

### Display Setting

The LCD display information will be switched in turns by pressing "UP" or "DOWN" key. The selectable information is switched as below order: battery voltage, battery current, inverter voltage, inverter current, grid voltage, grid current, load in Watt, load in VA, grid frequency, inverter frequency, PV voltage, PV charging power, PV charging output voltage, PV charging current.

Selectable information	LCD display	
Battery voltage/DC discharging current	520 <sup>BATT</sup> V	480 <sup>BATT</sup> A
Inverter output voltage/Inverter output current	229 <sup>INV</sup> V	130 <sup>INV</sup> A
Grid voltage/Grid current	229 <sup>GRID</sup> V	80 <sup>GRID</sup> A
Load in Watt	100 <sup>LOAD</sup> KW	120 <sup>LOAD</sup> VA
Grid frequency/Inverter frequency	500 <sup>INPUT</sup> Hz	500 <sup>INV</sup> Hz
PV voltage and power	120 <sup>PV</sup> V	200 <sup>PV</sup> KW
PV charger output voltage and PV charging current	510 <sup>PV</sup> V	400 <sup>OUTPUT</sup> A

### SPECIFICATIONS

Table 1 Line Mode Specifications

INVERTER MODEL	2KW~5.5KW
Input Voltage Waveform	Sinusoidal (utility or generator)
Nominal Input Voltage	230Vac
Low Loss Voltage	90Vac±7V(APL,GEN);170Vac±7V(UPS); 186Vac±7V(VDE)
Low Loss Return Voltage	100Vac±7V(APL,GEN);180Vac±7V(UPS); 196Vac±7V(VDE)
High Loss Voltage	280Vac±7V(UPS,APL,GEN); 253Vac±7V(VDE)
High Loss Return Voltage	270Vac±7V(UPS,APL,GEN); 250Vac±7V(VDE)
Max AC Input Voltage	300Vac
Nominal Input Frequency	50HZ/60HZ(Auto detection)
Low Loss Frequency	40HZ±1HZ(UPS,APL,GEN); 47.5HZ±0.05HZ(VDE)
Low Loss Return Frequency	42HZ±1HZ(UPS,APL,GEN); 47.5HZ±0.05HZ(VDE)
High Loss Frequency	65HZ±1HZ(UPS,APL,GEN); 51.5HZ±0.05HZ(VDE)
High Loss Return Frequency	63HZ±1HZ(APL,GEN,UPS); 50.05HZ±0.05HZ(VDE)

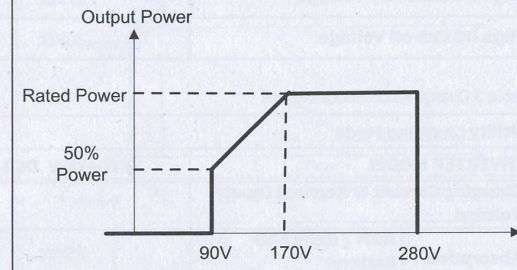
<b>Output Short Circuit Protection</b>	Line mode: Circuit Breaker Battery mode: Electronic Circuits
<b>Efficiency (Line Mode)</b>	>95%(Rated R load, battery full charged)
<b>Transfer Time</b>	10ms typical (UPS,VDE) 20ms typical (APL)
<b>Output power derating:</b> When AC input voltage drops to 95V or 170V depending on models, the output power will be derated.	230Vac model: 

Table 2 Inverter Mode Specifications

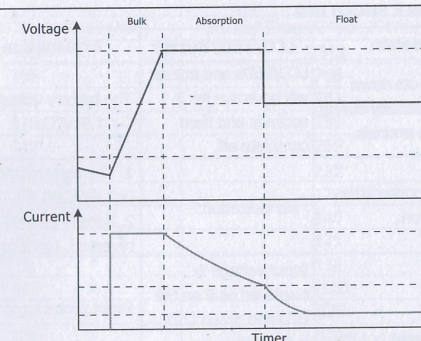
INVERTER MODEL	2KW~3KW DC24V	3KW~5.5KW DC48V
Rated Output Power	2000W~3000W	3000W~5500W
Output Voltage Waveform	Pure Sine Wave	
Output Voltage Regulation	230Vac±5%	
Output Frequency	60Hz or 50Hz	
Peak Efficiency	90%	
Overload Protection	5s@≥150% load; 10s@110%~150% load	
Surge Capacity	2 x rated power for 5 seconds	
Nominal DC Input Voltage	24Vdc	48Vdc
Cold Start Voltage	23.0Vdc	46.0Vdc
Low DC Warning Voltage		
@ load < 20%	22.0Vdc	44.0Vdc
@ 20% ≤ load < 50%	21.4Vdc	42.8Vdc
@ load ≥ 50%	20.2Vdc	40.4Vdc
Low DC Warning Return Voltage		
@ load < 20%	23.0Vdc	46.0Vdc
@ 20% ≤ load < 50%	22.4Vdc	44.8Vdc
@ load ≥ 50%	21.2Vdc	42.4Vdc

