GEYA POWER

All in One Solar ESS

Steps to start up

Connect the battery that meets the requirements (battery voltage needs to beyond23V)or AC (AC needs to confirm the suitable input range depend on the output mode), then you can start up the inverter.

➢ **Mains power on**

Connect to normal AC power, press the switch, the system will automatically turn on. If you set AC output power priority, after waiting for a period of time, the panel will display AC mode that represents turn on the machine successfully, then will enter the AC mode.
When the normal mains power is connected and press the power-on button then the system will automatically power on. If it is set as AC output priority, after a period of time, the panel will display the AC mode to indicate that the power-on is complete and enter the AC mode

➢ **Battery boot**

Connect to battery, press the power-on button to establish a working power source.
The system will automatically turn on, after waiting for a period of time, the panel will display battery mode that represents turn on the machine successfully, then will enter the battery mode.

Shutdown steps

When the system is in battery mode or AC mode output, press the switch again, then the system will be turned off.

Fault and alarm description

Faults Descriptions

➢ Fault: The inverter enters the fault mode, the red LED light is always on and the LCD displays the fault code.

Faults Reference Code

Code	Fault Event	Icon on
01	Fan is locked when inverter is off.	
02	Over temperature or NTC is not connected well.	
03	Battery voltage is too high.	
04	Battery voltage is too low.	
05	Output short circuited or over temperature is detected by internal converter components.	
06	Output voltage is too high.	
07	Over load time out.	
08	Bus voltage is too high	
09	Bus soft start failed	
51	Over currents or urge	
52	Bus voltage is too low	
53	Inverter soft start failed	
55	Over DC voltage in AC output	
57	Current sensor failed	
58	Output voltage is too low	
59	PV voltage is over limitation	

Alarm Descriptions

➢ Alarm

The red LED flashes, and the LCD displays an alarm code, the inverter does not enter the failure mode

Alarm Code	Alarm Event	Audible Alarm	Icon flashing
01	Fan is locked when inverter is on.	Beep three times every second	
02	Over temperature	None	
03	Batery is over-charged	Beep once every second	
04	Low battery	Beep once every second	
07	Overload	Beep once every 0.5 second	
10	Output power derating	Beep twice every 3 seconds	
15	PV energy is low.	Beep twice every 3 seconds	
16	High AC input (>280VAC) during BUS soft start	None	
E9	Battery equalization	None	
bP	Battery is not connected	None	

Code Reference

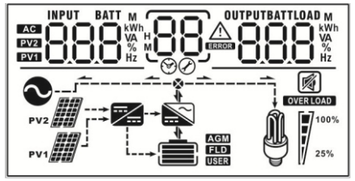
Related information code will be displayed on LCD screen. Please check inverter LCD screen for the operation

Code	Description
60 ⚠	If battery status is not allowed to charge and discharge after the communication between the inverter and battery is successful, it will show code 60 to stop charging and discharging battery.
61 ⚠	Communication lost • After battery is connected, communication signal is not detected for 1 minutes, buzzer will beep. • Communication lost occurs after the inverter and battery is connected successfully, buzzer beeps immediately.
69 ⚠	If battery status is not allowed to charge after the communication between the inverter and battery is successful, it will show code 69 to stop charging battery
70 ⚠	If battery status must to charge after the communication between the inverter and battery is successful, it will show code 70 to charge battery.
71 ⚠	If battery status is not allowed to discharge after the communication between the inverter and battery is successful, it will show code 71 to stop discharge battery.

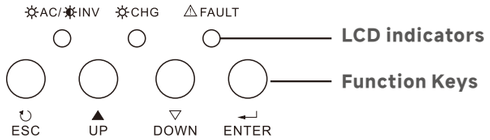
Trouble removeal

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 fartoo low.(<1.4V/Cell) 2.Internal fuse tripped.	1.Contact repair center for replacing the fuse. 2.Re-charge battery. 3. Replace battery. Check if AC breaker is tripped and AC wiring is connected wel.
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	
	Green LED is flashing	Insufficient quality of Acpower. (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. (UP-->sppliance)
	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 105% and time is up.	Reduce the connected load by switching off some equipment.
		If PVinput voltage is higher than specification, the output power will be derated.At this time, if connected loads is higher than derated output power, it will cause overload.	Reduce the number of PV modules in series or the connected load.
	Fault code 05	Output short circuited	Check if wiring is connected well and remove abnorma load.
		Temperature 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	
	Fault code 03	Batteryis 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 voltageis unbalanced	
	Fault code 59	PV input voltage is beyond the specification.	Reduce the number of PV modules in series.

