

# »» Product Data Sheet

MODEL	ISolar-SMH-III-4.2KW	ISolar-SMH-III-6.2KW
Phase	1-phase	
Maximum PV Input Power	6200W	6500W
Rated Output Power	4200W/4200VA	6200W/6200VA
Maximum Solar Charging Current	120A	
<b>GRID-TIE OPERATION</b>		
<b>PV INPUT(DC)</b>		
Nominal DC Voltage/Maximum DC Voltage	360/500VDC	
Start-up Voltage/Initial Feeding Voltage	60VDC/90VDC	
MPPT Voltage Range	60~450VDC	
Maximum Input Current	1/18A	1/22A
<b>GRID OUTPUT(AC)</b>		
Nominal Output Voltage	220/230/240VAC	
Output Voltage Range	195~253VAC	
Nominal Output Current	18.2A	27.0A
Power Factor	>0.99	
<b>EFFICIENCY</b>		
Maximum Conversion Efficiency(DC / AC)	98%	
<b>TWO LOAD OUTPUT POWER</b>		
Full Load	4200W	6200W
Maximum Main Load	4200W	6200W
Maximum Second Load(battery mode)	1400W	2067W
Maximum Load Cut Off Voltage	26VDC	52VDC
Maximum Load Return Voltage	27VDC	54VDC
<b>OFF-GRID OPERATION</b>		
<b>AC INPUT</b>		
AC Start-up Voltage/Auto Restart Voltage	120-140VAC/180VAC	
Acceptable Input Voltage Range	90~280VAC or 170~280VAC	
Frequency Range	59~61±1Hz	
Maximum AC input Current	24.7A	36.4A
<b>PV INPUT(DC)</b>		
Nominal DC Voltage/Maximum DC Voltage	360/500VDC	
MPPT Voltage Range	60~450VDC	
Maximum Input Current	1/18A	1/22A
<b>BATTERY MODE OUTPUT(AC)</b>		
Nominal Output Voltage	220/230/240VAC	
Output Wave Form	Pure sine wave	
Efficiency (DC to AC)	94%	
<b>BATTERY&amp;CHARGER</b>		
Nominal DC Voltage	24VDC	48VDC
Maximum Solar Charging Current	120A	120A
Maximum AC Charging Current	100A	100A
Maximum Sotar+AC Charging Current	120A	120A
<b>HYBRID OPERATION</b>		
<b>PV INPUT(DC)</b>		
Nominal DC Voltage/Maximum DC Voltage	360/500VDC	
Start-up Voltage/Initial Feeding Voltage	90VDC/120VDC	
MPPT Voltage Range	60~450VDC	
Maximum Input Current	1/18A	1/22A
<b>GRID OUTPUT(AC)</b>		
Nominal Output Voltage	220/230/240VAC	
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<b>AC INPUT</b>		
AC Start-up Voltage/Auto Restart Voltage	120-140VAC/180VAC	
Acceptable Input Voltage Range	90-280VAC or 170-280VAC	
Maximum AC Input Current	24.7A	36.4A
Maximum Charging Current	100A	
<b>GENERAL</b>		
<b>PHYSICAL</b>		
Dimension ,H*W*D(mm)	420*350*110	
Cartoon Dimension ,H*W*D(mm)	500*415*180	
Net Weight (kgs)	8.0	8.9
Gross Weight(kgs)	9.0	10.0
<b>INTERACE</b>		
Communication Port	RS232/RS485/WIFI/GPRS/LITHIUM BATTERY	
<b>ENVIRONMENT</b>		
Humidity	5% to 95% Relative Humidity(Non~condensing)	
Operating Temperature	-10°C~50°C	
<b>STANDARD</b>		
Compliance Safety	CE	

# MPPT SOLAR INVERTER

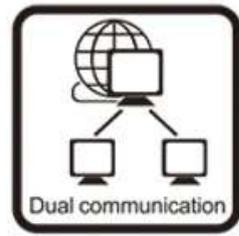
## SMH III 4.2KW

- ✓ **4.2KW** Rated Power
- ✓ **24V** Battery Voltage
- ✓ **120A** Max Solar Charge Current
- ✓ **100A** Maximum AC Charge Current
- ✓ **500VDC** PV open circuit voltage
- ✓ **6200W** PV array power
- ✓ Inverter can run without battery
- ✓ WIFI Included
- ✓ Dual output



## Features introduction

- Pure sine wave solar inverter(on/off Grid)
- Output power factor 1.0
- Inverter can run without battery
- Built-in Lithium battery automatic activation
- Dual communication ports for Battery communication and Wifi communication
- Built-in 120AMPPT Solar charge:max 6200W (for 3.6KW/4.2KW),max 6500W(for 6.2KW)
- High PV input voltage range(60~500VDC)
- Built-in anti-dust kit for harsh environment
- Smart battery charge design to optimize battery life
- WIFI&GPRS available for IOS and Android
- Dual output



