51.2V
LiFePO4 Battery

LFP48100P~48230P

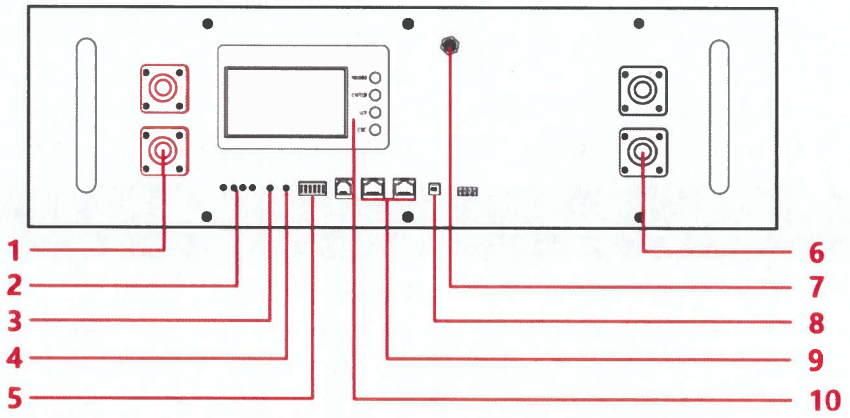
USER MANUAL

CONTENT

1. Safety Instructions

1. Please confirm the package is in good condition after getting the product. If there is any damage, please take photos to record and contact the supplier in time.
2. Because this is an electronic energy storage product, please handle it gently, and please pay attention to safety when moving products.
3. After unpacking, please check whether the product appearance is intact, press the ON/OFF switch to start the battery, confirm whether it can be turned on normally, and whether the LCD screen is displayed normally.
4. Please connect to other devices in the correct way with the battery power off.
5. After devices connected, before turning on the battery, please turn off the loads (including the inverter). If it is turned on with loads, it may trigger the BMS short-circuit protection mechanism.
6. Charge as required, take 51.2V products as an example: normal charging voltage is 57.6V-58.4V, recommend current 0.2C. Mismatched current and voltage will cause damage to the circuit system, shorten the service life of the battery, and even bring safety hazards.
7. Charge rate should not exceed 0.5C, discharge rate should not exceed 0.7C.
8. Avoid using it in humid environments and in areas where it will be exposed to sunlight.
9. When not in use for a long time, it should be charged regularly, and it is best to keep half-charged storage (40%-60%).
10. Battery should be recharged within 12 hours after being fully discharged.
11. When different batches of batteries are installed in the same system, all batteries should be balanced to the same voltage (the voltage difference within 0.3V) by charging and discharging individually.
12. Do not disassemble the equipment without professional assistance.
13. Do not connect batteries with different brands or different capacities.

2. Product Overview



No.	Item	Function
1	Positive Terminal	Charge & Discharge
2	SOC	Indicators for Capacity
3	ALM	Indicator for Alarms
4	RUN	Indicator for Running Status
5	ADD	DIP Switch of Communication
6	Negative Terminal	Charge & Discharge
7	Power Switch	ON/OFF Switch
8	Reset	Activate/Hibernate BMS
9	RS485A, RS485B/CAN	Communication Interface
10	LCD Screen	Display Battery Information

3. Battery Specifications

Nominal Parameters					
Model No.	LFP48100P	LFP48120P	LFP48150P	LFP48200P	LFP48230P
Nominal Voltage	51.2V	51.2V	51.2V	51.2V	51.2V
Nominal Capacity	100Ah	120Ah	150Ah	200Ah	230Ah
Energy	5.12KWh	6.14KWh	7.68KWh	10.24KWh	11.78KWh
Dimensions (L * W * H mm)	480*440*160	480*440*200	480*440*200	480*440*255	480*440*255
Weight (KG)	Approx 45	Approx 52	Approx 55	Approx 70	Approx 80
Built-in BMS	16S 100A	16S 100A	16S 200A	16S 200A	16S 200A
Electrical Parameters					
Overall Over Voltage Alarm Value	58.2VDC				
Overall Under Voltage Alarm Value	44VDC				
Overall Over Voltage Protection Value	58.4VDC ✓				
Overall Under Voltage Protection Value	42VDC				
Recommend Charge & Discharge Current	0.2~0.5C				
Max. Cont. Discharge Current	100A	100A	150A	200A	200A
Basic Parameters					
Life Time(25°C)	10+ years				
Communication Interface	RS485 / CAN				
Display Method and Language	LCD, English				
Life Cycles (80% DOD, 25°C)	≥6000 times Cycles				
Charge Temperature Range (Cell)	0℃~50℃				
Discharge Temperature Range (Cell)	-15℃~55℃				
Environmental Temperature Range	-15℃~55℃				

4. List of Accessories

No.	Item	Picture	Qty	Remarks
1	Parallel Power Cable		2	For 51.2V 100AH/120AH: 6 AWG cable 0.3M For 51.2V 150AH/200AH/230AH: 4 AWG cable 0.4M
2	Parallel Communication Cable		1	RJ45 cable 0.5M
3	Upper computer Connecting Cable		1	RJ45 to USB cable 2M
4	Screws		4	M8

5. Connection

5.1. Battery module

If there are multiple batteries to be connected in parallel, ensure that the voltage difference of all batteries is within 0.3V before proceeding. If the voltage difference is over 0.3V, discharge all batteries until the low voltage alarm and discharge stops. Confirm the voltage difference is within 0.3V, then ensure all battery modules are turned off. Connecting each battery module "+" (positive) and "-" (negative) terminal to "+" (positive) and "-" (negative) busbar. Connect all sources and loads to the busbar, observing proper polarity. Note: There may be fuses, contactors, switches, etc. between the busbar and the connected sources and/or loads.

5.2. Communication cable

If a single battery is used, skip this step.

When multiple batteries are connected in parallel, set the battery module Address (or ID) of each battery module according to page 9~10 (also ensure no duplicate address codes are used). Then connect one end of the provided RJ45 communication cable into a battery module front panel "RS485A" or "RS485B" interface and connect the remaining end of the RJ45 communication cable into another battery module front panel "RS485A" or "RS485B" interface. Continue connecting communication cables until all battery modules are connected.

6. Working Mode

6.1. Basic Mode

6.1.1. Charging Mode

The BMS turns on the charging MOSFET for charging when it detects an external charging voltage, and the cell voltage and temperature are within the chargeable range. When the charging current reaches the effective charging current, it enters the charging mode. Both charging and discharging MOSFETs are on in charge mode.

6.1.2. Discharging Mode

The BMS enters the discharge mode when it detects that the load is connected and the cell voltage and temperature are within the dischargeable range and the discharge current reaches the effective discharge current.

6.1.3. Hibernation and Wake Up Mode

The system enters hibernation mode when the following conditions are met:

1. Individual low-voltage protection or overall low-voltage protection has not been released within 60 minutes;
2. Press the power switch button for 3 seconds and then release the button;
3. The minimum cell voltage is lower than the dormancy set voltage (default value 3300mV), and the duration reaches the delay time (the default value is 1440min, which meets the requirements of no communication and no charging and discharging current at the same time);
4. Compulsory shutdown through the upper computer software.

Before entering hibernation, make sure that the negative terminal is not connected to external voltage, otherwise it will not be able to enter the low power consumption mode.

5. The wake-up conditions of hibernation mode:

1) Connect to the charger, and the input voltage of the charger must be greater than 48V;
2) Wake up by pressing the power switch button for 1S and releasing the button.

6.2. Description of Reset Button

When the BMS is dormant, press the button for 1S and then release it, the BMS will be activated and the LEDs will light on sequentially for 0.5 seconds starting from the "SOC4".

When the BMS is in the working state, press the button for 3S~6S and then release it, the BMS will enter dormant and the LEDs will go off sequentially for 0.5S starting from "RUN".

When the BMS is in the working state, press the button for ⩾6S and then release it, the BMS will be reset, and the LEDs will display according to the current electricity level.

7. LED Indicator Description

7.1. LED Indicator Description

Four green capacity indicators, one red alarm indicator, one green running indicator

SOC4 ●	SOC3 ●	SOC2 ●	SOC1 ●	●	●
SOC				ALM	RUN

7.2. SOC Capacity Indicator

Status	Charge				Discharge			
SOC Indicator	SOC4●	SOC3●	SOC2●	SOC1●	SOC4●	SOC3●	SOC2●	SOC1●
0～25%	Flash 2	OFF	OFF	OFF	ON	OFF	OFF	OFF
25～50%	ON	Flash 2	OFF	OFF	ON	ON	OFF	OFF
50～75%	ON	ON	Flash 2	OFF	ON	ON	ON	OFF
75～100%	ON	ON	ON	Flash 2	ON	ON	ON	ON
RUN Indicator●	ON				Flash 3			

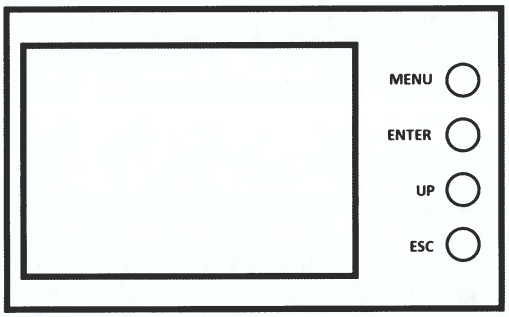
7.3. Status Indicator

Status	Normal / Alarm / Protection / Fault	SOC ● ● ● ●	ALM ●	RUN ●	Remark
OFF	OFF	ALL OFF			1. There are only normal and alarms in standby mode. Protection and faults are reported as charging and discharging status. 2. Alarms include: over voltage difference alarm, low capacity alarm, over voltage and low voltage alarm of single cell or whole battery, temperature alarms. 3. When charging over current protection occur, it will enter current limited charging. If there is charging current, it will displayed as normal state; if no charging current, it will displayed as fault state, ALM ON and others OFF.
Standby	Normal	ON according to battery capacity	OFF	Flash 1	
	Alarm		Flash 2	Flash 1	
Charge	Normal	ON according to battery capacity (The largest SOC LED Flash 2)	OFF	ON	
	Alarm		Flash 2	ON	
	Over Voltage Protection	ON according to battery capacity	OFF	ON	
	Over Current Protection (Enter current limit charging)	ON according to battery capacity (When there is charging current, the largest SOC LED Flash 2)	OFF	ON	
	Temperature Protection	ALL OFF	ON	OFF	
Discharge	Normal	ON according to battery capacity	OFF	Flash 3	
	Alarm		Flash 2	Flash 3	
	Low Voltage Protection		Flash 2	OFF	
	Over Current Protection, Short Circuit Protection	ALL OFF	ON	OFF	
	Temperature Protection	ALL OFF	ON	OFF	
Fault	NTC fault, MOS fault, reverse polarity, differential voltage protection, ultra-low voltage protection	ALL OFF	ON	OFF	

