Wall Mounted Battery

Pack Installation & Operation Manual

BR-WM-LV 11.77KWH BR-OW-LV 14.33KWH BR-OW-LV 15.36KWH





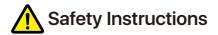
Content

1. Preface	01
2. Label Explanation	02
3. Product Description	02
4. Product Advantages	02
5. Product Technical Parameters	03
5.1 Specification	03
5.2 Interface Overview	04
5.3 Battery Management System	05
5.3.1 Overcharge Protection	05
5.3.2 Overdischarge Protection	05
5.3.3 Overcurrent Protection	05
5.3.4 Over Temperature Protection	05
5.3.5 Low Temperature Protection	05
6. Installation and Configuration	06
• 6.1 Packing	06
6.2 Recommended Tools	06
6.3 Notice for Installation	07
6.4 Installation Procedure	07
7. Connection	09
7.1 Precautions Before Connecting The Inverter	09
7.2 Precautions Before Connecting The Inverter with Battery in Parallel	10
7.3 Battery & Inverter Connection	11
7.4 Dip Code Switch Definition and Setting	11
8. Operation	12
8.1 Check Before Power on	12
• 8.2 Power on	12
9. Operation of Upper System	15
• 9.1 Log in	15
9.2 Operation of The Communication Protocol Switch	16
9.3 Communication Compatible List	
10. Storage	18
11. Warning	
	0

1. Preface

This manual will provide detailed product information and installation instructions for users of the wall-mounted series products of SHENZHEN BASENGREEN TECHNOLOGY CO.LTD (hereinafter referred to as BASENGREEN). Please read this manual carefully, and put this manual in a place where you can install, operate, and obtain it conveniently.

The safety precautions mentioned in the manual do not represent all the safety matters that should be observed, but are only supplementary to the safety precautions. When installing, operating, and maintaining equipment, local safety regulations and norms should be followed. Only trained professionals can install, operate and maintain equipment. Our company does not assume any responsibility for losses caused by violation of general safety operation requirements or violation of safety standards for the design, production, and use of equipment. Installation and maintenance personnel must have high-voltage and AC power operation skills. When installing, operating, and maintaining equipment, they must not wear any conductive objects, such as watches, bracelets, bracelets, and rings, and prevent moisture from entering the equipment.



High Voltage Danger

The high-voltage power supply provides power for the operation of the equipment. Direct contact or indirect contact with high-voltage power supply through we objects will cause fatal danger.

Use Professional Tools

Always use professional tools instead of personal tools when working with high voltage and AC power

Anti-static

The static electricity generated by the human body will damage the electrostatic sensitive components on the board. Before touching the plug-in, circuit board or chip, make sure to take proper anti-static measures.

Operate Attention

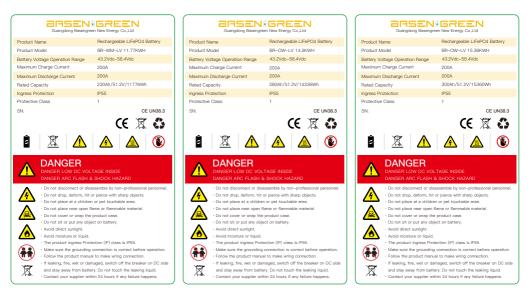
The power must be cut off first before operation, do not hot-line work.

DC short circuit Danger

The power system provides a DC-regulated power supply, and a DC short circuit will damage the equipment and cause personal injury.

2. Label Explanation

The label contains the following information



3. Product Description

This product is a lithium iron phosphate battery (LFP LiFePO4) composed of 16 cells in series. Which is suitable for home energy storage systems. It can be customized according to customer needs to meet diverse application scenarios and provide stable power for various equipment of users.