The operation and display panel, shown in below chart , is on the front panel of the inverter. It includes three indicators , four function keys and a LCD display, indicating the operating status and input/output power information.



LCD Display



LCD indicators

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

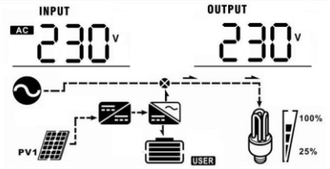
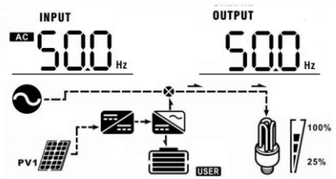
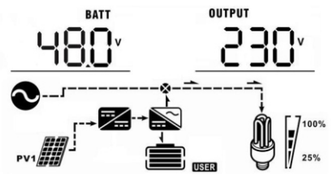
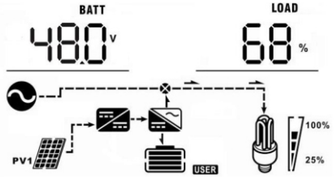
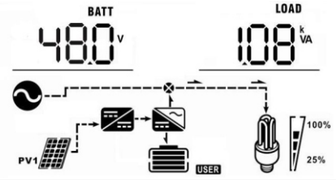
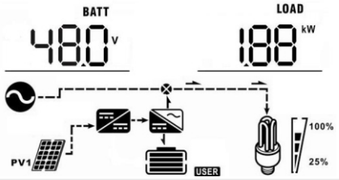
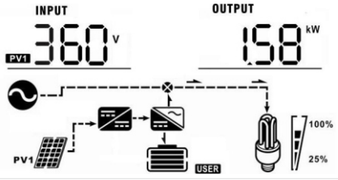
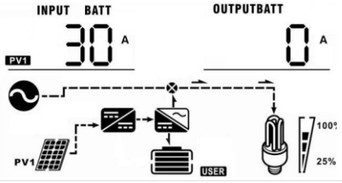
Function Key	Description
ESC	To exit setting mode
UO	To go to previous selection
DOWN	To go to next selection
ENTER	To confirm the selection in setting mode or enter setting mode

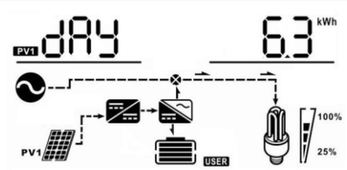
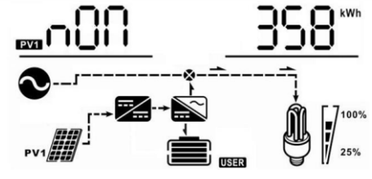
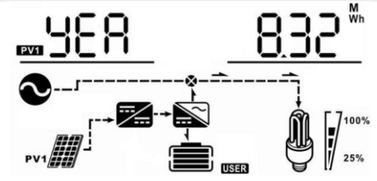
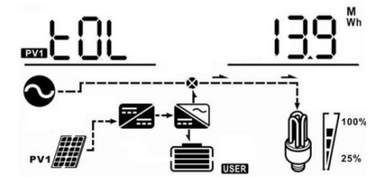
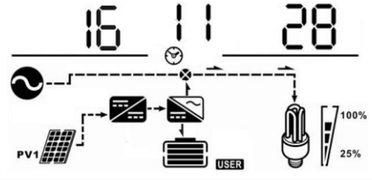
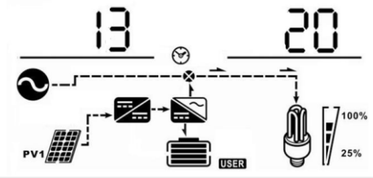
LCD Display Icons

