

5.4 LCD Setting

After pressing and holding ENTER button for 3 seconds, the unit will enter setting mode. Press "UP" or "DOWN" button to select setting programs. And then, press "ENTER" button to confirm the selection or ESC button to exit.

Setting Programs:

Program	Description	Selectable option	
00	Exit setting mode	Escape (default) 00 <u>GOE</u>	One-button restore setting options
		00 <u>GOH</u>	
01	Output source priority: To configure load power source priority	Utility first 01 <u>USb</u>	Utility will provide power to the loads as first priority. Solar and battery energy will provide power to the loads only when utility power is not available.
		Solar first (default) 01 <u>SUb</u>	Solar energy provides power to the loads as first priority. If solar energy is not sufficient to power all connected loads, utility will supply power to the loads at the same time. Battery provides power to the loads only when any one condition happens: - Solar energy and utility is not available. - Solar energy is not sufficient and utility is not available.
		SBU priority 01 <u>SbU</u>	Solar energy provides power to the loads as first priority. If solar energy is not sufficient to power all connected loads, battery energy will supply power to the loads at the same time. Utility provides power to the loads only when battery voltage drops to either low-level warning voltage or the setting point in program 12.
		MKS priority 01 <u>nT5</u>	Solar energy provides power to the loads as first priority, if solar energy is not sufficient to power all connected loads, utility energy will supply power to the loads at the same time. The battery only supplies energy to the load as a backup power.

02	Maximum charging current: To configure total charging current for solar and utility chargers. (Max. charging current = utility charging current + solar charging current)	10A 02 10 ^A	20A 02 20 ^A	30A 02 30 ^A
		40A 02 40 ^A	50A 02 50 ^A	60A (default) 02 60 ^A
		70A 02 70 ^A	80A 02 80 ^A	90A 02 90 ^A
		100A 02 100 ^A	110A 02 110 ^A	120A 02 120 ^A
03	AC input voltage range	Appliances (default) 03 APL	If selected, acceptable AC input voltage range will be within 90-280VAC.	
		UPS 03 UPS	If selected, acceptable AC input voltage range will be within 170-280VAC.	
05	Battery type	AGM (default) 05 AGM	Flooded 05 FLD	
		User-Defined 05 USE	LIB 05 LIB	When using lithium battery and not connected to BMS communication
		LIB-485 LIB 05 485	If "User-Defined" is selected, battery charge voltage and low DC cut-off voltage can be set up in program 26, 27 and 29.	
06	Auto restart when overload occurs	Restart disable (default) 06 LTD	Restart enable 06 LFE	
07	Auto restart when over temperature occurs	Restart disable (default) 07 LTD	Restart enable 07 LFE	
09	Output frequency	50Hz (default) 09 50 ^{Hz}	60Hz 09 60 ^{Hz}	
10	Output voltage	220V 10 220 ^v	230V (default) 10 230 ^v	
		240V 10 240 ^v		
11	Maximum utility charging current Note: If setting value in program 02 is smaller than that in program in 11, the inverter will apply charging	2A 11 2A	10A 11 10A	
		20A 11 20A	30A (default) 11 30A	

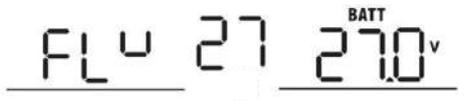
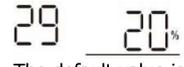
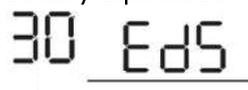
	current from program 02 for utility charger.	40A 11 40A	50A 11 50A
		60A 11 60A	70A 11 70A
		80A 11 80A	90A 11 90A
12	Setting voltage point back to utility source when selecting "SBU priority" or "Solar first" in program 01.	Available options in 3.6KW/4.2KW model:	
		21.0V 12 ^{BATT} 21.0v	21.5V 12 ^{BATT} 21.5v
		22.0V 12 ^{BATT} 22.0v	22.5V 12 ^{BATT} 22.5v
		23.0V (default) 12 ^{BATT} 23.0v	23.5V 12 ^{BATT} 23.5v
		24.0V 12 ^{BATT} 24.0v	24.5V 12 ^{BATT} 24.5v
		25.0V 12 ^{BATT} 25.0v	25.5V 12 ^{BATT} 25.5v
		Available options in 6.2KW model:	
		42V 12 ^{BATT} 42v	43V 12 ^{BATT} 43v
		44V 12 ^{BATT} 44v	45V 12 ^{BATT} 45v
		46V (default) 12 ^{BATT} 46v	47V 12 ^{BATT} 47v
		48V 12 ^{BATT} 48v	49V 12 ^{BATT} 49v
		50V 12 ^{BATT} 50v	51V 12 ^{BATT} 51v