4. Product Advantages

- a. Built-in Battery Management System (BMS): Overcharge, overdischarge, overcurrent, temperature control, short circuit and other protection functions.
- b. Passive Balance Function: There is a voltage equalization function during the charging.
- c. High Cost Performance: High safety performance, long service life, stable and reliable quality.
- d. Expandable: Equipped with RS232/RS485/CAN bus ports, support up to 15 units in parallel.

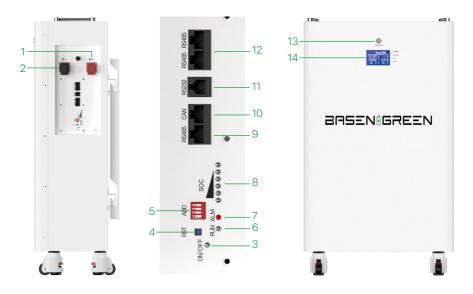
- e. Wide Working Temperature: -20 °C to 60 °C, excellent high-temperature discharge performance.
- f. Convenient: Modular design, small size and lightweight, easy to install and maintain.

5. Product Technical Parameters

5.1 Specification

ltem	Specifications					
Model	BR-WM-LV 11.77KWH	BR-OW-LV 14.33KWH	BR-OW-LV 15.36KWH			
Nominal Voltage	51.2V	51.2V	51.2V			
Operating Voltage	43.2V-57.6V	43.2V-57.6V	43.2V-57.6V			
Nominal Capacity	230AH	280AH	300AH			
Total Energy	11776Wh	14336Wh	15360Wh			
Configuration	1P16S	1P16S	1P16S			
Charging Cut-off Voltage	58.4V	58.4V	58.4V			
Discharge Cut-off Voltage	43.2V	43.2V	43.2V			
Operation Temperature	-20 °C ~60 °C	-20°C ~60°C	-20°C ~60°C			
Standard Charging Current	50A	50A	50A			
Max Continuous Charging Current	200A	200A	200A			
Max Continuous Discharge Current	200A	200A	200A			
Dimension	500*232*670mm	475*255*770mm	475*255*770mm			
Net weight	98KG	112KG	112KG			

5.2 Interface Overview



Position	ltem	Description
1	P+	The positive terminal of the battery, can be connected to the positive pole of the inverter through a cable for DC output.
2	P-	The negative terminal of the battery, can be connected to the negative pole of the inverter through a cable for DC output.
3	Power Indicator	Turn on then light-on, turn off then light-off
4	RST	Manual-return switch button
5	ADD	Setting up battery parallel communication and inverter communication
6	RUN	Indicating the normal operation status of the battery
7	Alarm	Indicating the abnormal state of the battery, if there is an low voltage or over voltage, the alarm will sound.
8	SOC	6 indicators, indicating the remaining power status.
9	RS485 A	RS485 port for the inverter or the upper system communication
10	CAN	CAN port for the inverter communication
11	RS232	Communication port for the upper system.
12	RS485 B/C	RS485 port for parallel communication

13	Power switch	The switch for turn on/turn off the battery pack.
14	LCD Screen	Display battery voltage, SOC, temperature, etc.

5.3 Battery Management System (BMS)

5.3.1 Overcharge Protection

When the voltage of any single cell or whole battery pack is higher than the set value during the charging, and the duration reaches the limited time, the system enters the over charging protection state automatically, the charging MOS is turned off at the same time, and the battery cannot be charged. After the voltage of each cell and the whole battery pack drops below the cell over charging recovery value, the over charging protection state is released. It can also be released by discharging to return to normal state.

5.3.2 Overdischarge Protection

When the voltage of any single cell or whole battery pack is lower than the set value during discharging, and the duration reaches the limited time, the system enters the overdischarge protection state, the discharge MOS is turned off, and the battery cannot be discharged. After the overdischarge protection of the battery pack occurs, it can be released by charging the battery pack.

5.3.3 Overcurrent Protection

During charging and discharging, when the current exceeds the set value of the protection current, and the duration reaches the limited time, the system enters the overcurrent protection state, the charging and discharging MOS will be turned off automatically, and the battery cannot be charged and discharged, charging and discharging the battery pack can release the overcurrent protection state.