Icon	Function
Input source information	
AC	Indicates the AC input
Pv2	Indicates the 1s PV panel input
Pv1	Indicates the 2" PV panel input
Left digital display information	
INPUT BATT	Indicate input voltage, input frequency, battery voltage V1 voltage, PV2 voltage, charger current
Middle digital display information	
	Indicates the setting programs.
	Indicates the warning and fault codes Warning: Flashing with warning code Fault: display with fault code
Right digital display information	
OUTPUT BATT LOAD	Indicate the output voltage, output frequency, load percent. load VA, load W, PV1 charger power, PV2 charger power, DC discharging current.
Battery information	
	Indicates battery level by 0-24%, 25-49%, 50-74% and 75-100% and charging status.
AGM FLD USER	Indicates the battery type: AGM, Flooded or User-definedbattery.
Load information	
OVER LOAD	Indicates overload.
100% 25%	Indicates the load level by 0-24%,25-50%,50-74%,and 75-100%
	0%~25% / 25%~50% / 50%~75% / 75%~100%
Mode operation information	
	Indicates unit connects to the mains
PV1	Indicates unit connects to the 1s PV panel
	Indicates the solar charger is working
	Indicates the DC/AC inverter circuit is working
Mute operation	
	Indicates unit alarm is disabled

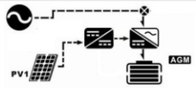
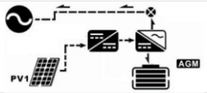
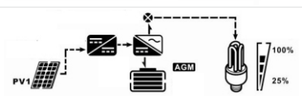
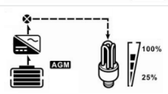
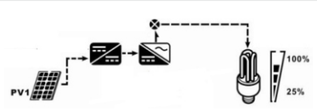
• Display Setting •

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, battery voltage, output voltage, output frequency, load percentage, load in Watt, load in VA, load in Watt, DC discharging current, main board firmware version and SCC firmware version.

Select item	LCD Display	
Input voltage and output voltage (Default Display Screen)	Input Voltage=230V, output voltage=230V	
Input frequency and output frequency	Input frequency=50.0Hz, output frequency=50.0Hz	
Battery voltage and output voltage	Battery Voltage=48.0V, output voltage=230V	
Battery voltage and load percentag	Battery Voltage=48.0V, load percentage 68%	
Battery voltage and load in VA	Battery Voltage=48.0V, load in VA=1.08kVA	
Battery voltage and load in Watt	Battery Voltage=48.0V, load in Watt=1.88kW	
PV1 voltage and PV1 charger power	PV1 Voltage=360V, charging power=1.58kW	
Charger current and DC discharging current	Charging current=30A, discharging current=0A	

Select item	LCD Display	
PV energy generated today	Today energy= 6.3kWh	
PV energy generated this month	This month energy= 358kWh	
PV energy generated this year	This year energy=8.32MWh	
PV energy generated totally	Total energy=13.9MWh	
Real date	Real date Nov 28, 2016	
Real time	Real time 13:20	
Main board firmware version	Version 00001.00	

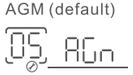
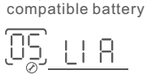
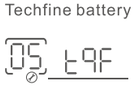
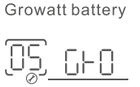
Operation Mode Description

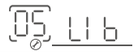
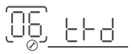
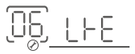
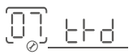
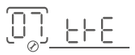
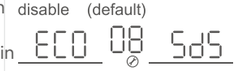
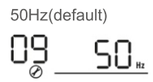
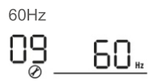
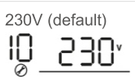
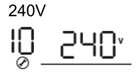
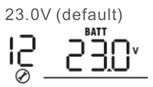
Operating mode	Behaviors	LCD display	
Standby mode Note:*Standby mode: The inverter is not turned on yet but at this time. the inverter can charge battery without AC output. *Power swing mode: If enabled, the output of inverter will be off when connected load is pretty low or not detected.	No output power, solar or utility charger available	Battery is charged by utility.	
		Battery is charged by PV energy.	
		Battery is charged by utility and Pv energy.	
		Battery is charged by Pv energy and feed Pv energy grid.	
		No charging.	
Line mode	Output power from utility. Charger available	Utility charges battery and provides power to load.	
		Utility and battery power provide power to load.	
		PV energy, battery power and utility provide power to load.	
	Output power from utility. Charger available	PV energy and utility charge battery, and utility provides power to load.	
		Pv energy charges battery, utility and PV energy provide power to the load	
		PV energy charges battery, PV energy provides power to the load and feeds remaining energy to the grid.	
Battery mode	Output power from battery or PV	PV energy charges battery, PV energy provides power to the load and feeds remaining energy to the grid.	
		PV energy and battery energy supply power to the load.	
		Battery provides power to the load	
Only PV mode	Output power from PV	PV provides power to the load.	