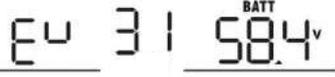
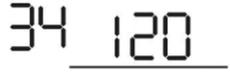
When "SBU" is selected in program 01 and "LIB-485" is selected in program 05, the power point is set back to the common power supply.	Available options in 3.6KW/4.2KW/6.2KW model:		
	10% 12 10 —	15% 12 15 —	When the power is lower than the set value, it will auto matically switch back to the public power output (if the public power access has a delay, it will be switched to the public power after the delay time after the power is lower than the set value.)
	20% 12 20 —	25% 12 25 —	
	30% 12 30 —	35% 12 35 —	
	40% 12 40 —	45% 12 45 —	
	50% (default) 12 50 —		

13	Setting voltage point back to battery mode when selecting "SBU priority" or "Solar first" in program 01.	Available options in 3.6KW/4.2KW model:	
		Battery fully charged	24V
		13 ^{BATT} FUL	13 ^{BATT} 24.0 _v
		24.5V	25V
		13 ^{BATT} 24.5 _v	13 ^{BATT} 25.0 _v
		25.5V	26V
		13 ^{BATT} 25.5 _v	13 ^{BATT} 26.0 _v
		26.5V	27V (default)
		13 ^{BATT} 26.5 _v	13 ^{BATT} 27.0 _v
		27.5V	28V
		13 ^{BATT} 27.5 _v	13 ^{BATT} 28.0 _v
		28.5V	29V
		13 ^{BATT} 28.5 _v	13 ^{BATT} 29.0 _v
		Available options in 6.2KW model:	
Battery fully charged	48V		
13 ^{BATT} FUL	13 ^{BATT} 48.0 _v		
49V	50V		
13 ^{BATT} 49.0 _v	13 ^{BATT} 50.0 _v		
51V	52V		
13 ^{BATT} 51.0 _v	13 ^{BATT} 52.0 _v		
53V	54V (default)		
13 ^{BATT} 53.0 _v	13 ^{BATT} 54.0 _v		

		55V 13 ^{BATT} <u>550</u> v	56V 13 ^{BATT} <u>560</u> v	
		57V 13 ^{BATT} <u>570</u> v	58V 13 ^{BATT} <u>580</u> v	
		Available options in 3.6KW/4.2KW/6.2KW model:		
When "SBU" is selected in program 01 and "LIB-485" is selected in program 05, the power point is set back to battery mode.	30%	13 <u>30</u>	35%	13 <u>35</u>
	40%	13 <u>40</u>	45%	13 <u>45</u>
	50%	13 <u>50</u>	55%	13 <u>55</u>
	60%	13 <u>60</u>	65%	13 <u>65</u>
	70%	13 <u>70</u>	75%	13 <u>75</u>
	80%	13 <u>80</u>	85%	13 <u>85</u>
	90%	13 <u>90</u>	95%(default)	13 <u>95</u>
	100%	13 <u>100</u>		
			When the battery power is higher than the set value, it will automatically switch back to the battery mode output (when the set value is 100, it will automatically switch when the battery power is 100%.)	

16	Charger source priority: To configure charger source priority	If this inverter/charger is working in Line, Standby or Fault mode, charger source can be programmed as below:	
		Solar first 16 <u>CS0</u>	Solar energy will charge battery as first priority. Utility will charge battery only when solar energy is not available.
		Solar and Utility (default) 16 <u>SNU</u>	Solar energy and utility will charge battery at the same time.
		Only Solar 16 <u>OS0</u>	Solar energy will be the only charger source no matter utility is available or not.
If this inverter/charger is working in Battery mode or Power saving mode, only solar energy can charge battery. Solar energy will charge battery if it's available and sufficient.			
18	Alarm control	Alarm on (default) 18 <u>bon</u>	Alarm off 18 <u>bof</u>
19	Auto return to default display screen	Return to default display screen (default) 19 <u>ESP</u>	If selected, no matter how users switch display screen, it will automatically return to default display screen (Input voltage /output voltage) after no button is pressed for 1 minute.
		Stay at latest screen 19 <u>FEP</u>	If selected, the display screen will stay at latest screen user finally switches.
20	Backlight control	Backlight on (default) 20 <u>LON</u>	Backlight off 20 <u>LOF</u>
22	Beeps while primary source is interrupted	Alarm on (default) 22 <u>RON</u>	Alarm off 22 <u>ROF</u>
23	Overload bypass: When enabled, the unit will transfer to line mode if overload occurs in battery mode.	Bypass disable (default) 23 <u>byd</u>	Bypass enable 23 <u>bye</u>
25	Record Fault code	Record enable (default) 25 <u>FEN</u>	Record disable 25 <u>FdS</u>