5.3.4 Over Temperature Protection

When the NTC detects the temperature of the battery cell surface is higher than the setting value of over temperature protection during charging and discharging, the management system enters the over temperature protection state, the charging or discharging MOS is turned off, and the battery pack cannot be charged or discharged in this state.

5.3.5 Low Temperature Protection

When the NTC detects that the temperature of the cell surface is lower than the setting value of low temperature protection during charging and discharging, the management system enters the low temperature protection state, the charging or discharging MOS is turned off, and the battery pack cannot be charged or discharged in this state.

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6. Installation and configuration

6.1 Packing

- a. After receiving the battery, open the box to check the battery surface if get any broken, crack,s or other bad phenomena; if get that, please do not install, and need to contact the supplier, and wait for the supplier's reply before proceeding to the next step.
- b. Please ensure that the following items are included in the packaging:





Mounting Bracket*1



M8*12mm combination screws*2 communication cable*1

Inverter





Parallel communication cable*1



Upper system communication cable*1

6.2 Recommended Tools

Before installing the battery pack, the user needs to have the tools as following list:

Picture	ltem	Description		
0 2 00	Level	Make sure the bracket is properly installed		
	Hammer Drill	Drill holes on the wall		
T	Impact Wrench Set	Locking expansion bolts		
	Electric Screwdriver	Wiring		

~	Hammer	Hanging the bracket
1	Crimping Tool	Crimping tool for RJ45 terminal
	Crimping Plier	Crimping tool for insulated electric connectors
	Adjustable wrench	Loosening/tightening screws

6.3 Notice for Installation

- a. The wall for installation should be a solid brick or cement wall with a strong load-bearing capacity, and the thickness of the wall should not be less than 100mm.
- b. In indoor installation, it needs to leave enough space to be installed and operated easily and pay attention to ventilation. Do not place flammable materials around the battery.
- c. In outdoor installation, it needs to be surrounded by protective measures, and make a rain protection.

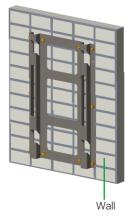
6.4 Installation Procedure

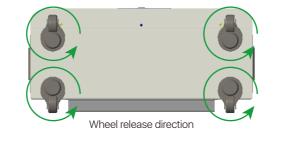
- a. Mark the drilling position using the wall mounting plate, and level using a spirit level.
- b. Place the wall mounting plate close to the wall firmly, mark the drilling position, and remove the wall mounting plate.
- c. Drill holes in the wall using the driller. The hole diameter is 12mm and the depth is 60mm.
- d. Fix the M8 Expansion bolts, tightening torque: 20N.m
- e. Loosen the 4 wheels on the battery, lift the battery parallel to the ground, and hang the battery module on the bracket as shown in the following figure:

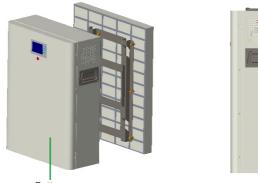
Installation Diagram



Expansion Bolts Fixed bracket







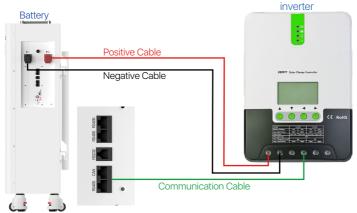
Battery

7. Connection

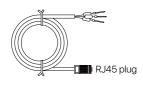
- 7.1 Precautions Before Connecting The Inverter
- a. Use a multi-meter to measure whether connection of the positive and negative cables are

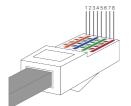
conducting, and check whether that connections are loose.

- b. The battery should be switched off before wiring to ensure that there is no DC output from the battery.
- c. Connect positive terminals of the battery and the inverter with red power cable, and then connect negative terminals of both sides with black power cable.
- d. Connect both communication ports of the battery(RS485A/CAN) and the inverter(BMS port) with the communication cable, BMS ports of inverter have different definitions for some brands, please check the inverter manual.



