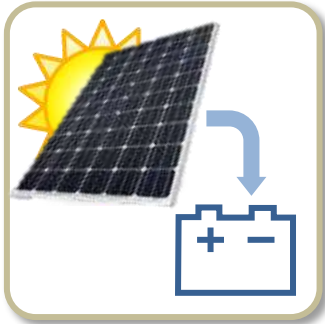


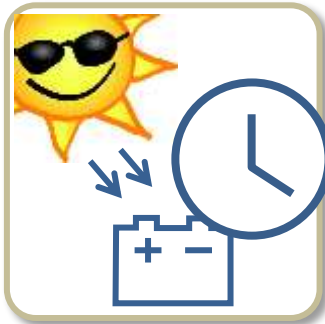
AC INVERTER WITH SOLAR CHARGE CONTROLLER

# 1K/2K/3K/5K



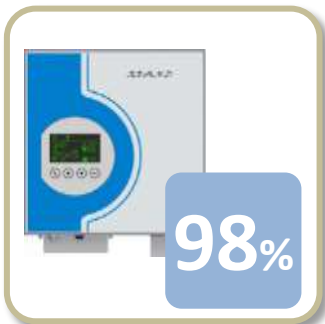
## Built-in Solar Charger

- Faster charging with solar power even during AC mains outage
- Clear charging status on LCD



## Extended Run Time

- When solar power presents, the battery run time can be largely extended



## Excellent Performance

- Up to 98% efficiency in line mode
- Works under 0~50°C environment
- Wall-mounting design for space saving

1K  
2K



Modified  
sine wave  
output

5K

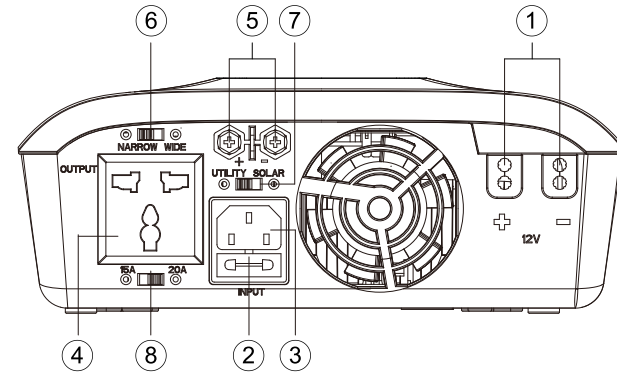
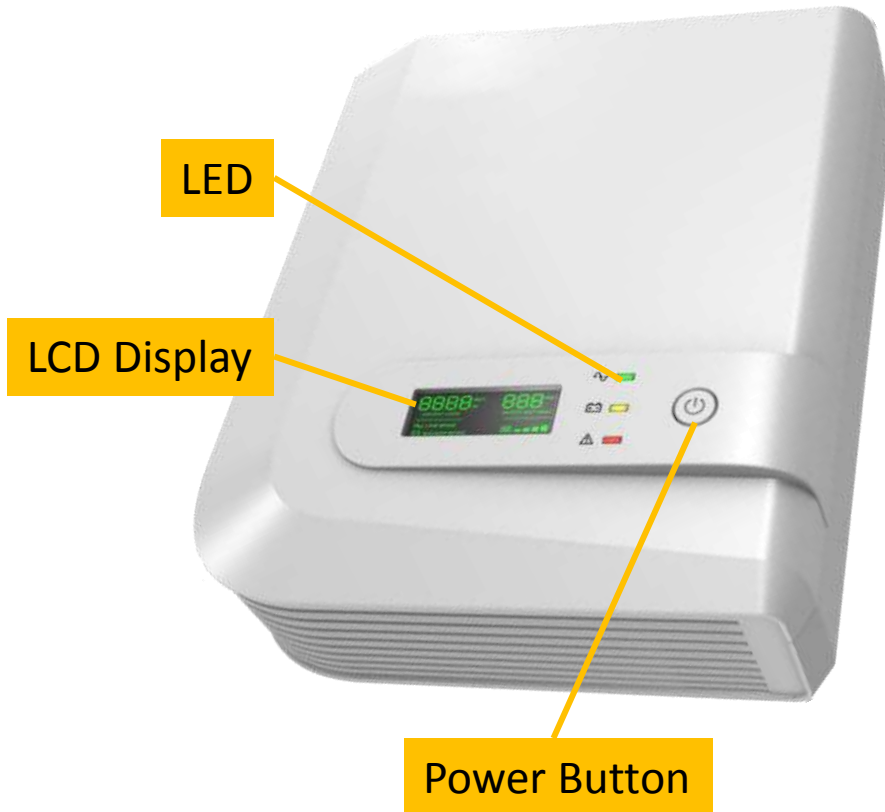
3K