26	Bulk charging voltage (C.V voltage)	3.6KW/4.2KW default setting: 28.2V 
		6.2KW default setting: 56.4V 
		If self-defined is selected in program 5, this program can be set up. Setting range is from 25.0V to 30.0V for 3.6KW/4.2KW model and 48.0V to 60.0V for 6.2KW model. Increment of each click is 0.1V.
27	Floating charging voltage	3.6KW/4.2KW default setting: 27.0V 
		6.2KW default setting: 54.0V 
		If self-defined is selected in program 5, this program can be set up. Setting range is from 25.0V to 30.0V for 3.6KW/4.2KW model and 48.0V to 60.0V for 6.2KW model. Increment of each click is 0.1V.
29	Low DC cut-off voltage	3.6KW/4.2KW default setting: 20.0V 
		6.2KW default setting: 40.0V 
		If self-defined is selected in program 5, this program can be set up. Setting range is from 20.0V to 25.0V for 3.6KW/4.2KW model and 40.0V to 50.0V for 6.2KW model. Increment of each click is 0.1V. Low DC cut-off voltage will be fixed to setting value no matter what percentage of load is connected.
		If "LIB-485" is selected in item 05, you can set the battery low SOC shutdown point.  The default value is 20%, and 5% ~ 30% can be set.
30	Battery equalization	Battery equalization 
		Battery equalization disable (default) 
31	Battery equalization voltage	If "Flooded" or "User-Defined" is selected in program 05, this program can be set up.
		3.6KW/4.2KW default setting: 29.2V 

		6.2KW default setting: 58.4V 	
		Setting range is from 25.0V to 31.5V for 3.6KW/4.2KW model and 48.0V to 61.0V for 6.2KW model. Increment of each click is 0.1V.	
33	Battery equalized time	60min (default) 	Setting range is from 5min to 900min. Increment of each click is 5min.
34	Battery equalized timeout	120min (default) 	Setting range is from 5min to 900 min. Increment of each click is 5 min.
35	Equalization interval	30days (default) 	Setting range is from 0 to 90 days. Increment of each click is 1 day
36	Equalization activated immediately	Enable 	Disable (default) 
		If equalization function is enabled in program 30, this program can be set up. If "Enable" is selected in this program, it's to activate battery equalization immediately and LCD main page will shows "E9". If "Disable" is selected, it will cancel equalization function until next activated equalization time arrives based on program 35 setting. At this time, "E9" will not be shown in LCD main page.	
37	GRID-tie operation	Off grid (default) 	Inverter operates only in off-grid mode. Solar energy provides power to the loads as first priority and charging second
		Hybrid 	Inverter operates hybrid mode. Solar energy provides power to the loads as first priority and charging second Excess energy feed to grid.
38	GRID-tie current	10A 	Increment of each click is 2A.
39	Led pattern light	Led pattern off 	Led pattern on (default)
			
41	Dual output	disable (default) 	use
			
42	Enter the dual output functional voltage point	3.6KW/4.2KW default setting: 22.0V 	
		6.2KW default setting: 44.0V 	
		Setting range is from 20.0V to 26.0V for 24VDC model and 40.0V to 52.0V for 48VDC model. Increment of each click is 0.1V.	