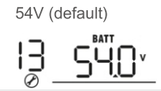
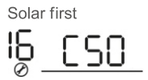
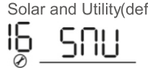
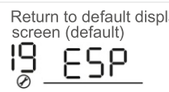
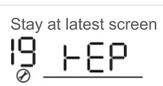
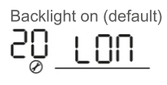
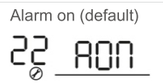
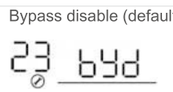
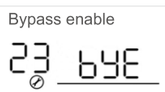
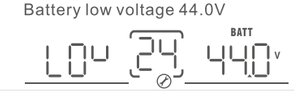
LCD Setting

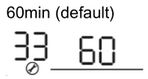
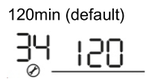
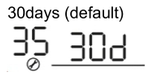
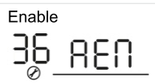
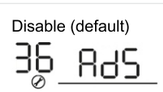
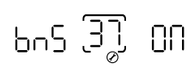
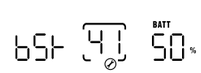
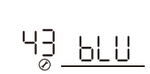
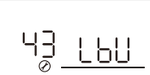
After pressing and holding ENTER button for 3 seconds, the unit will enter setting mode. Press “UP" or "DOWN" button to select setting programs. And then, press "ENTER" button to confirm the selection or ESC button exit.

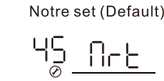
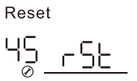
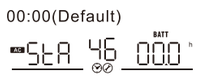
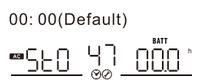
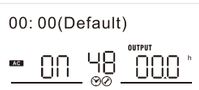
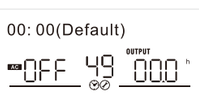
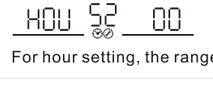
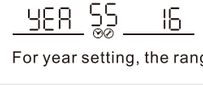
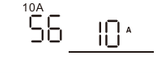
Setting Programs

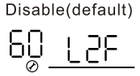
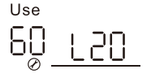
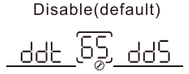
Program	Description	Selectable option	
00	Exit setting mode	Escape 	
01	Output source priority selection		Solar energy provides power to the loads as first priority. If solar energy is not sufficient to power all connected loads, Utility energy will supply power to the loads at the same time.
			Solar 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 or solar and battery is not sufficient.
02	Maximum charging current: To configure total charging current for solar and utility chargers. (Max. charging current =utility charging current +solar charging current)	60A(default) 	Setting range is from 10A to maximum charging current. Increment of each click is 10A.
03	AC input voltage range	Appliances (default) 	If selected, acceptable AC input voltage range will be within90-280VAC.
		UPS 	If selected, acceptable AC input voltage range will be within170-280VAC.
05	Battery type	AGM (default) 	Flooded 
		User-Defined 	If"User-Defined" is selected, battery charge voltage, low DC cut-off voltage and dual cut -off voltage can be set up in program 24,26,27,29 and 61.
		LIA-protocol compatible battery 	If selected, programs of 24,26,27 and 29 will be automatically set up No need for further setting.
		Pylontech battery 	
		Techfine battery 	
		Growatt battery 	