sinewave  
output

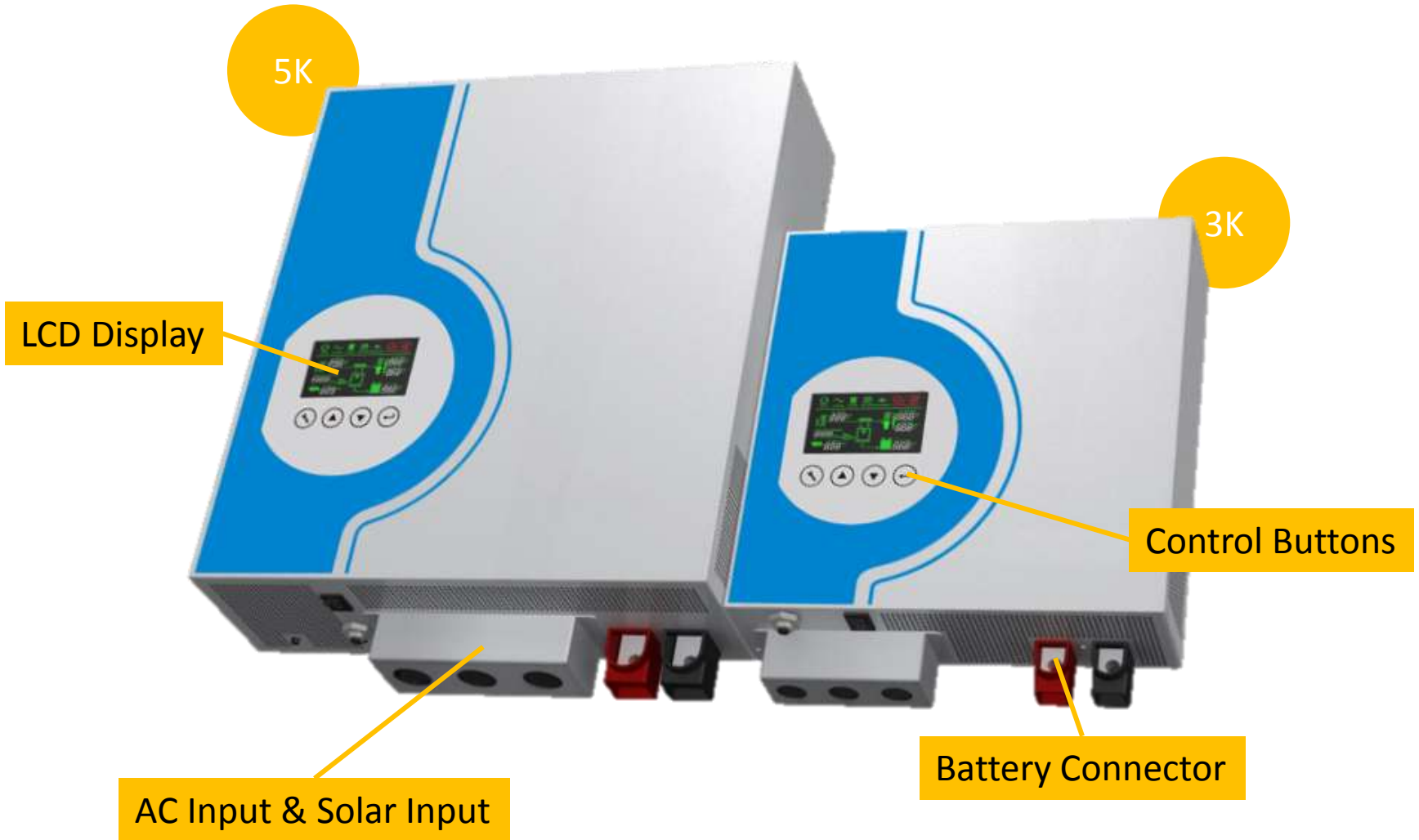
UPower is a reliable AC inverter with built-in solar charge controller allowing the battery to be charged by not only AC mains but also solar power.