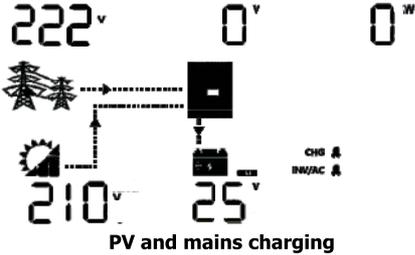
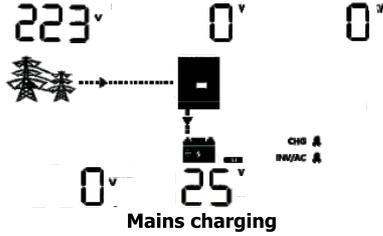
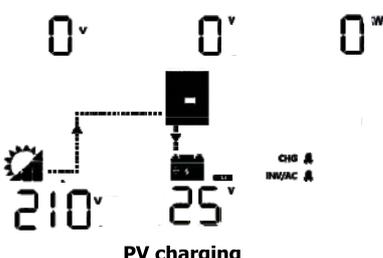
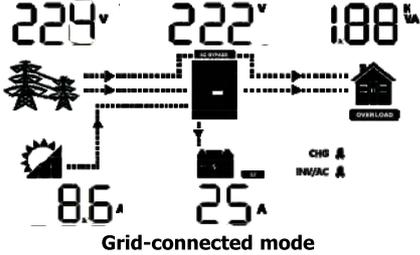
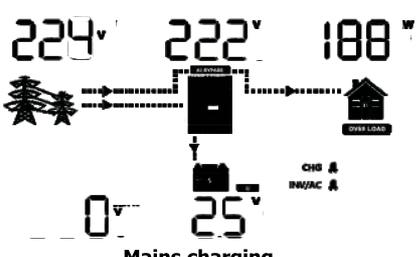
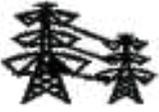
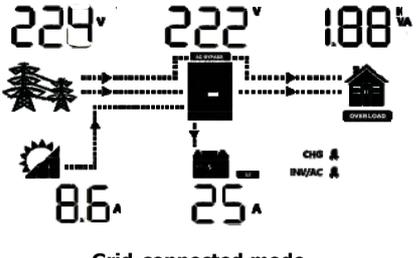
		Available options in 3.6KW/4.2KW/6.2KW model:	
	Enter the power point of dual output function	5% 42 <u>5</u>	10% 42 <u>10</u>
		15% 42 <u>15</u>	20% 42 <u>20</u>
		25% 42 <u>25</u>	30% 42 <u>30</u>
		35% 42 <u>35</u>	40% 42 <u>40</u>
		45% 42 <u>45</u>	50% 42 <u>50</u>
		55%(default) 42 <u>55</u>	60% 42 <u>60</u>
		65% 42 <u>65</u>	70% 42 <u>70</u>
		75% 42 <u>75</u>	80% 42 <u>80</u>
		85% 42 <u>85</u>	
			When the power is lower than the set value or battery low voltage alarm, the main output of the inverter is disconnected, and the main output no longer supplies power to the external.
43	Lithium battery protocol	PYLON (default) 43 <u>PYL</u>	PACE 43 <u>PAC</u>
44	Delayed grid access	disable 44 <u>DIS</u>	enable(default) 44 <u>ENR</u>
45	Maximum Second Load	33%(default)	If the inverter enter the dual output function, the output power of the second channel, can be change to 20%~70% of the rated power.

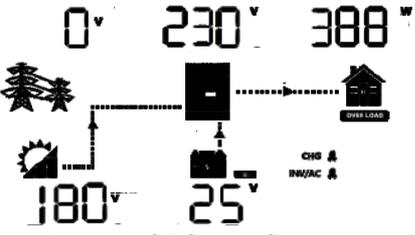
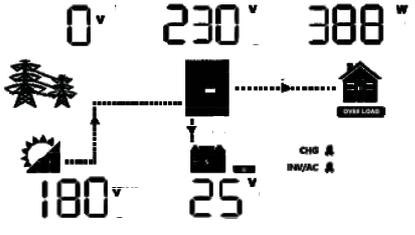
5.5 Display Setting

The LCD display information will be switched in turns by pressing "UP" or "DOWN" key. The selectable information is switched as below order: input voltage, input frequency, PV voltage, charging current, charging power, battery voltage, output voltage, output frequency, load percentage, load in Watt, load in VA, load in Watt, DC discharging current, main CPU Version.

Selectable information	LCD display
Charged state, and the power is less than 1kw	
Input voltage=222V , PV voltage=168V, Battery voltage=25V, Output voltage=222V, Load in Watt=188W, Chg(Flashing), Inv/ac(bright)	
Input voltage=223V , PV current=2.3A, Battery current=20A, Output voltage=224V, Load in VA=188VA, Chg(Flashing), Inv/ac(bright)	
Input frequency=50.0Hz , PV power=0.434KWh, Battery current=20A, Output frequency=50.0Hz, Load in watt=188W, Chg(Flashing), Inv/ac(bright)	
Input voltage=223V , Pv ntc temperture=71.0°C, Battery voltage= 25V, Inv ntc temperture=35.0°C, Load percentage=12% , Chg(Flashing), Inv/ac(bright)	
Main CPU version checking	Main CPU version 24 00