Program	Description	Selectable option	
05	Battery type	LIB-protocol compatible battery 	Select "LIB if using Lithium battery compatible to Lib protocol. If selected, programs of 26,27 and 29 will be automatically se up. No meed for further setting
		3rd party lithium battery 	If selected, programs of 26,27and 29 will be automatically set up No need for further setting. Please contact the battery supplier for installation procedure.
06	Auto restart when overload occurs	Restart disable(default) 	Restart enable 
07	Auto restart when over temperature occurs	Restart disable (default) 	Restart enable 
08	ECO function: System will temporarily stop when the load is low in battery mode.	disable (default) 	
		enable 	
09	Output frequency	50Hz(default) 	60Hz 
10	Output voltage	220V 	230V (default) 
		240V 	
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 current from program 02 for utility charger.	30A(default) 	Setting range is 2A, then from 10A to max. AC charging current. Increment of each click is 10A.
12	Setting voltage point back to utility source when selecting"SBUpriority"in program 01.	Available options in 24 system model:	
		23.0V (default) 	Setting range is from 22V to 25.5 V Increment of each click is 0.5V.
		Available options in 48 system model:	
		46V (default) 	Setting range is from 44V to 51V Increment of each click is 1V.

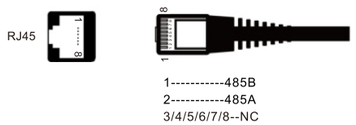
Program	Description	Selectable option	
13	Setting voltage point back to battery mode when selecting"SBU priority"in program 01.	Available options in 24 system model:	
		Battery fully charged 	27V(default) 
		Setting range is from 24V to 29V. Increment of each click is 0.5V.	
		Available options in 48 system model	
		Battery fully charged 	54V (default) 
		Setting range is from 48V to 58V. Increment of each click is 1V.	
16	Charger source priorit: 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 	Solar energy will charge battery as first priority. Utility will charge battery only when solar energy is not available.
		Solar and Utility(default) 	Solar energy and utility will charge battery at the same time.
		Only Solar 	Solar energy will be the only charger source no matter utility is available or not.
		If this inverter/charger is working in Battery mode, only solar energy can charge battery. Solar energy will charge battery if it's available and sufficient.	
18	Alarm control	Alarm on (default) 	Alarm off 
19	Auto return to default display screen	Return to default display screen (default) 	If selected, no matter how users switch display screen, it will automatically return to defaultl display screen (Input voltage/output voltage) after no button is pressed for 1 minute.
		Stay at latest screen 	If selected, the display screen will stay at latest screen user finally switches.
20	Backlight control	Backlight on (default) 	Backlight off 
22	Beeps while primary source is interrupted	Alarm on (default) 	Alarm off 
23	Overload bypass: When enabled, the unit will transfer to line mode if overload occurs in batterymode.	Bypass disable (default) 	Bypass enable 
24	Battery low voltage If battery power is only power source available inverter will alarm.	Battery low voltage 44.0V 	
		Setting range is from 20.0V-27.0V for 24V system and 40.0V-54.0V for 48V system.	

Program	Description	Selectable option	
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 900min Increment of each click is 5min.
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 " ",If "Disable"is selected, it will cancel equalization function until next activated equalization time arrives based on program 35 setting. At this time,"[" will not be shown in LCD main page.	
37	BMS Function Switch	off(default) 	Whether to enable the BMS communication function
			
38	Bat Soc Under Lock		If any type of lithium battery is selected in program 5.BMS low voltage SOC value, if the BMS SOC value is lower than the setvalue, the inverter will shut down to protect the battery.
39	Bat Soc Turn To Ac		If any type of lithium battery is selected in program 5.When the working mode of the inverter is set to the battery priority mode, the inverter will be forced to enter the mains charging when the SOC of the BMS is lower than the set value.
40	Bat Soc Turn To Dc		If any type of lithium battery is selected in program 5.When the working mode of the inverter is set to the battery priority mode, the inverter resumes the DC working mode when the SOC of the BMS is higher than the set value
41	Bat Restart Soc		If any type of lithium battery is selected in program 5.When the inverter is turned on, the SOC must be higher than the set value to work normally.
43	Solar supply priority		Solar energy provides power to charge battery as first priority.
			Solar energy provides power to the loads as first priority.
44	Solar energy feed to grid configuration		Solar energy feed to grid disable.
			Solar energy feed to grid enable.