Communication cable connection Pin definition is as follows:



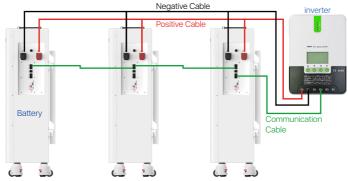




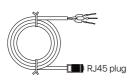
RS485A Port	PIN	1	2	3	4	5	6	7	8
	Define	RS485-B	RS485-A	GND	NC	NC	GND	RS485-A	RS485-B
CAN Port	PIN	1	2	3	4	5	6	7	8
	Define	NC	NC	NC	CAN-H	CAN-L	NC	GND	NC

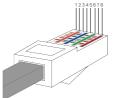
7.2 Precautions Before Connecting The Inverter with The Battery Pack in Parallel

- a. Use a multi-meter to measure whether connection of the positive and negative cables are conducting, and check whether that connections are loose.
- b. The battery should be switched off before wiring to ensure that there is no DC output from the battery.
- c. Lock the parallel cable wires to the positive terminal of the battery pack first, then connect another end to the negative terminal.
- d. Parallel communication cable to the RS485 port of the battery pack.
- e. Connect positive terminals of the battery and the inverter with red power cable, and then connect negative terminals of both sides with black power cable.
- f. Connect both communication ports of the battery(RS485A/CAN) and the inverter(BMS port) with the communication cable, BMS ports of inverter have different definitions for some brands, please check the inverter manual.



Parallel communication cable connection Pin definition is as follows:







RS485	PIN	1	2	3	4	5	6	7	8
Parallel communi-	Define	RS485	RS485	GND	NC	NC	GND	RS485	RS485
cation interface definition		-B	-A					-A	-В

7.3 Battery & Inverter Connection

Connect the positive and negative cables of the battery to the positive and negative terminals of the DC input of the inverter, insert the RJ45 crystal plug at one end of the distributed inverter communication cable to the RS485 of the battery, and connect the other end to the BMS terminal of the inverter according to the defined line voltage, and then connect the battery to the inverter.



Inverter(GROWATT SPF-5000ES)

7.4 Dip Code Switch Definition and Setting

ADD switch is a 4-bit DIP switch to manually distribute the communication address of parallel batteries.

The BMS will only recognize the DIP address once it is reset, so please reset the BMS when the DIP address is changed (the BMS must be reset in the standby state). When the DIP address is 0, the battery is configured as the stand-alone working mode; when the DIP address is 1, the BMS is configured as the master working mode; when the DIP address is 2 to 6, the BMS is configured as the slave working mode.

Please refer to the table below to set the DIP switch for parallel connection of different batteries.

Battery pack	Master	Slave 2	Slave 3	Slave 4	Slave 5	Slave 6
1	ON LE 1 2 3 4					
2	ON LE 1 2 3 4	ON L3				
3	ON LE 1 2 3 4	ON LE 1 2 3 4	ON L3 1 2 3 4			
4	ON LE 1 2 3 4	ON LE 1 2 3 4	ON L3 1 2 3 4	ON LE 1 2 3 4		
5	ON L3 1 2 3 4					
6	ON L3 1 2 3 4	ON LE 1 2 3 4	ON L3 1 2 3 4			

8. Operation

8.1 Check Before Power on

- a. Check all positive, negative cables and communication lines are connected correctly and safely.
- b. Check the battery is firmly installed, easy to operate and maintain, and check ventilation.
- c. Insulate the unused ports.