5.6 Operating Mode Description

Operation mode	Selectable information	LCD display
<p>Stand by mode/ Power saving mode Note: *standby mode: The inverter is not turned on yet but at this time, the inverter can charge battery without AC output. *Power saving mode: If enabled, the output of inverter will be off when connected load is pretty low or not detected.</p>	<p>No output is supplied by the unit but it still can charge batteries.</p>	 <p>PV and mains charging</p>  <p>Mains charging</p>  <p>PV charging</p>
<p>Line Mode</p>	<p>The unit will provide output power from the mains. It will also charge the battery at line mode.</p>	 <p>Grid-connected mode</p>  <p>Mains charging</p>
<p>Grid-Tie operation</p>	<p>When working in Grid-Tie mode, the will be flash 3S/times.</p> 	 <p>Grid-connected mode</p>

Operation mode	Selectable information	LCD display
Battery Mode	The unit will provide output power from battery and power.	 <p>Battery and Solar supply power to loads at the same time</p>
		 <p>Solar supply power to loads</p>

RGB Light (option)

① Battery Mode:red Light

② Utility Mode:blue Light

③ PV Mode:purple Light

5.7 Battery Equalization Description

Equalization function is added into charge controller. It reverses the buildup of negative chemical effects like stratification, a condition where acid concentration is greater at the bottom of the battery than at the top. Equalization also helps to remove sulfate crystals that might have built up on the plates. If left unchecked, this condition, called sulfation, will reduce the overall capacity of the battery. Therefore, it's recommended to equalize battery periodically.

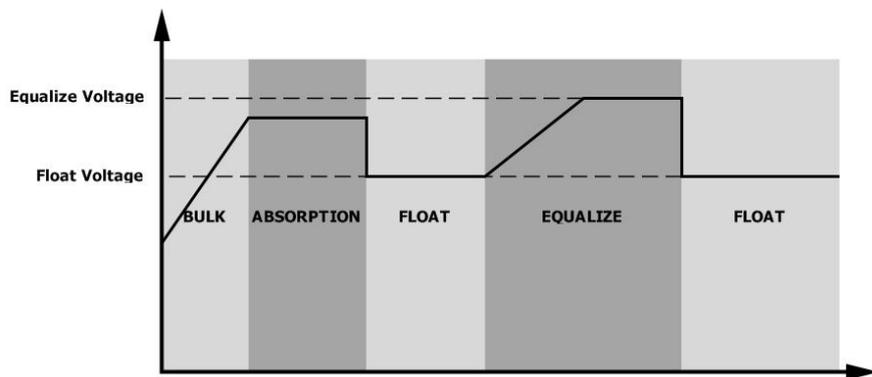
⌘ How to Apply Equalization Function

You must enable battery equalization function in monitoring LCD setting program 30 first. Then, you may apply this function in device by either one of following methods:

1. Setting equalization interval in program 35.
2. Active equalization immediately in program 36.

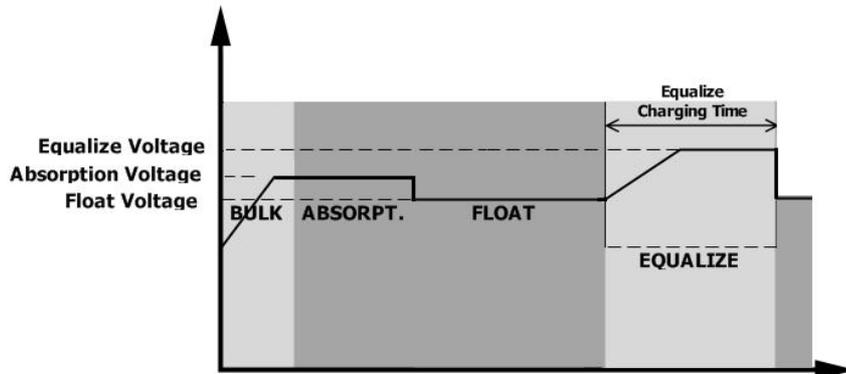
⌘ When to Equalize

In float stage, when the setting equalization interval (battery equalization cycle) is arrived, or equalization is active immediately, the controller will start to enter Equalize stage.