Program	Description	Selectable option	
45	Reset PV energy storage	Notre set (Default) 	Reset 
46	Start charging time for AC charger	00:00(Default) 	The setting range of start charging time for AC charger is from 00:00 to 23:00,increment of each click is 1 hour.
47	Stop charging time for AC charger	00: 00(Default) 	The setting range of scheduled Time for AC output on is from 00:00 to 23:00,increment of each click is 1 hour.
48	Scheduled time for AC output on	00: 00(Default) 	The setting range of scheduled Time for AC output off is from 00:00 to 23:00,increment of each click is 1 hour.
49	Stop charging time for AC charger	00: 00(Default) 	The setting range of scheduled Time for AC output off is from 00:00 to 23:00,increment of each click is 1 hour.
50	Set country customized regulations	Mode 1 	If selected, acceptable feed-in grid voltage range will be 195.5-253VAC. Acceptable feed-in grid frequency range will be 49-51Hz.
		Mode 2 	If selected, acceptable feed-in grid voltage range will be 184-264.5VAC. Acceptable feed-in grid frequency range will be 47.5-51.5Hz
		Mode 3 	If selected, acceptable feed-in grid voltage range will be 184-264.5VAC. Acceptable feed-in grid frequency range will be 57-62Hz
		Mode 4(Default) 	If selected, acceptable feed-in grid voltage range will be 170-264.5VAC. Acceptable feed-in grid frequency range will be 47.5-51.5Hz
51	Time setting-Minute	 For minute setting, the range is from 00 to 59.	
52	Time setting-Hour	 For hour setting, the range is from 00 to 23.	
53	Time setting-Day	 For day setting, the range is from 00 to 31.	
54	Time setting-Month	 For month setting, the range is from 1 to 12	
55	Time setting-Year	 For year setting, the range is from 16 to 99.	
56	GRID-tie current		Increment of each click is 1A.

Program	Description	Selectable option	
60	Dual output	Disable(default) 	Use 
61	Enter the dual output functional voltage point	Default setting:44.0V 	
		Default setting:22.0V 	
		If battery voltage lower than inverter setting, second output will be cutted of, Increment of each click is 0.1V.	
62	Enter the dual output functional SOc point		If any type of lithium battery is selected in program 5.If BMS capacity lower than SOC setting, second output will be cutted of.
63	Dual battery voltage recever		Default 52V/26V,if the battery voltage is higher than the inverter setting, the dual will be restored.
64	Dual battery SOC Recever		If any type of lithium battery is selected in program 5.Default 50%,if the BMS capacity is higher than the SOC setting, the second output will be restored
65	Setting discharge time on the second output	Disable(default) 	Setting range is disable and then from 0 min to 990 min. Increment of each dick is 5 min.*If the battery discharge time achieves the setting time in program 61 and the program 60function is not triggered, the output will be turned off.
66	Dual Recover Delay Time		The value ranges from 0-60min.
			
67	Output Open Time		The value ranges from 0 to 23.
68	Output Stop Time		The value ranges from 0 to 23.

When the BMS/485 communication interface is externally connected, as shown in the following figure:



Communication Connection

Please use supplied communication cable to connect to inverter and PC. Please install a monitoring software on the computer.

Dry Contact Signal

There is one dry contact (3A/250VAC)available on the rear panel. it could be used to deliver signal to external device when battery voltage reaches warning level.

Unit Status	Condition			Dry contact port: NC C NO NC & C	NC & C
Power Off	Unit is off and no output is powered.			Close	Open
Power On	Output is powered from battery or solar.	Normal mode	Battery voltage< Low DC warning voltage	Open	Close
			Battery voltage> Float charging voltage	Close	Open
		Solar first mode	Battery voltage< Solar to AC voltage	Open	Close
			Battery voltage> AC to DC voltage	Close	Open

• Battery Equalization Description •

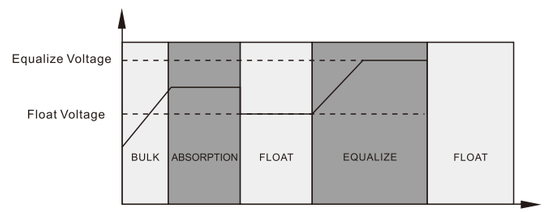
Equalization function is added into charge controller, It reverses the buildup of negative chemical effects like stratification, a condition where acid concentration is greater at the bottom of the battery than at the top. Equalization also helps to remove sulfate crystals that might have built up on 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.