7.4. Flash Instruction of LED Indicators

Flash Types	ON	OFF
Flash 1	0.25 S	3.75 S
Flash 2	0.5 S	0.5 S
Flash 3	0.5 S	1.5 S

8. LCD Display Introduction



Button description:

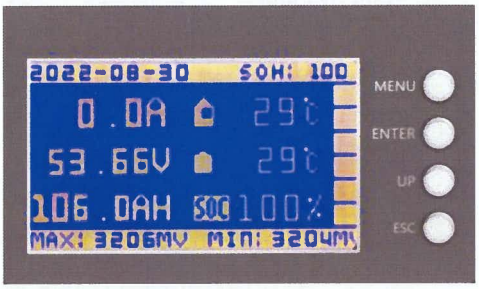
MENU: Enter the main menu.

ENTER: Enter to the sub-menu.

UP: Move to next page.

ESC: Return to the previous menu.

8.1. Power-on screen



System Date	SOH
Charging/Discharging Current	Environmental Temperature
Total Voltage	Max. Temperature of Battery Cell
Remaining Capacity	SOC
Max. Voltage of Single Cell	Min. Voltage of Single Cell

Battery protection status:

Over Voltage: OV

Low Voltage: LV

Over Temp: OT

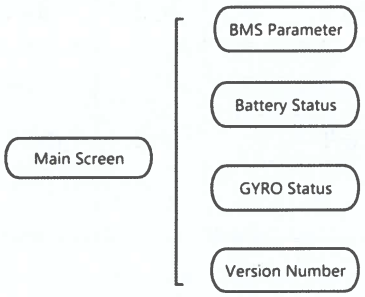
Low Temp: LT

Over Current: OC

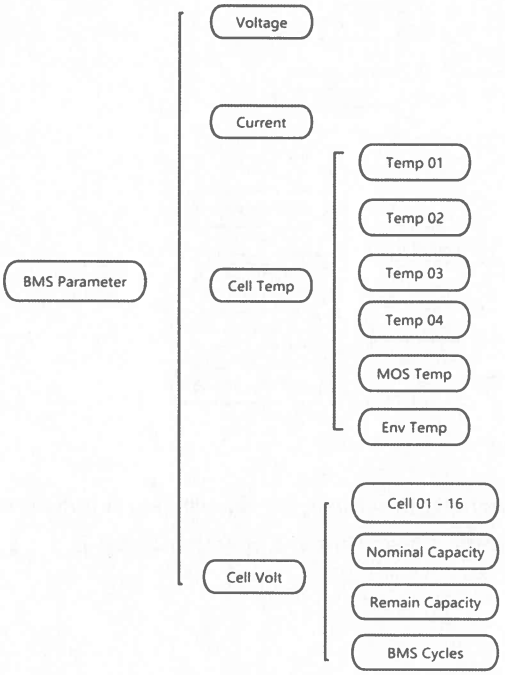
Short Circuit: SC

Note: When there is protection situation of the battery, there will show the corresponding protection status, otherwise, the protection status will not be showed.

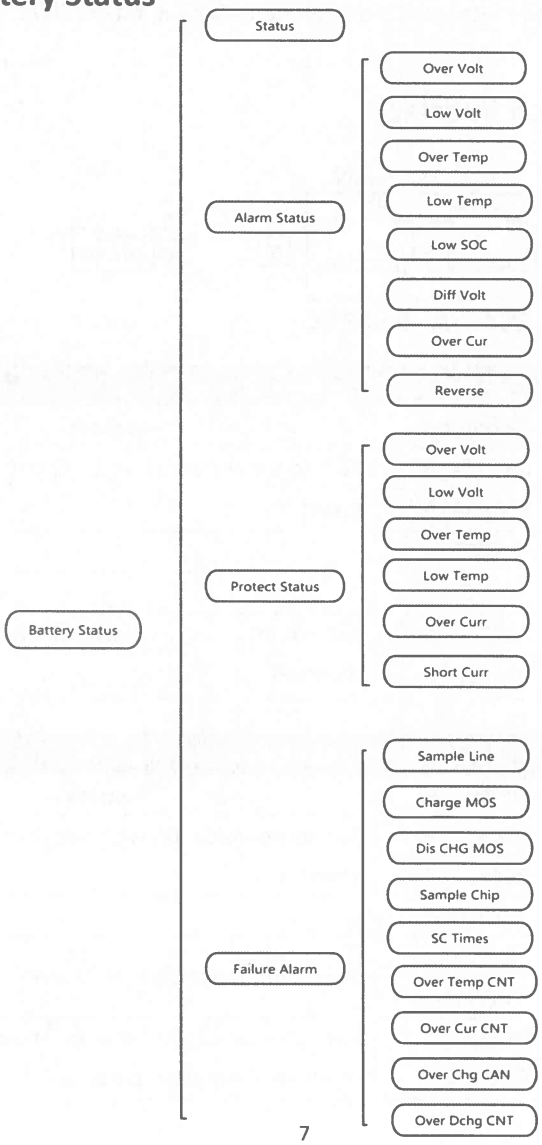
8.2. Main menu



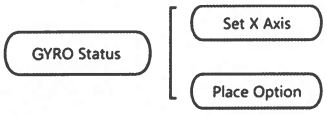
8.3. Sub-menu 1: BMS Parameter



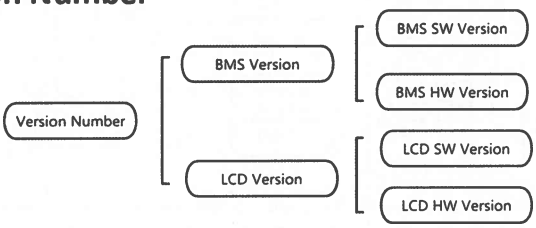
8.4. Sub-menu 2: Battery Status



8.5. Sub-menu 3: GYRO Status



8.6. Sub-menu 4: Version Number



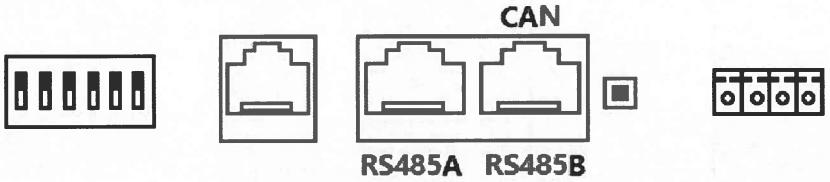
8.7. Dormancy and Activation Function

After 1 minute of no button operation in normal running, the display screen will be off (only the backlight is off). Pressing any button while the screen is off will allow the screen light and operate normally.

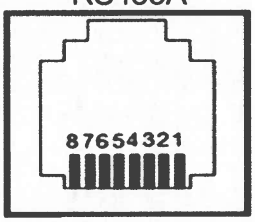
9. Communication

With RS485 and CAN interface, which supports communicating with multiple battery modules in parallel, with inverter and with the upper computer. RS485 baud rate is 9600 defaulted, CAN baud rate is 500K defaulted.

9.1. Pin Definition of Communication Interface

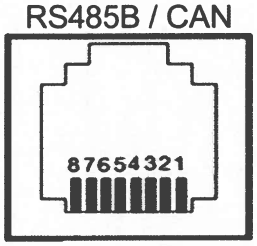


RS485A



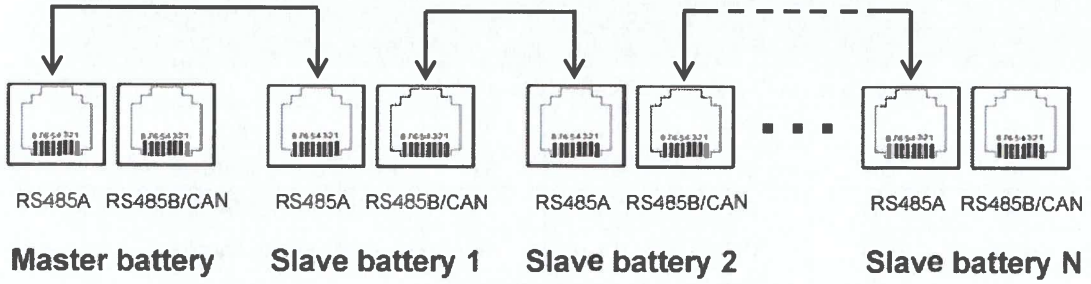
8P8C RJ45 Pins Assignment		
Pins	**Definition**	**Remark**
1	RS485A_B	For communication with upper computer or inverter
2	RS485A_A	
3, 6	GND	
4, 5	NC	
7	RS485B_A	For communication between multiple battery modules
8	RS485B_B	

RS485B / CAN



8P8C RJ45 Pins Assignment		
Pins	**Definition**	**Remark**
1	RS485A_B	For communication with upper computer or inverter
2	RS485A_A	
3, 6	GND	
4	CANH1	For communication with inverter
5	CANL1	
7	RS485B_A	For communication between multiple battery modules (only slave batteries)
8	RS485B_B	

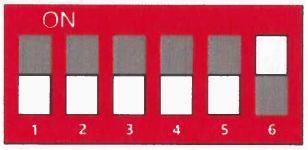
The multi-unit parallel connections are shown in the following figure.