# Product Outlook (1K/2K)

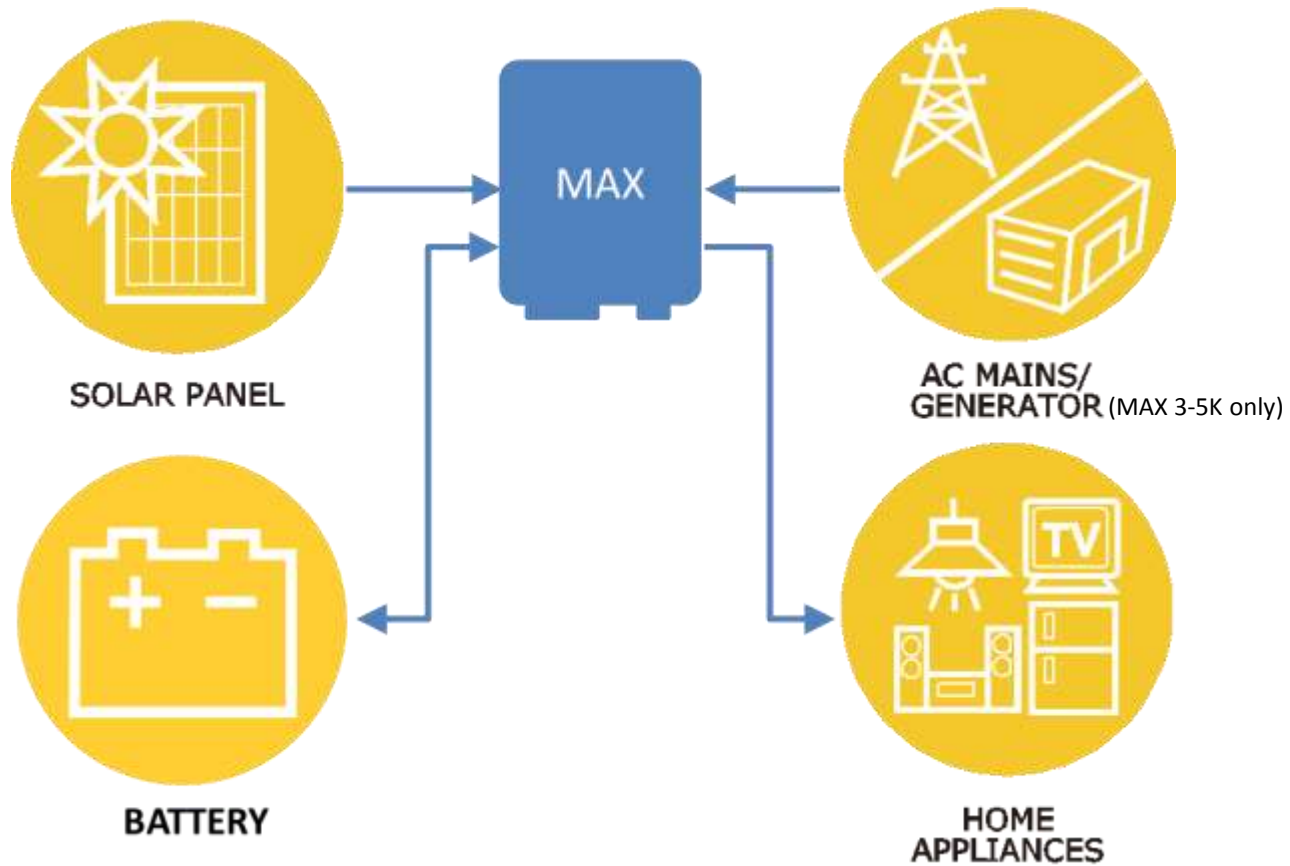


- ① Battery terminals
- ② AC input fuse
- ③ AC input receptacle
- ④ AC output receptacle
- ⑤ PV Input terminals
- ⑥ AC input voltage range selector
- ⑦ PV/Utility priority setting switch
- ⑧ Charging current setting switch (for 1K model only)