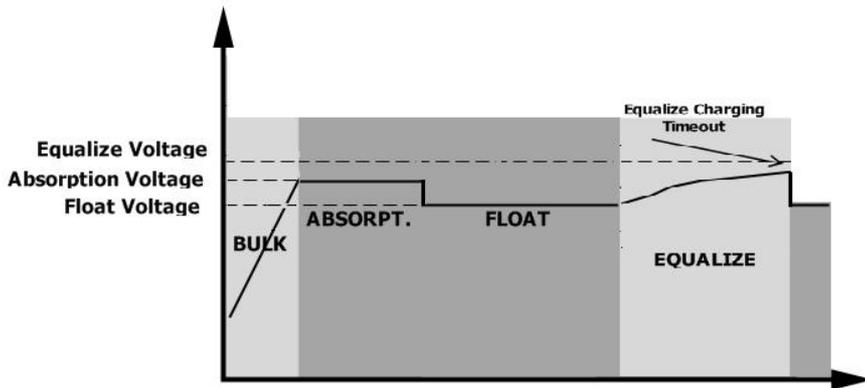


⌘ Equalize charging time and timeout

In Equalize stage, the controller will supply power to charge battery as much as possible until battery voltage raises to battery equalization voltage. Then, constant-voltage regulation is applied to maintain battery voltage at the battery equalization voltage. The battery will remain in the Equalize stage until setting battery equalized time is arrived.



However, in Equalize stage, when battery equalized time is expired and battery voltage doesn't rise to battery equalization voltage point, the charge controller will extend the battery equalized time until battery voltage achieves battery equalization voltage. If battery voltage is still lower than battery equalization voltage when battery equalized timeout setting is over, the charge controller will stop equalization and return to float stage.



5.8 Mains and lithium battery activation function

1. After 90s of mains power connection to the inverter, the machine is connected to the mains and starts to work.
2. The inverter is in lithium battery mode (item 05 is LIb or LIb-485). After the mains is connected, the battery is not connected, and the mains activation function is automatically enabled.

5.9 Fault Reference Code

Fault Code	Fault Event	Icon on
01	Fan is locked when inverter is off.	01 _{ERROR}
02	Over temperature	02 _{ERROR}
03	Battery voltage is too high	03 _{ERROR}
04	Battery voltage is too low	04 _{ERROR}
05	Output short circuited or over temperature is detected by internal converter components.	05 _{ERROR}
06	Output voltage is too high.	06 _{ERROR}
07	Overload time out	07 _{ERROR}
08	Bus voltage is too high	08 _{ERROR}
09	Bus soft start failed	09 _{ERROR}
51	Over current or surge	51 _{ERROR}
52	Bus voltage is too low	52 _{ERROR}
53	Inverter soft start failed	53 _{ERROR}
55	Over DC voltage in AC output	55 _{ERROR}
57	Current sensor failed	57 _{ERROR}
58	Output voltage is too low	58 _{ERROR}
59	PV voltage is over limitation	59 _{ERROR}

5.10 Warning Indicator

Warning Code	Warning Event	Audible Alarm	Icon flashing
01	Fan is locked when inverter is on.	Beep three times every second	01 [⊕]
03	Battery is over-charged	Beep once every second	03 [⊕]
04	Low battery	Beep once every second	04 [⊕]
07	Overload	Beep once every 0.5 second	07 [⊕]
10	Output power derating	Beep twice every 3 seconds	10 [⊕]
15	PV energy is low.	Beep twice every 3 seconds	15 [⊕]
E9	Battery equalization	None	E9 [⊕]
bP	Battery is not connected	None	bP [⊕]

6 CLEARANCE AND MAINTENANCE FOR ANTI-DUST KIT

6.1 Overview

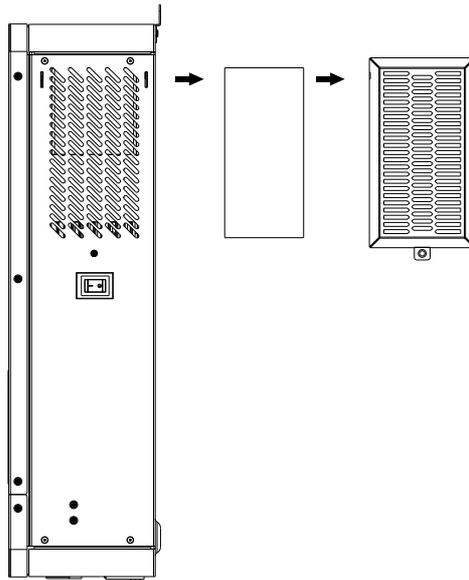
Every inverter is already installed with anti-dusk kit from factory. Inverter will automatically detect this kit and activate internal thermal sensor to adjust internal temperature. This kit also keeps dusk from your inverter and increases product reliability in harsh environment.