8.2 Power on

- a. Turn on the switch on the battery.
- b. The green running LED is normal on(Check the status of the LED indicators)
- c. If it is failed to switch on the battery system, check if all the electrical connection is correct.
- d. If the electrical connection is correct, but the battery system is still unable to switch on, contact our after-sale service within 48 hours

LED Indicator Status

Status	Charging					
Capacity Indicator	L1•	L2●	L3●	L4●	L5•	L6●
0~16.6%	Light	OFF	OFF	OFF	OFF	OFF
16.6~33.2%	Light	Light	OFF	OFF	OFF	OFF
33.2~49.8%	Light	Light	Light	OFF	OFF	OFF
49.8~66.4%	Light	Light	Light	Light	OFF	OFF
66.4~83.0%	Light	Light	Light	Light	Light	OFF
83.0~100%	Light	Light	Light	Light	Light	Light

Status	Discharge					
Capacity Indicator	L1•	L2●	L3●	L4•	L5•	L6•
0~16.6%	Light	OFF	OFF	OFF	OFF	OFF
16.6~33.2%	Light	Light	OFF	OFF	OFF	OFF
33.2~49.8%	Light	Light	Light	OFF	OFF	OFF
49.8~66.4%	Light	Light	Light	Light	OFF	OFF
66.4~83.0%	Light	Light	Light	Light	Light	OFF
83.0~100%	Light	Light	Light	Light	Light	Light

Flashing Definition

Item	Light	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

LED Flashing Faulty

Please turn to the next page

Chatura	Normal/warning/	RUN	ALM	B	Battery capacity LED			ty Ll	Specification	
Status	protection	•	•	٠	•	•	•	•	•	
Power off	Sleep	OFF	OFF			ALL	OFF			
Stand by	Normal	Flash1	OFF							
Stariu by	Warning	Flash1	OFF							
	Normal	Flash2	OFF							
	Warning (Not including temperature)	Flash2	OFF							
Charging	Over charging protection	Flash1	OFF							ALM OFF when protected during over charging
	Over Temperature, Low-temperature, Over current protection	Flash1	Flash2	-						
	Limited charging	Light	OFF							
	Normal	Light	OFF	Display according to the actual SOC				rding	g	
	Warning	Light	Flash3					ALM OFF when discharge over current		
	Over discharge Protection	Flash1	OFF					ALM OFF when protected during over charging		
Discharging	Over Temperature, Low-temperature 、Over current、 Shot Circuit、 Reverse Polarity Protection	Flash1	Flash2							
Invalidation	Error	OFF	Light			ALL	OFF			Error refers to hardware defection such as BMS voltage sampling device,charging MOS damage, tempera ture sensor disconnection, etc.

9. Operation of Upper System

BASEN 48V battery pack supports to connect with our upper system to monitor the status of the battery and modify the communication protocol, please contact our sales representative or visit our website to get the latest upper system software.

9.1 Log in

- a. The upper system communication cable connects to the RS485 port on the battery and then to the USB port on the PC/Laptop
- b. Download and open the upper system software
- c. Modify the language
- d. Updated the status of battery automatically

Notice: If it is failed to connect to the upper system, check if all the connection is correct. If the connection is correct, but the upper system is still unable to work, please contact our after-sale service



腔	参数	配置	存储		
組显示	多组显示	显示记录	并机分组显示	并机分组数据存储	
名称	数值	单位	267 	数值 单位	Do 5 の方式的状状态 Softward Softwar
最大电 关闭相 波特(ACI CONS		 単体匀施 拨码地址 1 Pack数量 1 	秋态提示 100000 123450 □ 从0并机轮	(读音/Language)