# Product Outlook (3K/5K)



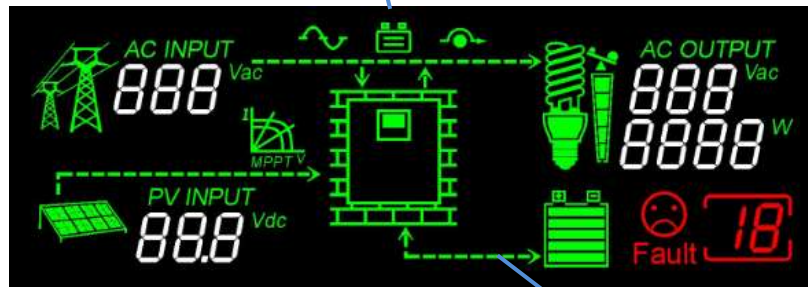
# Typical Application



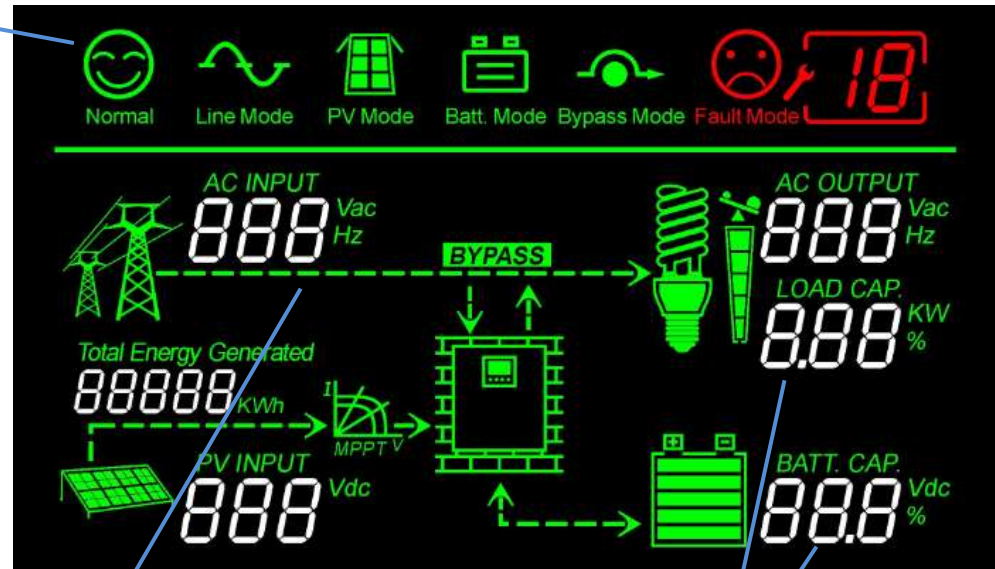
# Design of Graphic LCD

Visualized icons to indicate the operation modes

Optimized design on LCD allows user to understand the operational status at a glance