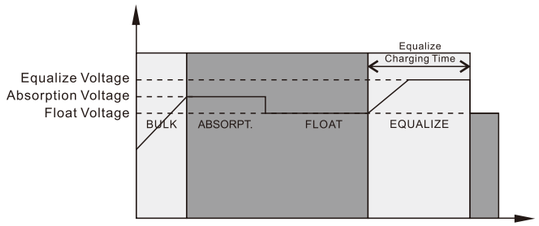
※ When to Equalize

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

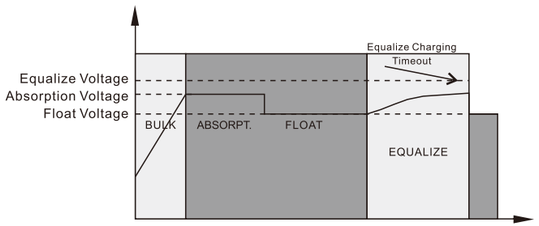


※ Equalize charging time and timeout

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.



• Technical Datasheet •

Model			3000W	3600W	4000W	5500W	6200W	11000W
Input	Input Sources		L+N+PE					
	Rated Input Voltage		220/230/240VAC					
	Voltage Range		90-280VAC±3V(APL Mode)170-280VAC±3V(UPS Mode)					
	Freqency		50Hz/60Hz(Auto Adaptive)					
Output	Rated power	The battery inverts	3000W	3600W	4000W	5500W	6200W	11000W
		Photovoltaic inverter	3000W	4500W	4500W	6500W	6500W	11000W
	Output Voltage		220/230/240VAC±5%					
	Output Frequency		50/60Hz±0.1%					
	Waveform		Pure Sine Wave					
	Transfer Time (adjustable)		Computers(UPS Mode)10ms, Appliance(APL Mode)20ms					
	Peak Power		6000VA	7200VA	8000VA	11000VA	12400VA	22000VA
	Overload capacity		Battery mode11s@105%~150% Load;2s@150%~200% Load; 400ms@＞200% Load					
Grid-connected operation	Output Voltage		220/230/240VAC±5%					
	Feed into the grid voltage range		195-253VA					
	Feed into the grid frequency range		49-51±1Hz/59-61±1Hz					
	Nominal output current		13A	15.7A	17.4A	23.9A	26.9A	47.8A
	Power Factor Range		＞0.99					
	Maximum conversion efficiency (DC/AC)		98%					
Battery	Battery Votage		24Vdc	24Vdc	24Vdc	48Vdc	48Vdc	48Vdc
	Constant Charging Voltage(Adjustable)		28.2Vdc	28.2Vdc	28.2Vdc	56.4Vdc	56.4Vdc	56.4Vdc
	Floate Charging Voltage(Adjustable)		27Vdc	27Vdc	27Vdc	54Vdc	54Vdc	54Vdc
Chargers	PV Charging Mode		MPPT	MPPT	MPPT	MPPT	MPPT	MPPT Dual MPPT
	MAX.PV Input Power		5000W	5000W	6500W	7500W	7500W	2*5500W
	MPPT Tracking Range		60~500Vdc					90~500Vdc
	Best voltage		300~400V	300~400V	300~400V	300~400V	300~400V	300~400V
	MAX.PV Input Voltage		500Vdc	500Vdc	500Vdc	500Vdc	500Vdc	500Vdc
	PV max input current		18A	18A	27A	27A	27A	18A/18A
	MAX.PV Charging Current		100A	120A	120A	100A	120A	150A
	MAX.AC Charging Current		60A	100A	100A	100A	100A	150A
	MAX.Charging Current		100A	120A	120A	100A	120A	150A
Display	LCD interface		CAN display running mode/load/input/output, etc.					
Interface	RS232		Baud Rate2400					
	Extend the socket communication interface		Lithium Battery BMS Communication Card WifiCard, Dry Contact					
	Parallel machine interface		No parallel function	Parallel Machine (network) function				
Environments	Operating Temperature		-10~50℃					
	Humidity		20%~95%(Non-condensing)					
	Storage Temperature		-15~60℃					
	Altiude		Altiude Not Over 1000m,Derating over 1000m,Max 4000m					
	Noise		≤50db					