inglePack M	altiPacks Re	STORAC	allel group disp	lay Parall	el packet da	ata storage
0 1 2						Address 0 🗸 CAN type Pylon 🗸 Read Set
						Now address: 1 485 type Pylon ~ Read Set
ntervals 400	P 🗘	11 time 10	00 💠 Read	Count: 13	3	Real-time data read successfully
Pack Volt 5 Remain_Ca		sk Curr	0.00 A SOC	100 %	SOH 100 %	CHG MOS On BISG MOS On Charge Discha
Caption	Value	Ilmit				Volt 52.97 V Total_Cap 840 Ah SOC 99 %
Nax Vol	3, 337	10	1	-		
Min_Vol	3. 292	10			100 %	Curr 0 A Remain_Cap 839 Ah
Wol Diff	0.045	W N	1		100 /0	
VOI_DILL	0.045	4	-			Max_Cell_V 3353 nV Max_Batt_T 18.0 °C Max_Anb_T 19.0 °
Vol 01	3, 301	v				
			Caption	Value	Unit	
Vol 02						N
	3.334	V	Anb_Tenp	19.0	C	Min_Cell_V 3291 nV Min_Batt_T 15.0 °C Min_Amb_T 19.0 °
Vol 03	3.298	V V	Anb_Tenp MOS_Tenp	19.0 15.0	r r	Min_Cell_V 3291 aV Min_Batt_T 15.0 'C Min_Amb_T 19.0 '
Vol 03 Vol 04	3.298 3.334	V V	MOS_Temp	15.0	ĉ	
Vol 03 Vol 04 Vol 05	3. 298 3. 334 3. 335	V V V	NOS_Temp Max_Temp	15.0	01	
Vol 03 Vol 04 Vol 05 Vol 06	3. 298 3. 334 3. 335 3. 300	V V V	NOS_Temp Nax_Temp Nin_Temp	15.0 16.0 15.0	01	Charge Ditcharge Volt high alars Volt low alars
Vol 03 Vol 04 Vol 05 Vol 06 Vol 07	3. 298 3. 334 3. 335 3. 300 3. 336	V V V V	NOS_Temp Max_Temp	15.0	01	Charge Discharge Volt high alum Volt low alum
Vol 03 Vol 04 Vol 05 Vol 06 Vol 07 Vol 08	3. 298 3. 334 3. 335 3. 300 3. 336 3. 298	V V V V V	NOS_Temp Nax_Temp Nin_Temp Temp_Diff	15.0 16.0 15.0 1.0	01 03 ℃	Charge Discharge Volt high alurs Volt low alars
Vol 03 Vol 04 Vol 05 Vol 06 Vol 06 Vol 07 Vol 08 Vol 09	3. 298 3. 334 3. 335 3. 300 3. 336 3. 298 3. 294	V V V V V V	NOS_Temp Nax_Temp Nin_Temp Temp_Diff Temp 01	15.0 16.0 15.0 1.0 16.0	01 03 02	Charge Discharge Valt high alars Valt low dars
Vol 03 Vol 04 Vol 05 Vol 06 Vol 06 Vol 07 Vol 08 Vol 09 Vol 10	3, 298 3, 334 3, 335 3, 300 3, 336 3, 298 3, 294 3, 337	A A A A A A A A A A A A A A A A A A A	MOS_Temp Max_Temp Hin_Temp Temp_Diff Temp 01 Temp 02	15.0 16.0 15.0 1.0 16.0 16.0		Charge Discharge Valt high alars Valt ler alars
Vol 03 Vol 04 Vol 05 Vol 06 Vol 07 Vol 08 Vol 09 Vol 09 Vol 10 Vol 11	3, 298 3, 334 3, 335 3, 300 3, 336 3, 298 3, 294 3, 337 3, 292	A A A A A A A A A A A A A A A A A A A	NOS_Temp Max_Temp Min_Temp Temp_Diff Temp 01 Temp 02 Temp 03	15.0 16.0 15.0 1.0 16.0 16.0 15.0	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Charge Discharge Valt high alway Valt low alway Alwan
Vol 03 Vol 04 Vol 05 Vol 06 Vol 07 Vol 08 Vol 09 Vol 09 Vol 10 Vol 11 Vol 12	3. 298 3. 334 3. 335 3. 300 3. 336 3. 298 3. 294 3. 337 3. 292 3. 336	A A A A A A A A A A A A A A A A A A A	MOS_Temp Max_Temp Hin_Temp Temp_Diff Temp 01 Temp 02	15.0 16.0 15.0 1.0 16.0 16.0		Charge Biccharge Valt high alars Valt lor alars
Vol 03 Vol 04 Vol 05 Vol 06 Vol 07 Vol 08 Vol 09 Vol 10 Vol 10 Vol 11 Vol 12 Vol 13	3, 298 3, 334 3, 335 3, 300 3, 396 3, 298 3, 294 3, 337 3, 292 3, 330 3, 294	A A A A A A A A A A A A A A A A A A A	NOS_Temp Max_Temp Min_Temp Temp_Diff Temp 01 Temp 02 Temp 03	15.0 16.0 15.0 1.0 16.0 16.0 15.0	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Churge Dischurge Valt high alwas Valt lor alwas Alwa
Vol 03 Vol 04 Vol 05 Vol 06 Vol 07 Vol 08 Vol 08 Vol 09 Vol 10 Vol 11 Vol 12 Vol 13 Vol 13 Vol 14	3, 298 3, 334 3, 335 3, 300 3, 336 3, 298 3, 294 3, 337 3, 292 3, 336 3, 294 3, 337 3, 292 3, 336 3, 294 3, 293	A A A A A A A A A A A A A A A A A A A	NOS_Temp Max_Temp Min_Temp Temp_Diff Temp 01 Temp 02 Temp 03	15.0 16.0 15.0 1.0 16.0 16.0 15.0	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Charge Discharge Valt high durs Valt lor durs Alarn Protect
Vol 02 Vol 03 Vol 04 Vol 05 Vol 06 Vol 06 Vol 07 Vol 08 Vol 09 Vol 10 Vol 11 Vol 11 Vol 12 Vol 13 Vol 14 Vol 15 Vol 16	3, 298 3, 334 3, 335 3, 300 3, 396 3, 298 3, 294 3, 337 3, 292 3, 330 3, 294	A A A A A A A A A A A A A A A A A A A	NOS_Temp Max_Temp Min_Temp Temp_Diff Temp 01 Temp 02 Temp 03	15.0 16.0 15.0 1.0 16.0 16.0 15.0	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Charge Discharge Valt high alway Valt low alway Alwan