1-2Kva








3-5Kva

Clear power flow between AC input, solar input, battery and loads

Clear readings for Power/Voltage/Loading/Battery

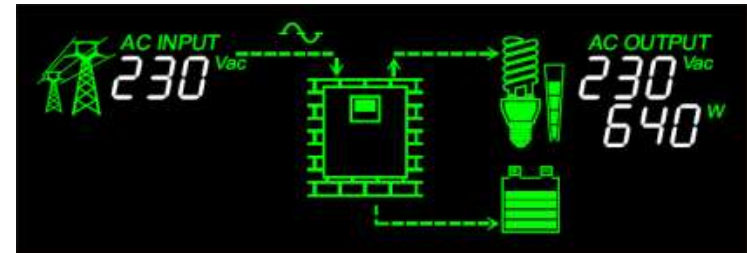
# Operation Modes

	 PV Power present	 Less PV Power	 No PV Power
 AC Input Power Present	<b>LINE MODE 2</b>		<b>LINE MODE 1</b>
 AC Input Power Absent	<b>BACKUP MODE 3</b>	<b>BACKUP MODE 2</b>	<b>BACKUP MODE 1</b>

# Operation Mode – Line Mode

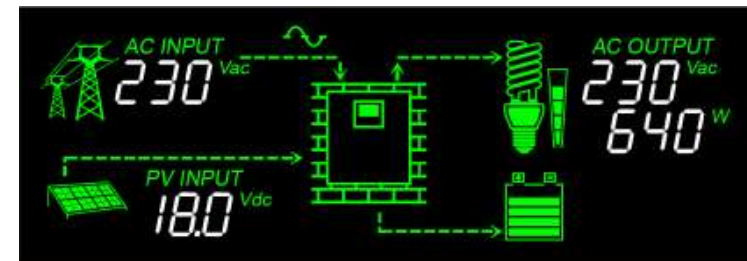
## LINE MODE 1

AC input power is present but there is no PV power (e.g. night time). Load is supplied by AC input power directly.



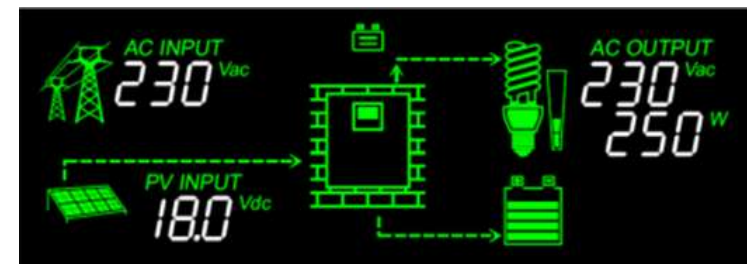
## LINE MODE 2

Both AC input and PV input are present. Load is supplied by either AC input or PV input depending on the priority switch's setting.



## Priority Setting Switch

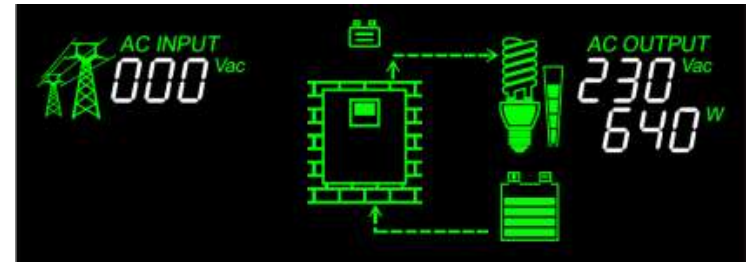
In LINE MODE 2, if priority setting switch is set to give PV priority and PV power is also strong enough to support load, the AC input will not be consumed even though it is present. This is deemed an energy-saving operation.



# Operation Mode – Backup Mode

## BACKUP MODE 1

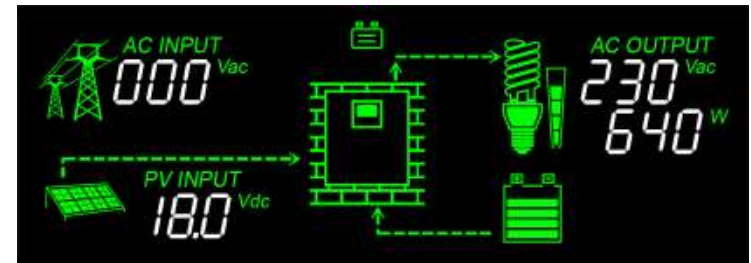
Both AC input and PV input are absent. The backup power to load only comes from battery. The backup time is determined by the capacity of battery.