9.2. DIP Switch Setting

Support battery modules parallel and inverter communication protocol selection.

When batteries are used in parallel, different batteries are distinguished by the dial address (or "ID"), and the ID of each battery in the entire battery group is unique.



There will be only one master battery and others will be slave batteries. The slave dialing address should be selected from 1 to 15, and the master dialing address should be selected from 0 or 16 or 32 or 48 according to the different communication protocol and inverter brand.

You can enter the ID of master or slave battery in the system parameters in upper computer monitor software to detect and communicate.

Note: The factory default settings support up to 16 batteries in parallel, if more than 16 batteries are needed in parallel, please contact manufacturer to upgrade the software (supports up to 32 batteries in parallel).

The reference table is as follows.

FOR SLAVE BATTERY

DIP SWITCH						ADD (ID)	REMARKS
1	2	3	4	5	6		
ON	OFF	OFF	OFF	OFF	OFF	1	Slave Pack 1
OFF	ON	OFF	OFF	OFF	OFF	2	Slave Pack 2
ON	ON	OFF	OFF	OFF	OFF	3	Slave Pack 3
OFF	OFF	ON	OFF	OFF	OFF	4	Slave Pack 4
ON	OFF	ON	OFF	OFF	OFF	5	Slave Pack 5
OFF	ON	ON	OFF	OFF	OFF	6	Slave Pack 6
ON	ON	ON	OFF	OFF	OFF	7	Slave Pack 7
OFF	OFF	OFF	ON	OFF	OFF	8	Slave Pack 8
ON	OFF	OFF	ON	OFF	OFF	9	Slave Pack 9
OFF	ON	OFF	ON	OFF	OFF	10	Slave Pack 10
ON	ON	OFF	ON	OFF	OFF	11	Slave Pack 11
OFF	OFF	ON	ON	OFF	OFF	12	Slave Pack 12
ON	OFF	ON	ON	OFF	OFF	13	Slave Pack 13
OFF	ON	ON	ON	OFF	OFF	14	Slave Pack 14
ON	ON	ON	ON	OFF	OFF	15	Slave Pack 15

FOR MASTER BATTERY.

DIP SWITCH						ADD (ID)	REMARKS
1	2	3	4	5	6		
Communicate via CAN Communication Protocol							
OFF	OFF	OFF	OFF	OFF	OFF	0	LXP
OFF	OFF	OFF	OFF	OFF	ON	32	Pylon, Deye, Goodwe, Solis
OFF	OFF	OFF	OFF	ON	OFF	16	Victron, SMA, Sofar
OFF	OFF	OFF	OFF	ON	ON	48	Growatt, Sacolor
Communicate via RS485 Communication Protocol							
OFF	OFF	OFF	OFF	OFF	OFF	0	SRNE
OFF	OFF	OFF	OFF	OFF	ON	32	Voltronic

9.3. Settings for no communication situation

Without communication protocol, inverter cannot communicate with our battery. You need to make some setting on your inverter, for example, select the user-defined mode and set the corresponding voltage level (according to the inverter user manual), so that they can work together without communication.

Here are some commonly used battery parameters that need to be set, for reference. If need more advices about battery parameters settings, please contact the manufacturer.

Over Voltage Disconnect Voltage	57.6V
Charging Limit Voltage	58.4V
Equalizing Charging Voltage	56V
Float Charging Voltage	54V
Low Voltage Warning Voltage	45V
Cut-off Discharge Voltage	43.2V
Discharge Limit Voltage	40V

10. Upper Computer Software Introduction

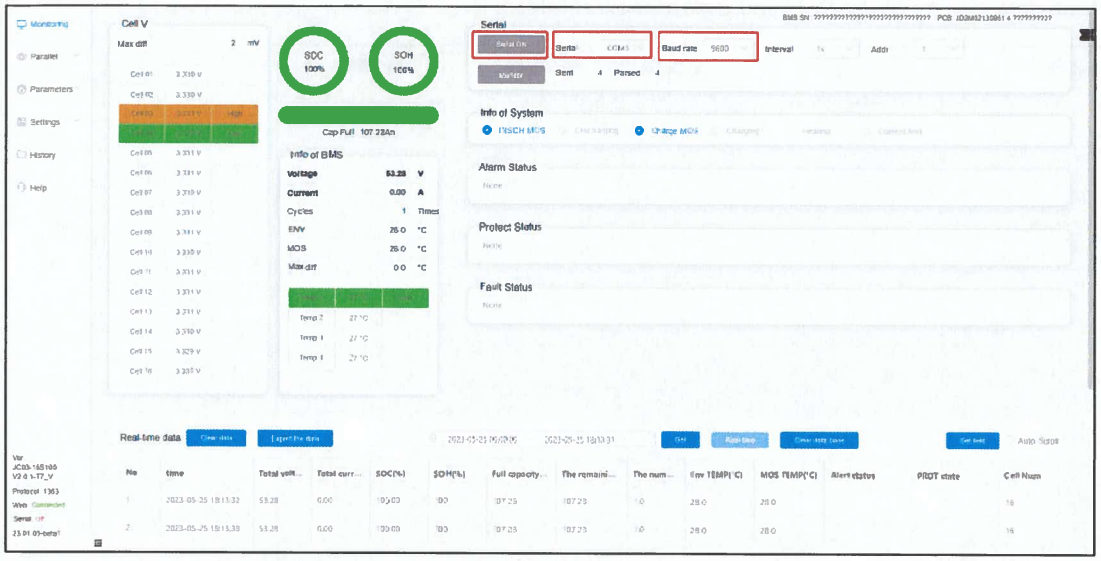
To monitor the battery module parameters, connect the RJ45 end of the provided upper computer communication cable into a battery module front panel "RS485A" or "RS485B" interface, and connect the USB end to computer.

10.1. How To Communicate With Upper Computer

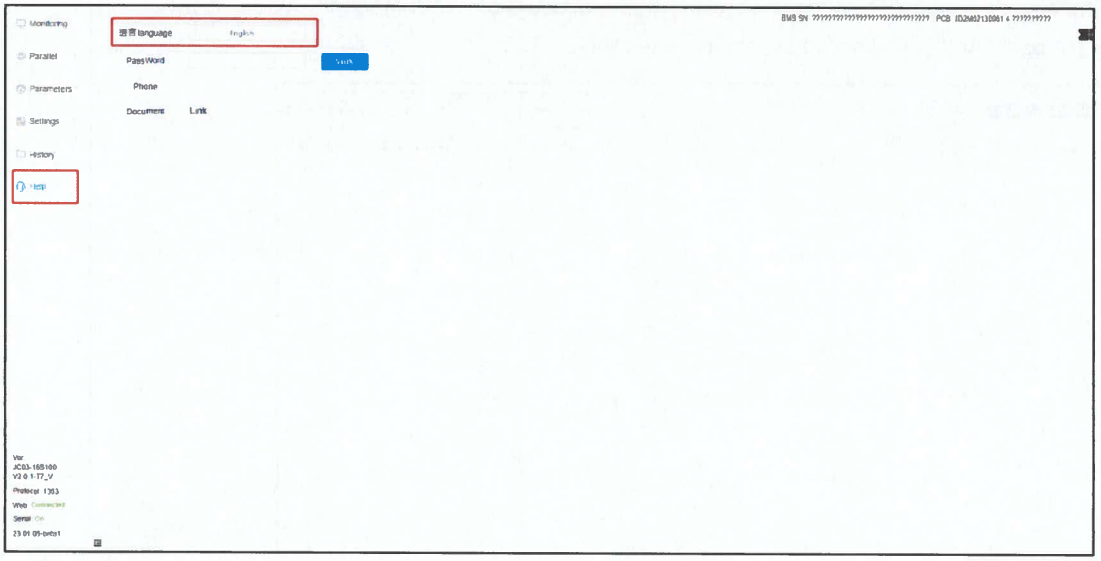
See Appendix I on page 18~19.

10.2. Upper Computer Software Introduction

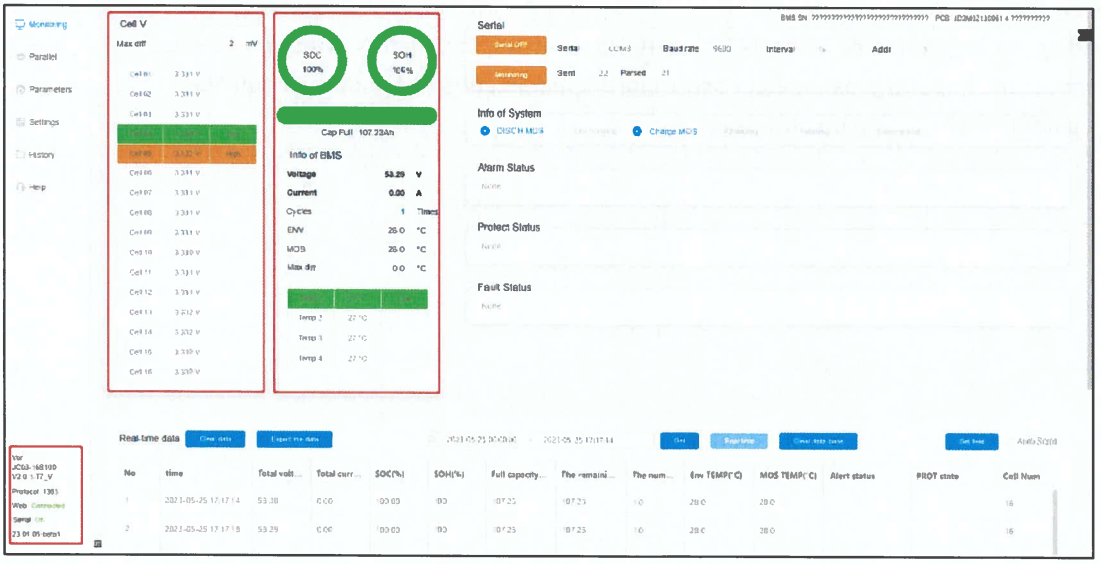
1. Enable the monitoring software, select the communication interface of the corresponding device, select the corresponding baud rate, and finally click "Open Serial Interface" to communicate with BMS and get the basic parameters. (picture on next page)