9.2 Operation of The Communication Protocol Switch

Connect to the upper system and follow the path:

INFO—Parallel Group Display—CAN Type/RS485 Type—Read—Choose the protocol—Set

Family_BMS-V1.1.635-15 INFO PARAT CONFIG STORAGE	- 6
SinglePack MultiPacks Record Parallel group display Parallel packet	data storage
0 1 2 3 4 5 6 7 9 10 11 12 13 14 15 16 17 18 9 20 21 22 20 4 26 26 27 20 29 20 3 3 Intervals 0000 \$ Foll time 1000 \$ Read Count: Foll time 1000 \$ Read Count: Foll 0 7 8 5000 \$ 0 4 5000 \$ 0 4 8 5000 \$ 0 4 8 5000 \$ 0 4 5000 \$ 0 4 5000 \$ 0 4 5000 \$ 0 4 5000 \$ 0 4 5000 \$ 0 4 5000 \$ 0 4 5000 \$ 0 4 5000 \$ 0 4 5000 \$ 0 4 5000 \$ 0 4 5000 \$ 0 4 5000 \$ 0 4 5000 \$ 0 5000 \$ 0 500	Nor address: 405 type Format Geodes Bud Set Status: Status: Status: Status: 6 CH JUDS_007 D1256_JUS_007 Aprian