## BACKUP MODE 2

AC input is absent and PV power is not enough to support loads completely and the insufficient power is covered by battery.

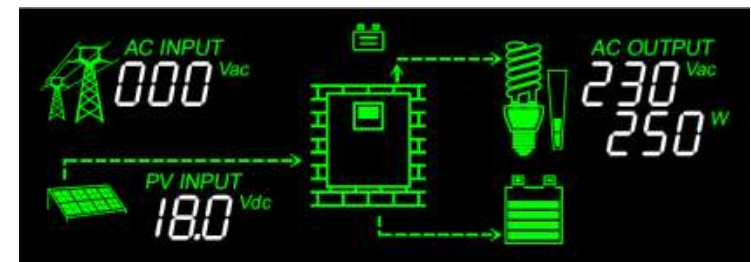
The larger the PV power, the less consumption from battery and therefore the longer backup time.



## BACKUP MODE 3

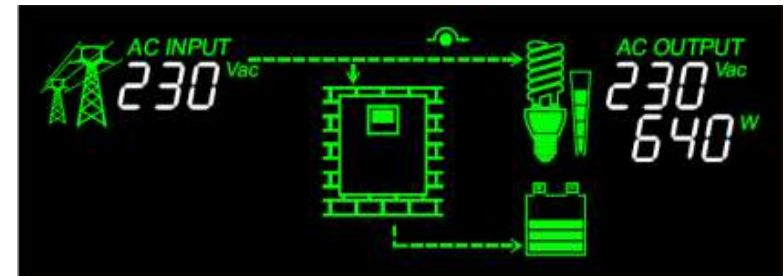
AC input is absent and PV power is strong enough to not only support the load but also charge the battery.

As long as the PV power persists, the load can be powered continuously without consuming power from battery → extended battery run time

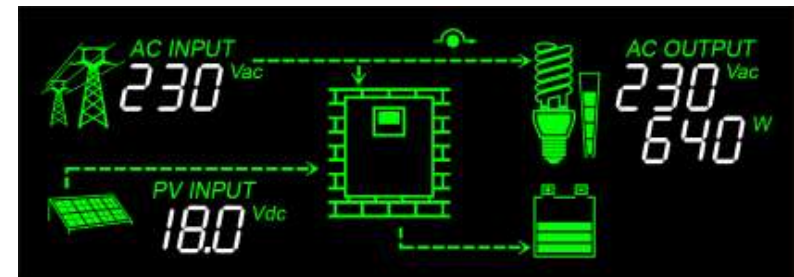


# Standby Charging Mode

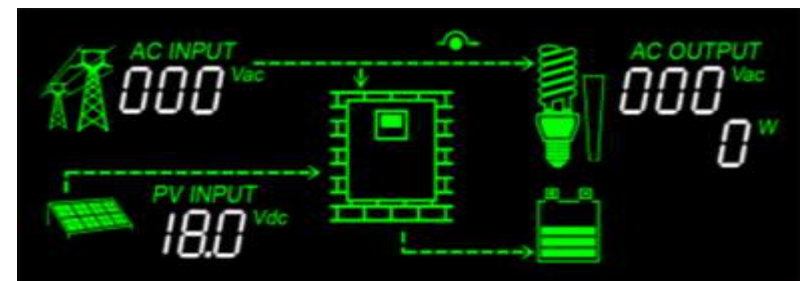
When AC input cable (from AC mains or generator) and battery is connected, the inverter will enter into **Standby Charging Mode** and LCD will be turned on (as shown right).



If PV string is also connected with enough voltage, the display will be as shown below to indicate the power flow from PV string.



Even if AC input is absent, PV power can still charge the battery and the display will be as shown below.