# Pure Sine Wave Output

Has the same voltage waveform as the grid, provide high quality AC power with higher efficiency, stable output and high compatibility



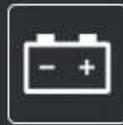
● Can drive any kind of load without any interference





### High PV Input

500VDC



### Battery Voltage

24 VDC



### Max Output Power

4200W, Pure Sine Wave



### Genset Starter

Yes, Dry Contact



### Output Voltage

220/230/240 VAC



### Parallel Support

Not Available



### Solar Charge Current

120A



### AC Charge Current

100A



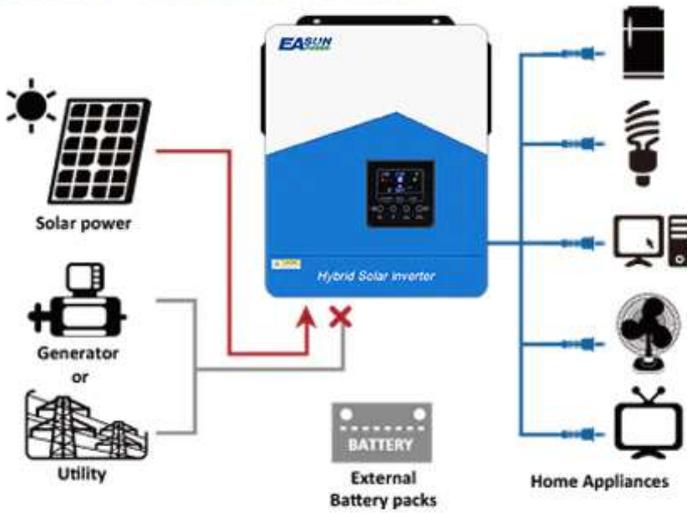
### Communication

RS232/RS485/WIFI/GPRS  
LITHIUM BATTERY

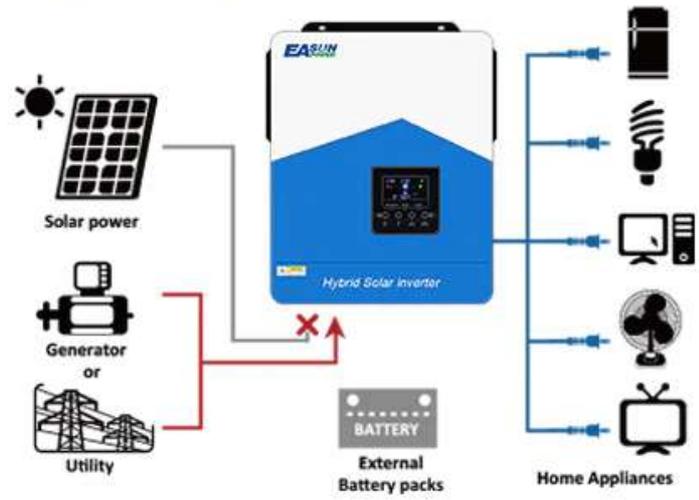
# System Diagram

## Operation without battery connected

### 3 Solar Power available

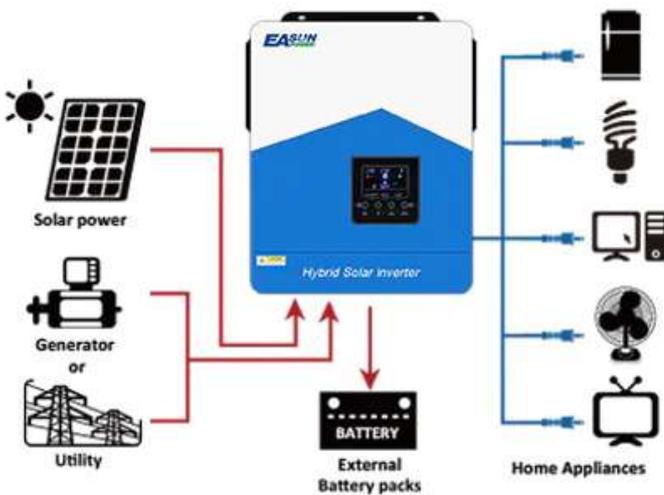


### 4 AC Power available

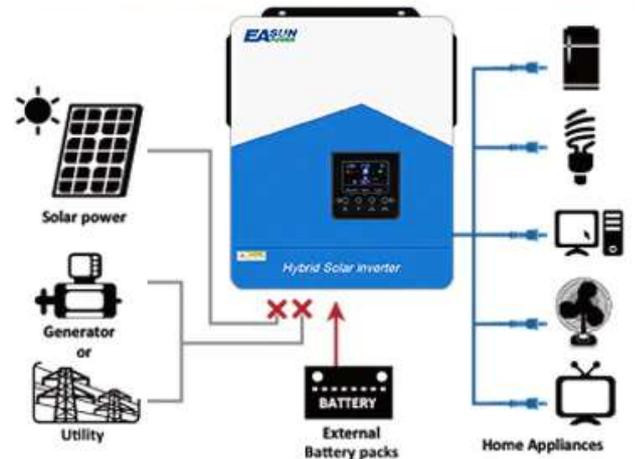


## Operation with battery connected

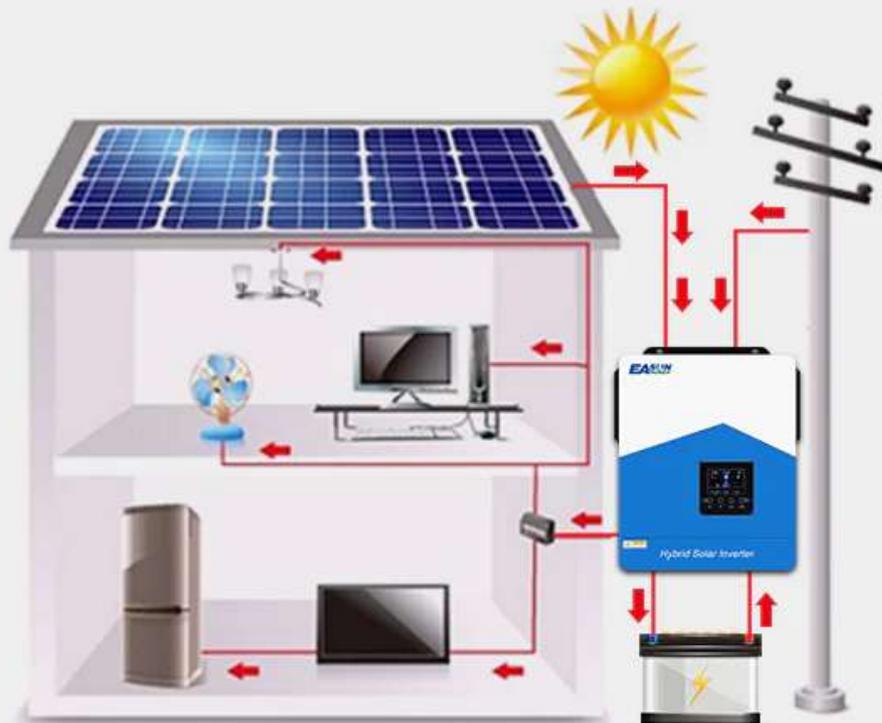
### 1 Solar Power and AC Power available



### 2 Solar Power and AC Power not available



# PV Connection



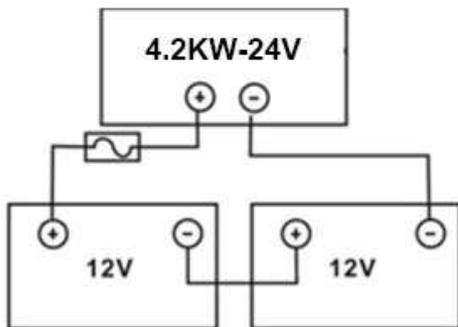