2. You can change the version in Chinese or English in help center.

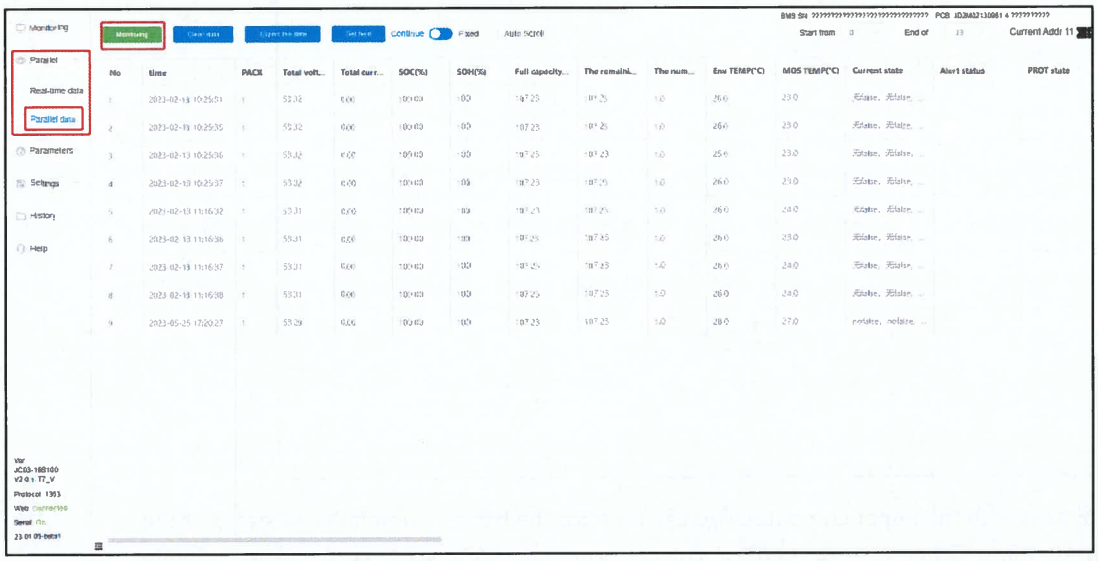


3. After the BMS communicates with the upper computer, you can monitor the basic parameters and status of the battery in real time. These information include battery voltage, current, SOC, SOH, cycle count, battery temperature, alarm status, protection status, etc.



4. You can view the real-time data storage of the BMS and export as excel tables.

5. When monitoring multiple packs, you need to set the start and end address of packs manually, you can check and comparethe data of each pack. And you can also export as excel table.



6. Parameters 1.

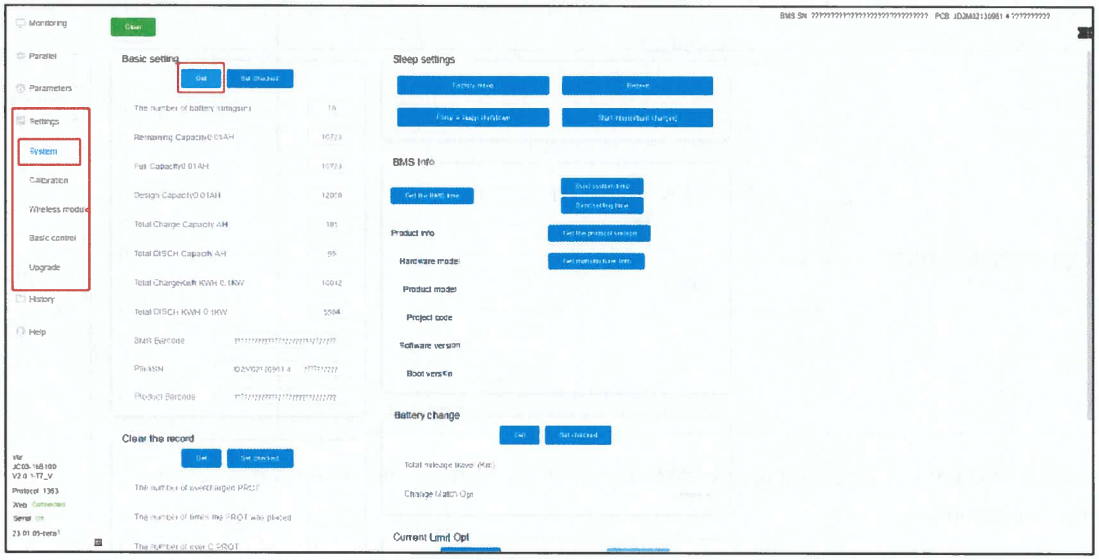
Click "Get All" when enter for the first time.

This section includes reading basic parameter information, restoring default parameters, writing individual parameters, writing all parameters, importing parameters and exporting parameters (it is not recommended to manually modified default parameters). (picture on next page)

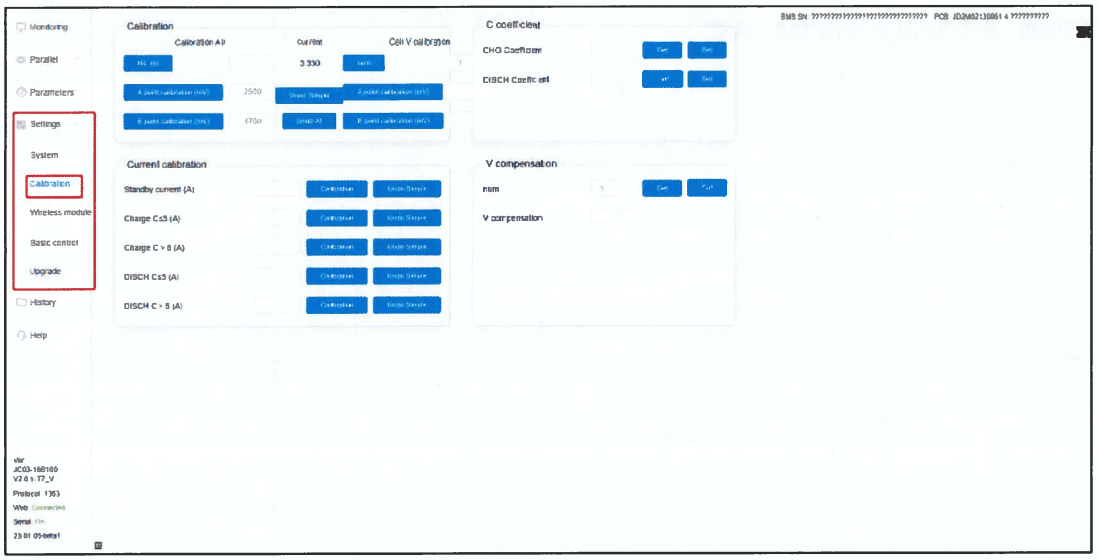
7. System parameter setting.

Click "Get" when enter for the first time.

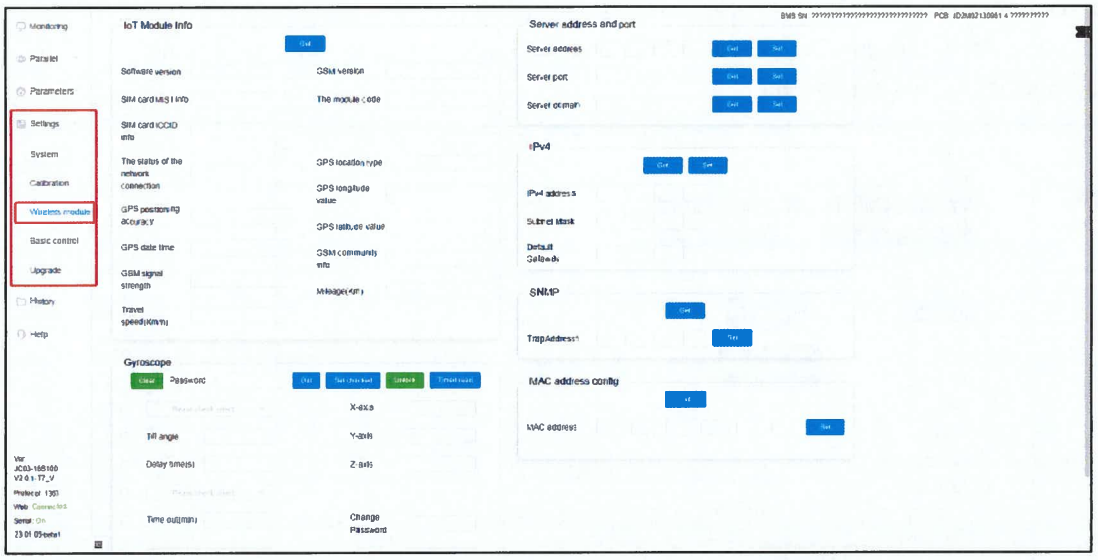
You can monitor the BMS parameters configuration, sleep settings and BMS information in real-time(it is not recommended to manually modified default parameters).