<b>Low DC Cut-off Voltage</b>		
@ load < 20%	21.0Vdc	42.0Vdc
@ 20% ≤ load < 50%	20.4Vdc	40.8Vdc
@ load ≥ 50%	19.2Vdc	38.4Vdc
<b>High DC Recovery Voltage</b>	27Vdc	58Vdc
<b>High DC Cut-off Voltage</b>	30Vdc	60Vdc

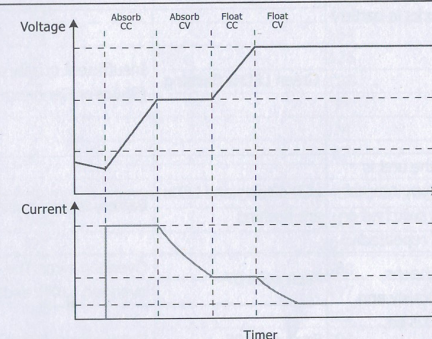
Table 3 Charge Mode Specifications

Utility Charging Mode			
INVERTER MODEL		2KW~3KW DC24V	3KW~5.5KW DC48V
<b>Charging Current @ Nominal Input Voltage</b>		1~60A	
<b>Absorption Voltage</b>	AGM / Gel/LEAD Battery	25Vdc	50Vdc
	Flooded battery	25Vdc	50Vdc
<b>Refloat Voltage</b>	AGM / Gel/LEAD Battery	27.4Vdc	54.8Vdc
	Flooded battery	27.4Vdc	54.8Vdc
<b>Float Voltage</b>	AGM / Gel/LEAD Battery	28.8Vdc	57.6Vdc
	Flooded battery	28.4Vdc	56.8Vdc
<b>Charging Algorithm</b>		3-Step(Flooded Battery,AGM/Gel/LEAD Battery),4-Step(LI)	
Solar Charging Mode			
INVERTER MODEL		2KW~3KW DC24V	3KW~5.5KW DC48V
<b>Rated Power</b>		1500W	3000W
		2000W	4000W
MPPT charger			
<b>solar charging current</b>		60A 80A	
<b>Max.PV Array Open Circuit Voltage</b>		145Vdc max	
<b>PV Array MPPT Voltage Range</b>		30~130Vdc	60~130Vdc
<b>Min battery voltage for PV charge</b>		17Vdc	34Vdc
<b>Standby Power Consumption</b>		2W	
PWM charger			
<b>solar charging current</b>		60A	
<b>Operating Voltage Range</b>		64~72Vdc	
<b>Max.PV Array Open Circuit Voltage</b>		105Vdc	
<b>Min battery voltage for PV charge</b>		34Vdc	
<b>Battery Voltage Accuracy</b>		+/-0.3%	
<b>PV Voltage Accuracy</b>		+/-2V	
<b>Charging Algorithm</b>		3-Step(Flooded Battery,AGM/Gel/LEAD Battery), 4-Step(LI)	

Charging algorithm for lead acid battery



Charging algorithm for Lithium battery



Joint Utility and Solar Charging

INVERTER MODEL	2KW~3KW DC24V		3KW~5.5KW DC48V
	MPPT		MPPT   PWM
<b>Max Charging Current</b>	120A 140A		120A
<b>Default Charging Current</b>	60A 80A		60A

Table 4 General Specifications

INVERTER MODEL	2KW~3KW DC24V	3KW~5.5KW DC48V
<b>Safety Certification</b>	CE	
<b>Operating Temperature Range</b>	-10°C to 50°C	
<b>Storage temperature</b>	-15°C~ 60°C	
<b>Dimension (D*W*H), mm</b>	420 x 288 x 122	468 x 330 x 119
<b>Net Weight, kg</b>	9.0	10.0