi dongle	
Front LCD display	Charger Current Setting - Configurable	Displaying power flow, Configuration of parameters locally, displaying system status	
MPPT scalability	Compatible with external MPPT charg	Compatible with external MPPT charger AEH-SP01-M3000	
<b>Protection</b>			
Overload (Inverter mode)	Shutdown output after 15 minutes; 110% -125%, Shutdown output after 30 Sec to 60 Sec: 125% - 150% Shutdown output after 10 Sec to 20 Sec: >150%		
Output short-circuit (Inverter mode)	Yes		
Over temperature	Yes		
Overload (AC bypass mode)	> 30 A**	Yes > 40 A	
<b>Optional Accessory</b>			
Local wireless monitoring	Wi-Fi Dongle		
<b>General Specifications</b>			
Mounting option	Wall mount or Table mount		
IP degree of protection	IP 20. Recommended for indoor usage.		
Operating air temperature / Humidity range	-15 ° C to 40 ° C / 5% to 95% RH		
Storage temperature	-25 ° C - 60 ° C		
Altitude	2000 Meters		
Product dimensions in mm (H x W x D)	347*185/570	347*185/570	347*185/570
Shipping dimensions in mm (H x W x D)	650*478*270	650*478*270	650*478*270