6.2 Clearance and Maintenance

Step 1: Please loosen the screw in counterclockwise direction on the top of the inverter.



Step 2: Then, dustproof case can be removed and take out air filter foam as shown in below chart.



Step 3: Clean air filter foam and dustproof case. After clearance, re-assemble the dust-kit back to the inverter.

NOTICE: The anti-dust kit should be cleaned from dust every one month.

7 SPECIFICATIONS

Table 1 Line Mode Specifications

INVERTER MODEL	3.6KW	4.2KW	6.2KW
Input Voltage Waveform	Sinusoidal (utility or generator)		
Nominal Input Voltage	230Vac		
Low Loss Voltage	170Vac±7V (UPS); 90Vac±7V (Appliances)		
Low Loss Return Voltage	180Vac±7V (UPS); 100Vac±7V (Appliances)		
High Loss Voltage	280Vac±7V		
High Loss Return Voltage	270Vac±7V		
Max AC Input Voltage	300Vac		
Nominal Input Frequency	50Hz / 60Hz (Auto detection)		
Low Loss Frequency	40±1Hz		
Low Loss Return Frequency	42±1Hz		
High Loss Frequency	65±1Hz		
High Loss Return Frequency	63±1Hz		
Output Short Circuit Protection	Circuit Breaker		
Efficiency (Line Mode)	>95% (Rated R load, battery full charged)		
Transfer Time	10ms typical (UPS); 20ms typical (Appliances)		
<p>Output power derating: When AC input voltage drops to 170V, the output power will be derated.</p>	<p>The graph plots Output Power on the vertical axis against Input Voltage on the horizontal axis. The horizontal axis has markers at 90V, 170V, and 280V. The vertical axis has markers for 50% Power and Rated Power. The power curve is zero for input voltages below 90V. At 90V, the power jumps to 50% of the rated power. From 90V to 170V, the power increases linearly to reach the full Rated Power. From 170V to 280V, the power remains constant at the Rated Power level. Above 280V, the power drops to zero.</p>		

Table 2 Inverter Mode Specifications

INVERTER MODEL	3.6KW	4.2KW	6.2KW
Rated Output Power	3.6KW	4.2KW	6.2KW
Output Voltage Waveform	Pure Sine Wave		
Output Voltage Regulation	230Vac±5%		
Output Frequency	50Hz		
Peak Efficiency	93%		
Overload Protection	3s@≥150% load; 5s@101%~150% load		
Surge Capacity	2* rated power for 5 seconds		
Nominal DC Input Voltage	24Vdc		48Vdc
Cold Start Voltage	23.0Vdc		46.0Vdc
Low DC Warning Voltage			
@ load < 50%	22.0Vdc		44.0Vdc
@ load ≥ 50%	21.0Vdc		42.0Vdc
Low DC Warning Return Voltage			
@ load < 50%	22.5Vdc		45.0Vdc
@ load ≥ 50%	22.0Vdc		44.0Vdc
Low DC Cut-off Voltage			
@ load < 50%	20.5Vdc		41.0Vdc
@ load ≥ 50%	20.0Vdc		40.0Vdc
High DC Recovery Voltage	32Vdc		62Vdc
High DC Cut-off Voltage	33Vdc		63Vdc
No Load Power Consumption	30W	35W	50W

Table 3 Two Load Output Power

INVERTER MODEL	3.6KW	4.2KW	6.2KW
Full Load	3600W	4200W	6200W
Maximum Main Load	3600W	4200W	6200W
Second Load Range	720W~2520W	840W~2940W	1240W~4340W
Main Load Cut Off Voltage	22VDC		44VDC
Main Load Return Voltage	26VDC		52VDC

Table 4 Charge Mode Specifications

Utility Charging Mode			
INVERTER MODEL	3.6KW	4.2KW	6.2KW
Charging Algorithm	3-Step		
AC Charging Current (Max)	100Amp (@ $V_{1P}=230V_{ac}$)		
Bulk Charging Voltage	Flooded Battery	29.2	58.4
	AGM / Gel Battery	28.2	56.4
Floating Charging Voltage	27Vdc		54Vdc
Charging Curve			
MPPT Solar Charging Mode			
INVERTER MODEL	3.6KW	4.2KW	6.2KW
Max. PV Array Power	6200W		6500W
Nominal PV Voltage	240Vdc		360Vdc
PV Array MPPT Voltage Range	60Vdc~450Vdc		
Max. PV Array Open Circuit Voltage	500Vdc		
Max Charging Current (AC charger plus solar charger)	120Amp	120Amp	120Amp