When selecting proper PV modules, please be sure to consider below parameters:

1. Open circuit Voltage ( $V_{oc}$ ) of PV modules not exceeds max. PV array open circuit voltage of inverter.
2. Open circuit Voltage ( $V_{oc}$ ) of PV modules should be higher than min. battery voltage.

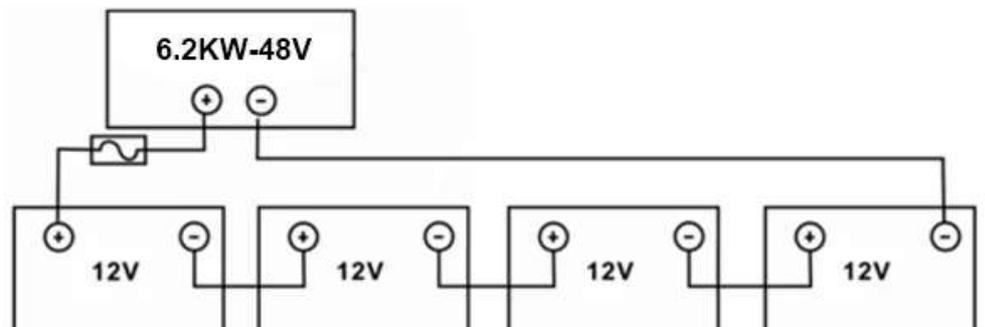
<b>INVERTER MODEL</b>	<b>ISolar SMH III 4.2KW WIFI</b>	
<b>Maximum output power</b>	<b>6200W</b>	
<b>Maximum PV open circuit voltage</b>	<b>500VDC</b>	
<b>Maximum charge current</b>	<b>120A</b>	
<b>Maximum Power(<math>P_{max}</math>)</b>	<b>250W</b>	<b>Max.PV module numbers in senes 12 x 36V <math>\approx</math>60~450VDC</b>
<b>Max.Power Voltage <math>V_{mpp}(V)</math></b>	<b>36V</b>	
<b>Max.Power Current <math>I_{mpp}(A)</math></b>	<b>8.3A</b>	<b>PV module numbers in parallel 12 x 8.3 &lt; 120A Total PV module numbers 12 x 2 = 24</b>
<b>Open Circuit Voltage <math>V_{oc}(V)</math></b>	<b>40V</b>	
<b>Short Circuit Current <math>I_{sc}(A)</math></b>	<b>8.9A</b>	