# Specification – 1-2Kva

MODEL		1Kva	2Kva
<b>CAPACITY</b>		1200VA/900W	2000VA/1500W
<b>AC INPUT</b>	Nominal Input Voltage	230V <sub>AC</sub>	
	Input Voltage Range (normal range) <sup>1</sup>	170-280V <sub>AC</sub>	
	Input Voltage Range (wide range) <sup>1</sup>	90-280V <sub>AC</sub>	
<b>AC OUTPUT</b>	Nominal Output Voltage	230V <sub>AC</sub>	
	Output Voltage Waveform	Modified sine wave	
	Output Voltage Regulation (Bat. Mode)	-18 ~ +10%	
	Output Frequency	50Hz / 60Hz ± 1Hz	
<b>AC CHARGER (charged by AC mains)</b>	Protection	10A fuse	
	Nominal Battery Voltage	12V <sub>DC</sub>	24V <sub>DC</sub>
	Charger Current	15/20A (configurable)	10A
<b>SOLAR CHARGER (charged by solar power)</b>	Max Solar Output Power <sup>2</sup>	450W	900W
	Optimal Input Voltage Range	15-18V <sub>DC</sub>	30-36V <sub>DC</sub>
	Max Solar Input Voltage	55V <sub>DC</sub>	
<b>EFFICIENCY</b>	Charging Current	40A max	
	AC to AC	>95%	
<b>Transfer Time</b>	DC to AC	>80%	
	Line Mode → Battery Mode	15ms (narrow range setting) 40ms (wide range setting)	
<b>DISPLAY</b>		1 x LCD, 3 x LED indicators	
<b>DIMENSION</b>	WxHxD	245 X 97.5 X 272 mm	
<b>NET WEIGHT</b>		2.22kg	2.25kg
<b>ENVIRONMENT</b>	Operating Temperature	0-50°C	
	Noise Level	<50dB	

Note:

1. Normal input range and wide input range can be configured via LCD.
2. The installed capacity of solar panel shall be no larger than this value.

# Specification – MAX 3-5K

MODEL		3Kva	5Kva
<b>CAPACITY</b>		3000VA/2400W	5000VA/4200W
<b>AC INPUT</b>	Nominal Input Voltage	230V <sub>AC</sub>	
	Input Voltage Range (normal range) <sup>1</sup>	175-280V <sub>AC</sub>	
	Input Voltage Range (wide range) <sup>1</sup>	125-280V <sub>AC</sub>	
	Nominal Output Voltage	230V <sub>AC</sub>	
<b>AC OUTPUT</b>	Output Voltage Waveform	Pure sine wave	
	Output Voltage Regulation (Bat. Mode)	±10%	
	Output Frequency	50Hz / 60Hz ± 1Hz	
	Protection	30A breaker	40A breaker
	Max Motor-based Loading	1.5HP	2.5HP
	<b>AC CHARGER (charged by AC mains)</b>	Nominal Battery Voltage	24V <sub>DC</sub>
<b>SOLAR CHARGER (charged by solar power)</b>	Charger Current	20/10A (configurable)	25A
	Max Solar Output Power <sup>2</sup>	800W	2400W
	Optimal Input Voltage Range	30-75V <sub>DC</sub>	60-150V <sub>DC</sub>
	Max Solar Input Voltage	75V <sub>DC</sub>	150V <sub>DC</sub>
<b>EFFICIENCY</b>	Charging Current	50A	60A
	AC to AC	>98%	
<b>Transfer Time</b>	DC to AC	>90%	
	Line Mode → Battery Mode	10ms (narrow range setting) 20ms (wide range setting)	
<b>DISPLAY</b>		1 x LCD	
<b>DIMENSION</b>	WxHxD	268.4x85.2x318 mm	350.4x119.1x428.5 mm
<b>NET WEIGHT</b>		5.7kg	10.4kg
<b>ENVIRONMENT</b>	Operating Temperature	0-50°C	
	Noise Level	<60dB	

Note:

1. Normal input range and wide input range can be configured via LCD.
2. The installed capacity of solar panel shall be no larger than this value.