Table 5 Grid-Tie Operation

INVERTER MODEL	3.6KW	4.2KW	6.2KW
Nominal Output Voltage	220/230/240 VAC		
Feed-in Grid Voltage Range	195 ~ 253VAC		
Feed-in Grid Frequency Range	50 ± 1Hz / 60 ± 1Hz		
Nominal Output Current	15.7A	18.2A	26.9A
Power Factor Range	>0.99		
Maximum Conversion Efficiency (DC/AC)	97%		

Table 6 General Specifications

INVERTER MODEL	3.6KW	4.2KW	6.2KW
Safety Certification	CE		
Operating Temperature Range	-10°C to 50°C		
Storage temperature	-15°C~ 60°C		
Humidity	5% to 95% Relative Humidity (Non-condensing)		
Dimension (D*W*H), mm	358×442×116		
Net Weight, kg	8.0	8.0	8.9

8 TROUBLE SHOOTING

Problem	LCD/LED/Buzzer	Explanation / Possible cause	What to do
Unit shuts down automatically during startup process.	LCD/LEDs and buzzer will be active for 3 seconds and then complete off.	The battery voltage is too low (<1.91V/Cell)	1. Re-charge battery. 2. Replace battery.
No response after power on.	No indication.	1. The battery voltage is far too low. (<1.4V/Cell) 2. Internal fuse tripped.	1. Contact repair center for replacing the fuse. 2. Re-charge battery. 3. Replace battery.
Mains exist but the unit works in battery mode.	Input voltage is displayed as 0 on the LCD and green LED is flashing.	Input protector is tripped	Check if AC breaker is tripped and AC wiring is connected well.
	Green LED is flashing.	Insufficient quality of AC power. (Shore or Generator)	1. Check if AC wires are too thin and/or too long. 2. Check if generator (if applied) is working well or if input voltage range setting is correct. (UPS↔ Appliance)
	Green LED is flashing.	Set "Solar First" as the priority of output source.	Change output source priority to Utility first.
When the unit is turned on, internal relay is switched on and off repeatedly.	LCD display and LEDs are flashing	Battery is disconnected.	Check if battery wires are connected well.
Buzzer beeps continuously and red LED is on.	Fault code 07	Overload error. The inverter is overload 110% and time is up.	Reduce the connected load by switching off some equipment.
	Fault code 05	Output short circuited.	Check if wiring is connected well and remove abnormal load.
		Temperature of internal converter component is over 120°C.	Check whether the air flow of the unit is blocked or whether the ambient temperature is too high.
	Fault code 02	Internal temperature of inverter component is over 100°C.	Return to repair center.
	Fault code 03	Battery is over-charged.	Return to repair center.
		The battery voltage is too high.	Check if spec and quantity of batteries are meet requirements.
	Fault code 01	Fan fault	Replace the fan.
	Fault code 06/58	Output abnormal (Inverter voltage below than 190Vac or is higher than 260Vac)	1. Reduce the connected load. 2. Return to repair center
	Fault code 08/09/53/57	Internal components failed.	Return to repair center.
	Fault code 51	Over current or surge.	Restart the unit, if the error happens again, please return to repair center.
	Fault code 52	Bus voltage is too low.	
Fault code 55	Output voltage is unbalanced.		

9 Appendix: Approximate Back-up Time Table

Model	Load (W)	Backup Time @ 24Vdc 100Ah (min)	Backup Time @ 24Vdc 200Ah (min)
3.6KW 4.2KW	300	449	1100
	600	222	525
	900	124	303
	1200	95	227
	1500	68	164
	1800	56	126
	2100	48	108
	2400	35	94
	2700	31	74
	3200	28	67
	3600	25	60
	4200	22	53

Model	Load (W)	Backup Time @ 48Vdc 100Ah (min)	Backup Time @ 48Vdc 200Ah (min)
6.2KW	500	613	1288
	1000	268	613
	1500	158	402
	2000	111	271
	2500	90	215
	3200	76	182
	3500	65	141
	4000	50	112
	4500	44	100
	5000	40	90
	6200	36	80

Note:1. Backup time depends on the quality of the battery, age of battery and type of battery.

Specifications of batteries may vary depending on different manufacturers.

2. The final interpretation right of this product belongs to the company.



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