8. Calibration: Here is calibration content of BMS data (all has calibrated by factory, not recommended for private calibration). (picture on next page)

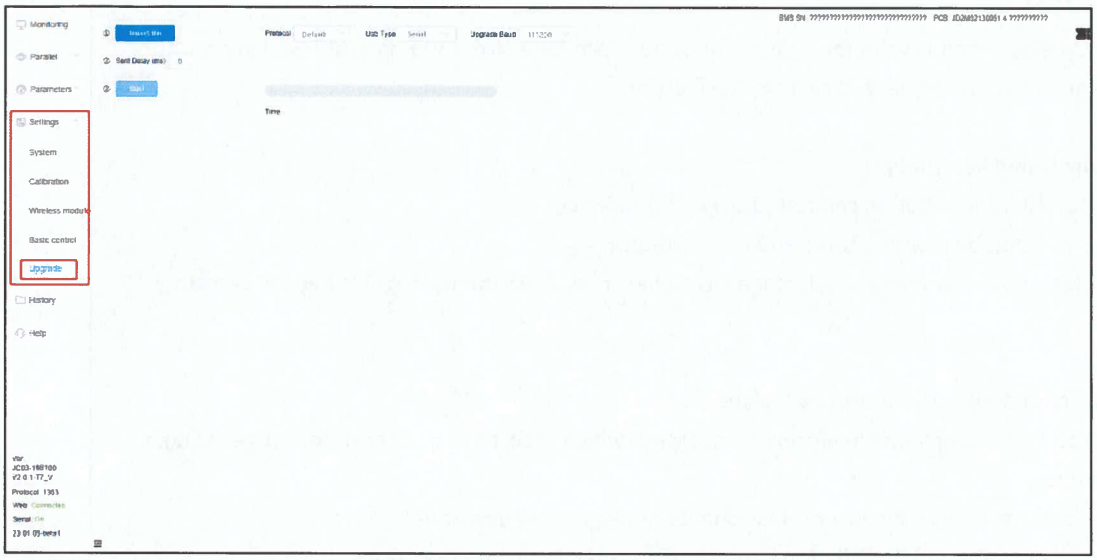


9. Wireless m odule: Here will contains information about some additional functional modules.

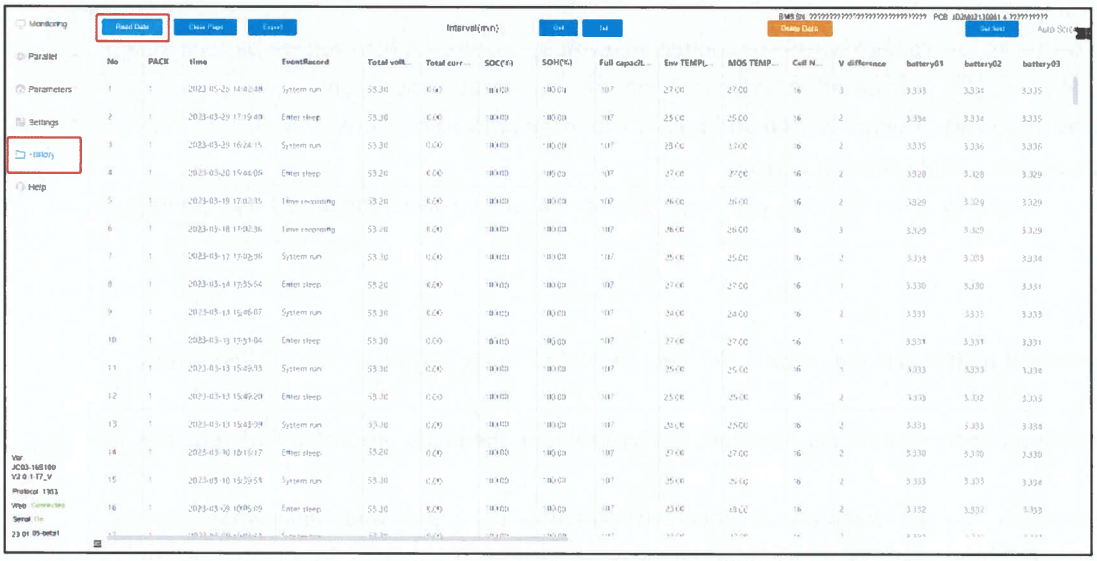


10. Basic control: Here includes the control of charging and discharging MOS, heating and other states (please consult the manufacturer for operation).

11. Upgrade: software online upgrade function of BMS (please consult the manufacturer for operation).



12. Click "Read Data" to get historical data and export data.



11. Warranty Policy

Offers standard factory warranty which is valid for 5 years for battery products, from the date of installation or no more than 5 and a half years from the delivery date from the factory.

1. Product Quality Standards and Warranty

1) Battery complies with safety transportation related to UN38.3 and MSDS.
2) The battery warranty is decided by manufacturer and its distributor.
3) After the products left factory, the appearance damage (scratches, rust, chemical damage) is beyond warranty.

2. Warranty Exceptions

1) Damage or lose to battery or accessory caused by logistics.
2) Battery failure caused by non- compliance inverters or chargers which lead to e. g. abnormal charge voltage, unqualified inverter or charger.
3) Battery malfunction or damage caused by non-professional or non-qualified personnel.
4) Failure to observe the user manual, the installation guide, and the maintenance regulations.
5) Product malfunction or damage due to disobey to relevant laws and regulations or technical requirements in power plant design, construction, or installation works.
6) Connect high voltage inverter to low voltage battery or connect low voltage inverter to high voltage battery.
7) Product malfunction or damage due to installation on movable device or in vibration occasions.
8) Failure or damage caused by corrosion, lightning and other natural damage or force majeure.
9) Unauthorized alteration or disassembly of the product.
10) Damage or malfunction caused by other facilities e.g. Surge damage caused by switching on/off high power generator.

3. Repair and Replacement

When a failure occurs, the user should check and record from the screen display the error code, protection values and necessary information.
When the dealer or manufacturer confirmed that is a product quality problem, the faulty product will be repaired and replaced by spares.
Manufacturer is only responsible for the company's products troubleshooting, repair and replacement, but doesn't assume any other special damages, consequential damages, or incidental damages (including loss of profits, loss of goodwill, loss of business reputation loss or delay, etc.).
This warranty does not affect the customer's enjoyment of any other rights laws and regulations relating to sales of consumer goods provided for in the host country or region.
Customers could contact local dealers or distributors to discuss how to proceed.

4. Force Majeure

Force majeure is not artificially unavoidable and insurmountable objective condition. In addition, it is the loss that even if the use of methods of prevention and attention, cannot prevent. It includes the following:

1) Earthquakes, floods, fires, storms and other natural disasters.
2) War, invasion, blockade and other hostile armed actors.
3) Revolution, rebellions, riots.
4) Strike.
5) Collection, prohibition, and other provisions of the government's actions.
6) Infectious diseases.
7) Third-party negligence and wrongdoing that manufacturers cannot control.

5. Warranty Disclaimer

We make no representations or warranties regarding the Product other than those expressly stated in this Limited Warranty. The foregoing Limited Warranties are exclusive and in lieu of all other express and implied warranties whatsoever. We specifically disclaim any implied warranties of merchant ability or fitness for a particular purpose. To the fullest extent that damages may be disclaimed by law, We shall not be liable, whether in contract or tort (including negligence and strict liability), for any damages in excess of the Product's purchase price or for any indirect, incidental, special, or consequential damages of any kind, or any loss of revenue, profits, business, information, data, or any other financial loss arising out of or in connection with the use r inability to use the Product.

6. Legal Rights

Some countries and/or states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitations may not apply to you. This warranty gives you specific legal rights, which may vary from country to country and/or state to state. This warranty shall be governed by and interpreted in accordance with the laws of China. This warranty is understood to be the exclusive agreement between the parties relating to the subject matter hereof. No employee or representative of us is authorized to make any warranty in addition to those made in this agreement.

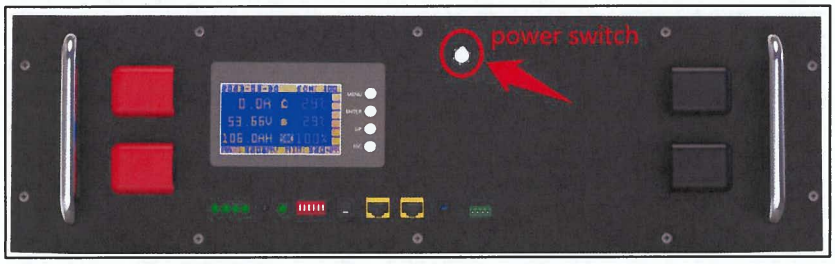
7. Product Sustainability Guarantee

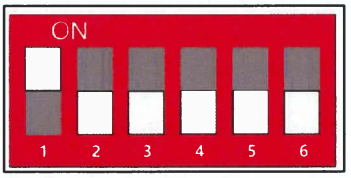
As a lifepo4 battery pack manufacturer, we committed to achieving the vision of sustainability through investment in products and efforts, we minimize waste, improve the performance of products and processes in terms of environment, health and safety, and use fewer resources. to provide competitive products and technologies in order to meet the needs of the market Demand. We also analyze the impact of the product life cycle and continue to develop innovative products that are durable, contain recycled or renewable ingredients, can be recycled, or help improve the environmental performance of final products. We work with suppliers and partners to promote responsible environmental management and the common goal of improving sustainability. We are committed to maintaining a safe and healthy workplace and creating more value in this area that is focused on renewable energy and sustainability.

12. Appendix I

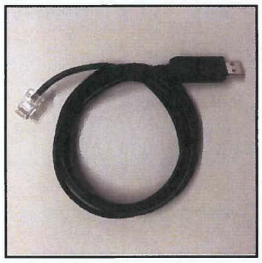
How To Communicate With Upper Computer (PC/laptop)

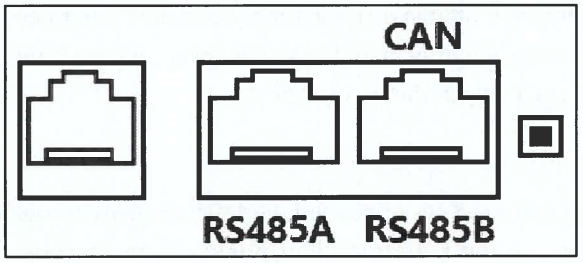
1. Turn on the battery by pressing the power switch, set the dip "1" as "ON" on the battery.