## Battery Connection

4.2KW model supports 24VDC system  
and 6.2KW model supports 48VDC system.



24VDC Battery Connection Diagram



48VDC Battery Connection Diagram

# Product Overview

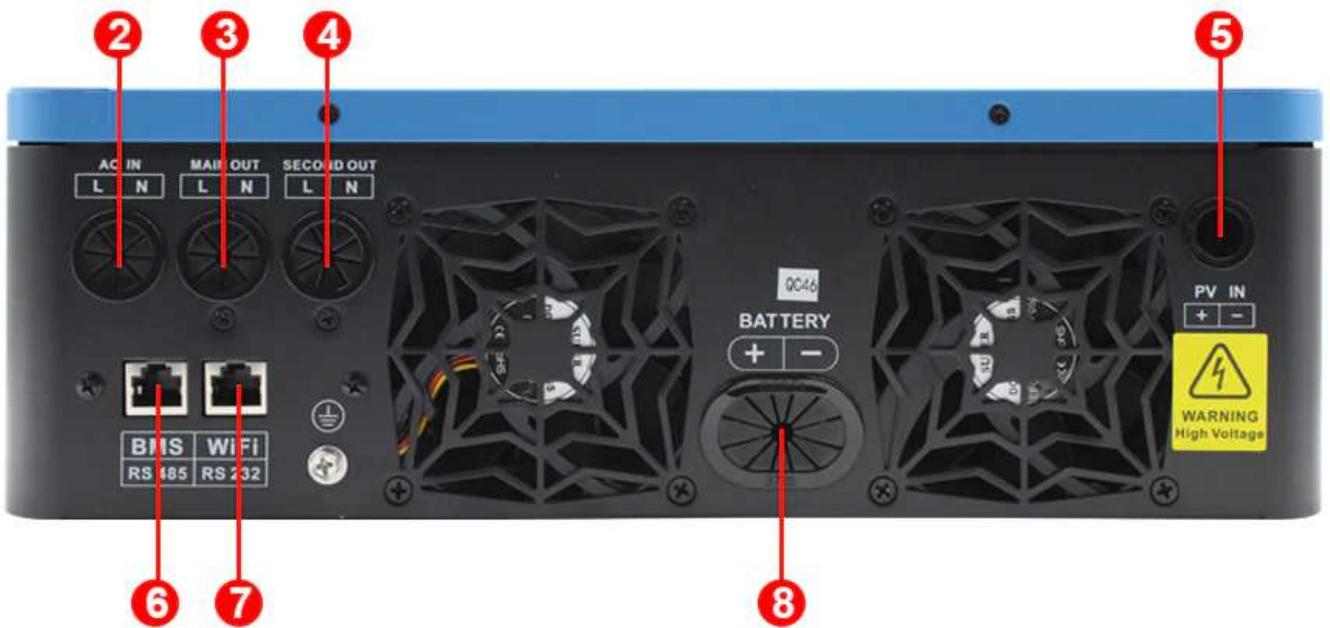


## LED Indicator

LED Indicator		Messages	
☀ AC / ⚡ INV	Green	Solid On	Output is powered by utility in Line mode.
		Flashing	Output is powered by battery or PV in battery mode.
🔋 CHG	Green	Solid On	Battery is fully charged.
		Flashing	Battery is charging.
⚠ FAULT	Red	Solid On	Fault occurs in the inverter.
		Flashing	Warning condition occurs in the inverter.

## Function Keys

Function Key	Description
ESC	To exit setting mode
UP	To go to previous selection
DOWN	To go to next selection
ENTER	To confirm the selection in setting mode or enter setting mode



1: Power on/off switch

5: PV input

2: AC input

6: Battery communication/RS-485 port

3: Main output

7: WIFI communication/RS-232 port

4: second output

8: Battery input

## Products Show