2. Connect the battery ("RS485A" or "RS485B" interfaces both work) with computer by RJ45 to USB cable.





3. Download and install the driver on your computer.

(USB to 485 Driver) CH341SER.EXE

4. Download the folder "DR software", you will find a app "DrStartApp" in folder, double click and open it.

DR Software

DrStartApp.exe

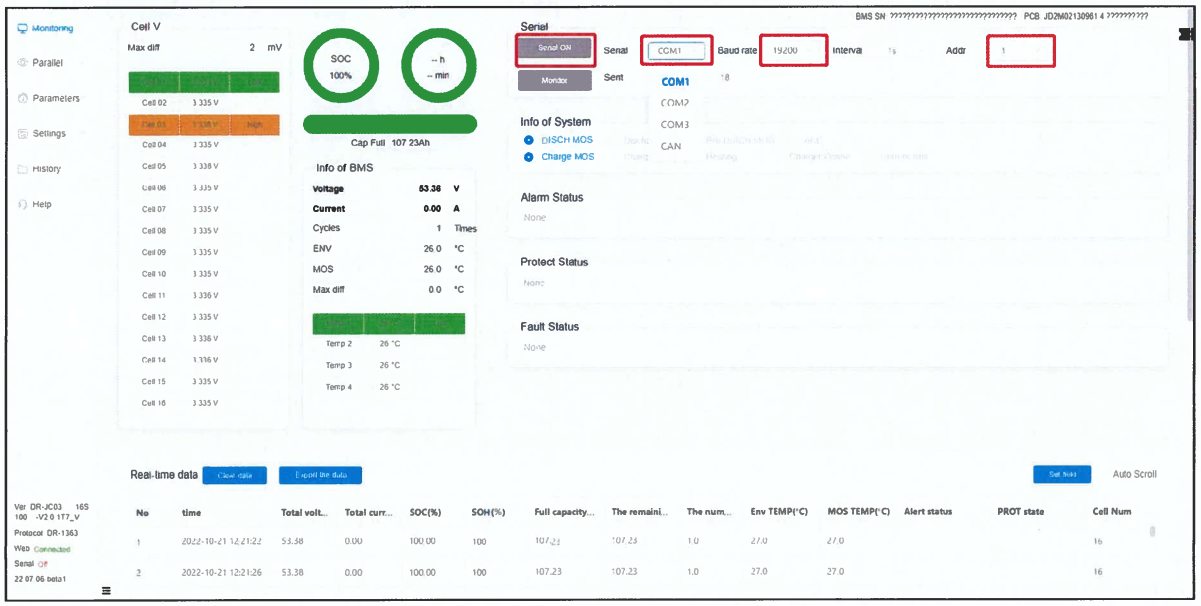
5. Some setting up on software. (picture on next page)

1) Click "Series ON",

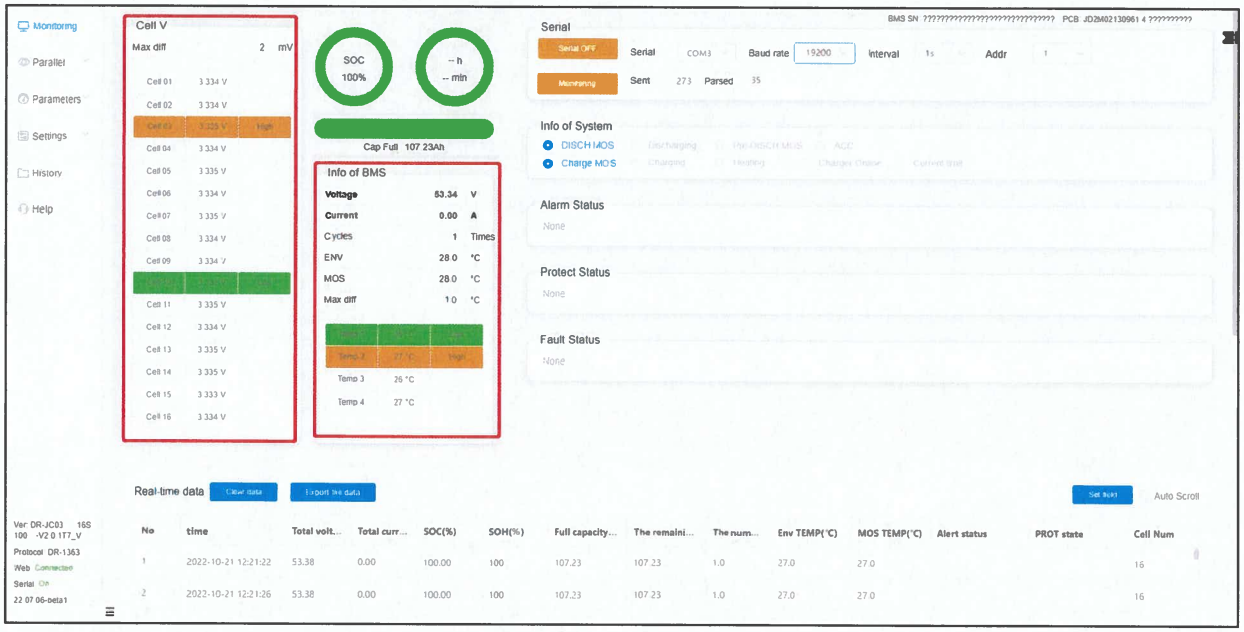
2) "Addr": select as "1",

3) "Baud rate": select as "9600",

4) "Serial": select each COM one by one, until you can see data on the page changes in real time, it means that is the suitable COM serial.

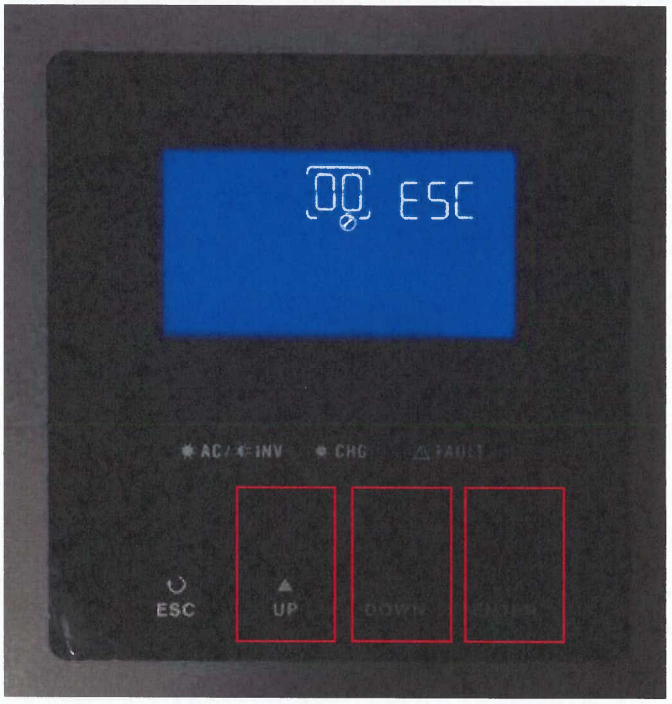


6. Due to the real-time monitor function, when they communicate successfully, the data on page will change in real time.



Press 'Up' and 'Down' to choose the setting item No., press 'Enter' to enter into the detailed setting parameter, when finish press 'Enter' again. The following setting items need to be set follow the recommended value:

Item No.	Setting Value
Program 02	Set to N*25A, N=battery amount
Program 05	Set to USE
Program 12	Set to 48V
Program 13	Set to 51V
Program 26	Set to 53.2V
Program 29	Set to 47.5V



Note:

1. PIP Inverters can only be waked up via battery, if the battery is turned off due to over-discharge, over temp. or other reasons, in order to wake up the inverter you need turn on the battery manually.
2. As there is no communication between inverter and battery, for a better using experience, it`s also acceptable to introduce monitoring device to visually display the real-time information from battery management system via the communication channel, such as Inverter Control Center(ICC) from centurionsolar. Same as the inverter compatibility condition, such a monitoring system needs get authorization from Pylontech in advance for the compatibility before using with the products from Pylontech mentioned above, otherwise the products from Pylontech will be exclusive of warranty.

HM

9.3. Settings for no communication situation

Without communication protocol, inverter cannot communicate with our battery. You need to make some setting on your inverter, for example, select the user-defined mode and set the corresponding voltage level (according to the inverter user manual), so that they can work together without communication.
Here are some commonly used battery parameters that need to be set, for reference. If need more advices about battery parameters settings, please contact the manufacturer.

Over Voltage Disconnect Voltage	57.6V
Charging Limit Voltage	58.4V DEAD
Equalizing Charging Voltage	56V
Float Charging Voltage	54V
Low Voltage Warning Voltage	(45V)
Cut-off Discharge Voltage	43.2V
Discharge Limit Voltage	40V EMTY

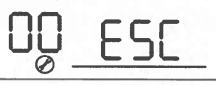
Pylontech:

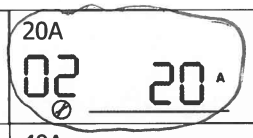
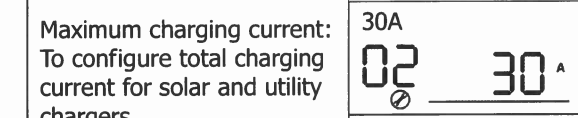
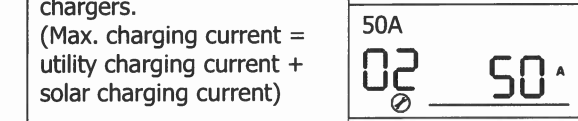
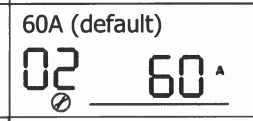
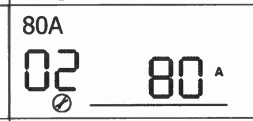
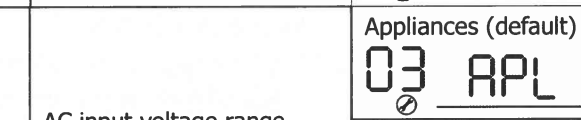
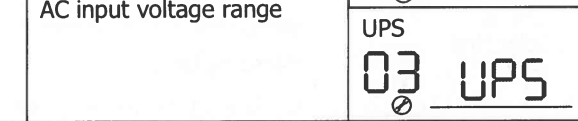
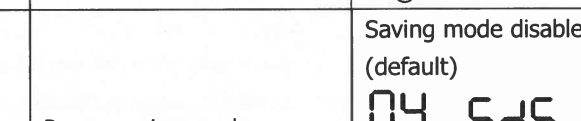
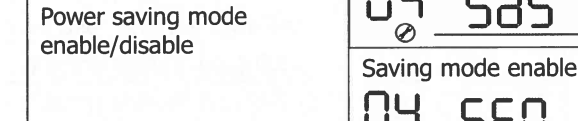
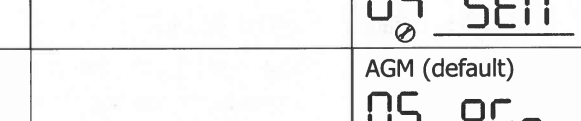
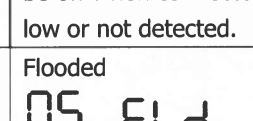
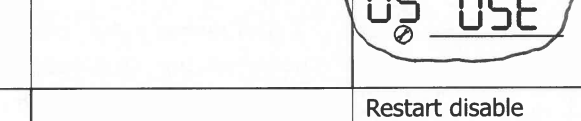
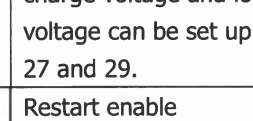
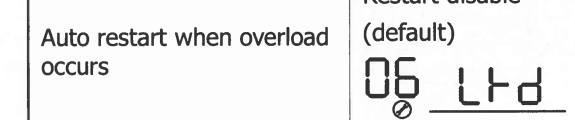
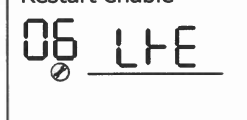
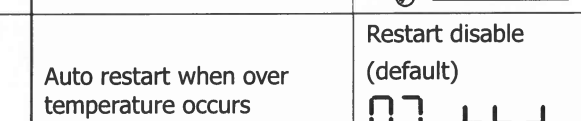
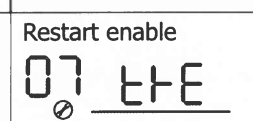
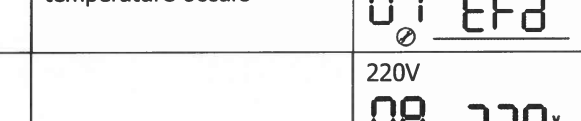
Item No.	Setting Value
Program 02	Set to N*25A, N=battery amount ✓ CURR
Program 05	Set to USE ✓ TYPE
Program 12	Set to 48V GRID
Program 13	Set to 51V DISCHG ✓
Program 26	Set to 53.2V BULK CHG
Program 29	Set to 47.5V FLOAT CHG ✓

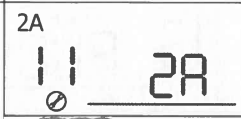
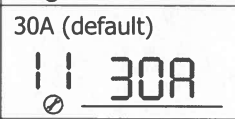
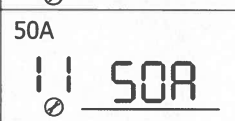
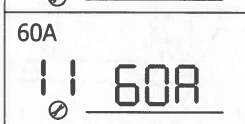
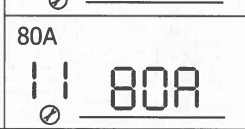
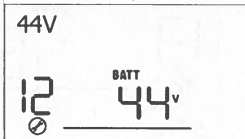
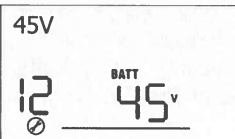
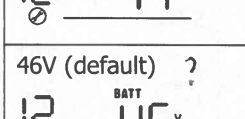
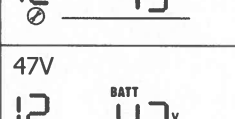
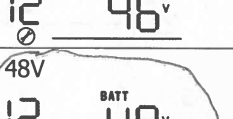
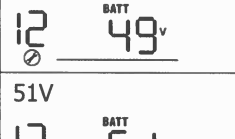
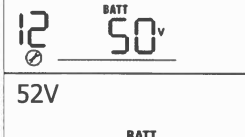
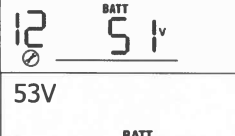
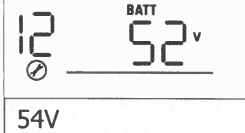
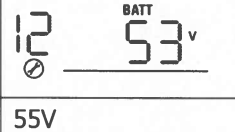
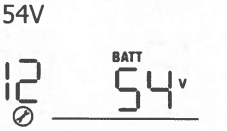
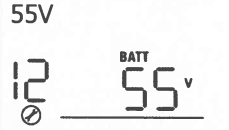
LCD Setting

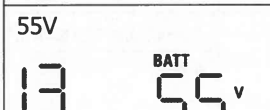
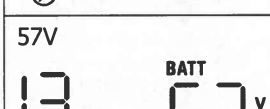
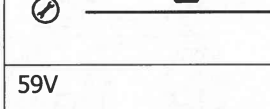
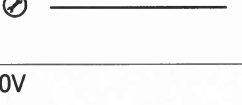
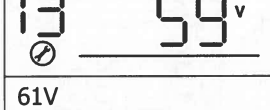
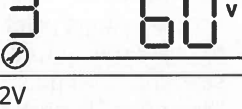
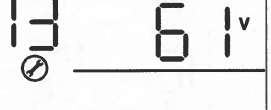
After pressing and holding ENTER button for 3 seconds, the unit will enter setting mode. Press "UP" or "DOWN" button to select setting programs. And then, press "ENTER" button to confirm the selection or ESC button to exit.

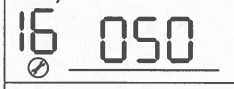
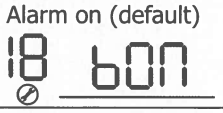
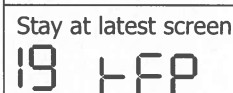
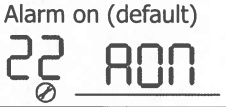
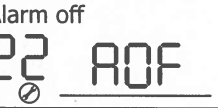
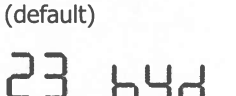
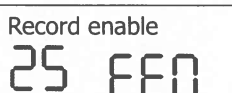
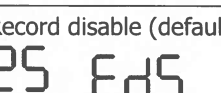
Setting Programs:

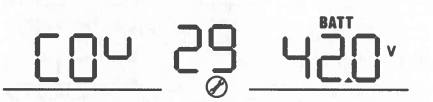
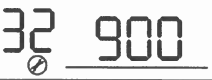
Program	Description	Selectable option	
00	Exit setting mode	Escape 	
01	Output source priority: To configure load power source priority	Solar first 	Solar energy provides power to the loads as first priority. If solar energy is not sufficient to power all connected loads, battery energy will supply power the loads at the same time. Utility provides power to the loads only when any one condition happens: - Solar energy is not available - Battery voltage drops to either low-level warning voltage or the setting point in program 12.
		Utility first (default) 	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.
		SBU priority 	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.

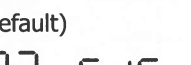
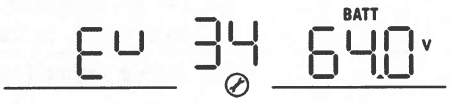
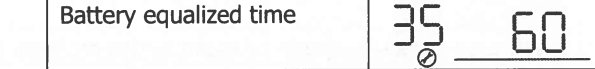
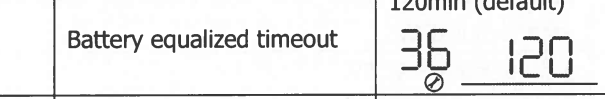
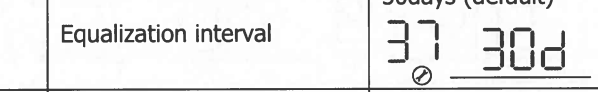
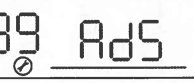
02	Maximum charging current: To configure total charging current for solar and utility chargers. (Max. charging current = utility charging current + solar charging current)	10A 	20A 
		30A 	40A 
		50A 	60A (default) 
		70A 	80A 
03	AC input voltage range	Appliances (default) 	If selected, acceptable AC input voltage range will be within 90-280VAC.
		UPS 	If selected, acceptable AC input voltage range will be within 170-280VAC.
04	Power saving mode enable/disable	Saving mode disable (default) 	If disabled, no matter connected load is low or high, the on/off status of inverter output will not be effected.
		Saving mode enable 	If enabled, the output of inverter will be off when connected load is pretty low or not detected.
05	Battery type	AGM (default) 	Flooded 
		User-Defined 	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) 	Restart enable 
07	Auto restart when over temperature occurs	Restart disable (default) 	Restart enable 
08	Output voltage	220V 	230V (default) 
		240V 	

09	Output frequency	50Hz (default) 	60Hz 
11	Maximum utility charging current	2A 	10A 
		20A 	30A (default) 
		40A 	50A 
		60A 	70A 
		80A 	
12	Setting voltage point back to utility source when selecting "SBU priority" or "Solar first" in program 01.	Available options in 48V models:	
		44V 	45V 
		46V (default) 	47V 
		48V 	49V 
		50V 	51V 
		52V 	53V 
		54V 	55V 
		56V 	57V 

13	Setting voltage point back to battery mode when selecting "SBU priority" or "Solar first" in program 01.	Available options in 48V models:	
		Battery fully charged 	48V 
		49V 	50V 
		51V 	52V 
		53V 	54V (default) 
		55V 	56V 
		57V 	58V 
		59V 	60V 
		61V 	62V 
		63V 	64V 

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 	Solar energy will charge battery as first priority. Utility will charge battery only when solar energy is not available.
		Utility first 	Utility will charge battery as first priority. Solar energy will charge battery only when utility power 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 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) 	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 default 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 battery mode.	Bypass disable (default) 	Bypass enable 
25	Record Fault code	Record enable 	Record disable (default) 

26	Bulk charging voltage (C.V voltage)	default setting: 56.4V ?  54V (56V)	
		If self-defined is selected in program 5, this program can be set up. Setting range is from 48.0V to 64.0V. Increment of each click is 0.1V.	
27	Floating charging voltage	default setting: 54.0V  	
		If self-defined is selected in program 5, this program can be set up. Setting range is from 48.0V to 64.0V. Increment of each click is 0.1V.	
29	Low DC cut-off voltage	default setting: 42.0V  47.5V (45V)	
		If self-defined is selected in program 5, this program can be set up. Setting range is from 40.0V to 54.0V. 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.	
31	Solar power balance: When enabled, solar input power will be automatically adjusted according to connected load power.	Solar power balance enable (Default):  	If selected, solar input power will be automatically adjusted according to the following formula: Max. input solar power = Max. battery charging power + Connected load power.
		Solar power balance disable:  	If selected, the solar input power will be the same to max. battery charging power no matter how much loads are connected. The max. battery charging power will be based on the setting current in program 02. (Max. solar power = Max. battery charging power)
32	Bulk charging time (C.V stage)	Automatically (Default):  	If selected, inverter will judge this charging time automatically.
		5 min  	The setting range is from 5 min to 900 min. Increment of each click is 5 min.
		900 min  	
		If "USE" is selected in program 05, this program can be set up.	

<table>
<tr><td rowspan="2">33</td><td rowspan="2">Battery equalization</td><td>Battery equalization
  </td><td>Battery equalization disable (default)
  </td></tr>
<tr><td colspan="2">If "Flooded" or "User-Defined" is selected in program 05, this program can be set up.</td></tr>
<tr><td>34</td><td>Battery equalization voltage</td><td colspan="2">Default setting is 58.4V. Setting range is from 48V ~ 64V. Increment of each click is 0.1V.
  </td></tr>
<tr><td>35</td><td>Battery equalized time</td><td>60min (default)
  </td><td>Setting range is from 5min to 900min. Increment of each click is 5min.</td></tr>
<tr><td>36</td><td>Battery equalized timeout</td><td>120min (default)
  </td><td>Setting range is from 5min to 900 min. Increment of each click is 5 min.</td></tr>
<tr><td>37</td><td>Equalization interval</td><td>30days (default)
  </td><td>Setting range is from 0 to 90 days. Increment of each click is 1 day</td></tr>
<tr><td rowspan="2">39</td><td rowspan="2">Equalization activated immediately</td><td>Enable
  </td><td>Disable (default)
  </td></tr>
<tr><td colspan="2">If equalization function is enabled in program 33, 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 37 setting. At this time, "  " will not be shown in LCD main page.</td></tr>
</table>

Pylontech Lithium Battery Support

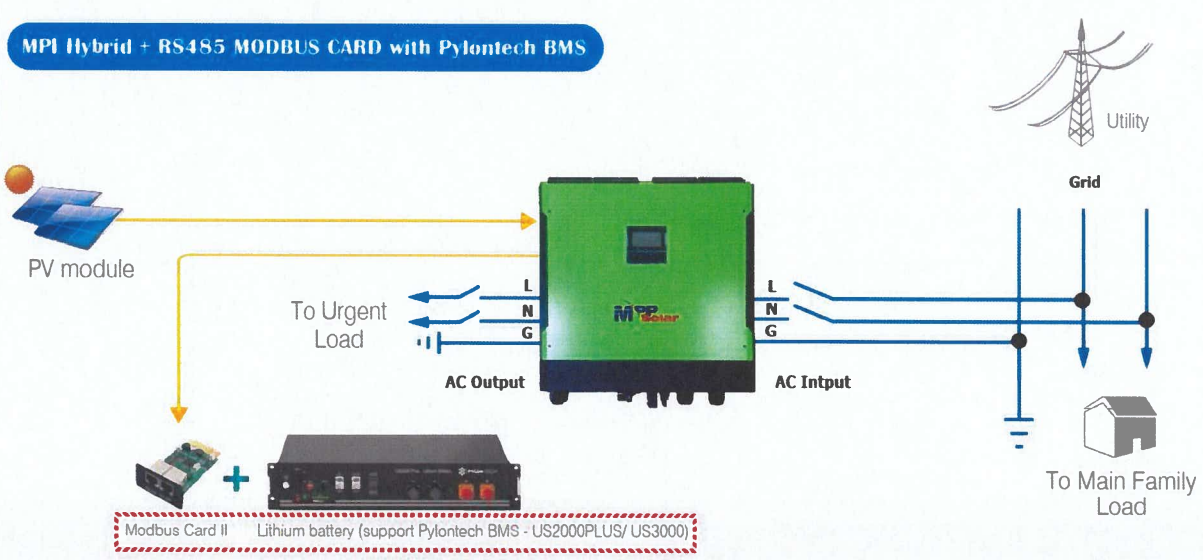
Date: 20 Feb 2019

By: MPP Solar

Comment:
Comments are off

February 20th, 2019

We are pleased to announce that, starting January 2019, all our Hybrid and Off-Grid Solar Inverters are now officially compatible for use with **Pylontech US2000B Plus/3000 Lithium batteries**, in 3 ways.

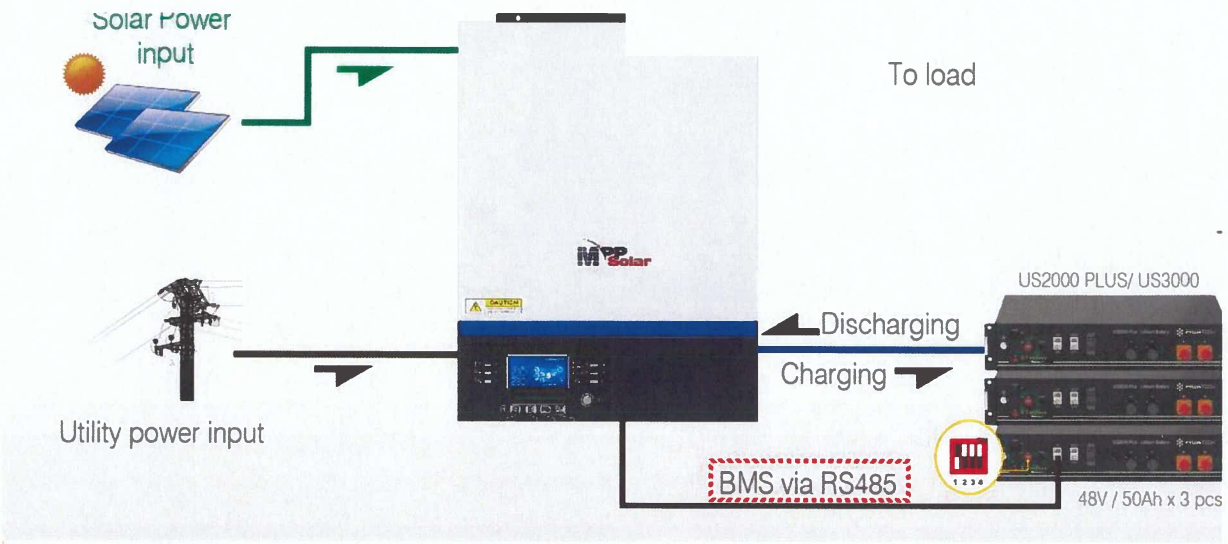


MPI Hybrid Application with BMS

- MPI Hybrid models starting January 2019 will now be able to work with Pylontech Lithium batteries through the use of optional RS485 Modbus Card (sold separately). Simply install RS485 card into Hybrid inverter's intelligent slot, then connect the card to Pylontech's BMS port and it is automatic compatibility. **Please note MPI Hybrid units produced prior to January 2019 will NOT be able to support Pylontech batteries.**

5048GK / 5048MK with Pylontech BMS

- Starting January 2019, all units 5048GK / 5048MK are now ready to communicate directly with Pylontech BMS battery system through the use of a direct data communication from inverter's BMS port to the battery. A special data cable sold separately will be required for this purpose. **Please note 5048GK / 5048MK produced prior to January 2019 will NOT be able to support Pylontech BMS communication.**



PIP Off-Grid Series with Pylontech without BMS

Application without BMS

- For application without BMS, our Off-Grid inverter family (PIP-HS/MS, PIP-HSE/MSE/MSXE, PIP-GE, PIP-MSD/MST, and older versions of PIP-C programmed to match setting with Pylontech batteries. For normal daily use it is not mandatory to use BMS with Pylontech batteries provided tha done correctly. It should be noted that without BMS, the inverter's display of battery SOC may not be very accurate. Please refer to Pylontech cc on how to program your inverter to use with Pylontech batteries without BMS support.

Should you have any questions, please feel free to contact our Sales team for further information. Thank you for your attention.

51.2V
LiFePO4 Battery

LFP48100P~48230P

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AliExpress Coupon	-$0.10
Tax	$101.38
Total	**$1,280.13**

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48V 100AH 5KW, CHINA
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Free returns
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Shipping Free shipping
Coins -$0.87
AliExpress Coupon -$0.10
Tax $101.38
Total
$1,280.13

Invoice

Supplier name	Blmpow Official Store	**Customer Name**	Kalman Push
Marketplace Facilitator	Alibaba.com Singapore E-Commerce Private Limited	**Delivery Address**	7406 S 40th Ave Phoenix Arizona

Invoice Date	**Invoice No.**
2024-01-03 -0700	B10MZAZ20240104030051

Transaction	**Quantity**	**Price** (USD)	**Sales Tax Rate**	**Sales Tax Amount** (USD)	**Total inclusive of Sales Tax** (USD)
LiFePO4 48V 200AH Battery Pack 51.2V 10KW Lithium Solar Battery 6000 Cycle With 16S 200A BMS Max 32 parallel For Inverter NO TAX	1	1178.85	8.600 %	101.38	1280.23
Total amount in USD				101.38	1280.23

*As required by the relevant State Sales Tax Laws, the marketplace facilitator is required to collect Sales Tax and remit to the relevant tax authorities.