9.3 Communication Compatible List

A	Br	15EN	JDGRE三N 深圳市贝系 Shenzhen Base	森科技有限· en Technology C	公司 io.,Ltd	
D.		BASEN BMS	Inverter Communication Protocol Match	ning Table		
Invert	er Brand	Communication method	Protocol Name	Protocol Remarks	Communication Potter rate	Interface Definition
维克托-Victron	victron energy	CAN	Victron-CAN-V1.00- 211135	Active Upload	500K	7H、8L
古瑞瓦特-SPF Growatt-SPF	Growatt	485	Growatt BMS-RS485-protocal-1xSxxP_ESSL_V2.01 Growatt BMS-RS485-protocal-V2.0	MODBUS Standard protocols	9600	1B、2A
古瑞瓦特-SPF Growatt-SPF	Growatt	CAN	Growatt BMS CAN-Bus-protocol-low-voltage-V1.05	Active Upload	500K	4H、5L
古瑞瓦特-SPH Growatt- SPF	Growatt	CAN	Growatt BMS communication protocol of growatt low voltage- V1.01	Active Upload	500K	4H、5L
德业 Deye	Deye 德業	CAN	Deye LV-CAN communication protocol	Active Upload	500K	4H、5L
德业 Deye	Deye 德業	485	485 Modbus Protocol(4)-deye	MODBUS protocols	9600	1B、2A
尚科-Scolar	5ACOLAR	CAN	Growatt BMS CAN-Bus-protocol-low-voltage-V1.05	Active Upload	500K	4H、5L
固德威-Goodwe	GOODWE	CAN	Goodwe-CAN-V1.7-220228-SolarinverterFamily-EN	Active Upload	500K	4H、5L
日月元-Voltronic Power	Voltronic Power	485	Voltronic Power-485-V1.03-200325	MODBUS protocols	9600	3B、5A
首航-SOFAR	SCIFAR	CAN	SOFAR-CAN-V1.00-211117-Rev6	Active Upload	500K	1H、 2L
锦浪-Solis	Mana ty Conception	CAN	Solis-CAN-V1.0-191228-lowVoltage	Active Upload	500K	4H、5L
鹏城-Luxpower		CAN	Luxpowertek Battery CAN Protocol -2021	Active Upload	500K	4H、3L
派能-Pylontech	PYLONTECH	485	Pylon-485-V3 5-161216-low voltage protocol	1363	115200	1B、2A
派能-Pylontech	PYLONTECH	485	Pylon-485-V3.5-161216-low voltage protocol	1363	9600	1B、2A
派能-Pylontech	PYLONTECH	CAN	Pylon-CAN-V1.2- 180408 -lowVoltage	Active Upload	500K	4H、5L
硕日-Sme	💋 SRNE	485	shuori BMS Modbus Protocol for RS485 V1.3(2020-11-24)	MODBUS	9600	7A、8B
美世乐 Must	MUST美世乐	CAN	PV1800F-CAN communication Protocol1.04.04	Active Upload	100K	6H、5L
艾思玛 SMA	SMA	CAN	SMA-CAN-V1.0.0-210630-FSS -ConnectingBat-TI-en-20W	Active Upload	500K	4H、5L
素瑞德-SOROTEC	SOROLEC* Power Solutions Expert	CAN	CAN Protocol 1.0(SOROTEC Protocol)	MODBUS Standard protocols	500K	4H、5L
索瑞德 SOROTEC	SOROTEC Power Solutions Expert	485	Protocal between Sorotec Inverter and Lithium Battery (RS485)	Active Upload	500K	1B、2A
SOL-ARK	Sol-Ark	CAN	Sol-Ark CAN Bus Protocol V1.2.pdf4-25-22	Active Upload	500K	4H、5L
迈格瑞能 MEGAREVO	MEGAREVO	CAN	Shenzhen MEGAREVO Hybrid Inverter-5K BMS Protocol V1 01	Active Upload	500K	4H、5L
MPP Solar	Nying Solar Should be the easy	485	BMS 485 communication protocol 20200325(2)	MODBUS	9600	1B、2A
拓宝-TBB		CAN	CAN BUS Protocol of TBB Lithium Battery BMS Platform V 11	Active Upload	500к	4H、5L
盛能杰-Senergy	Several de la constant de la consta	CAN	SenergyINV&BMS_CAN_Protocols	Active Upload		4H、5L

10. Storage

- a. External terminals of the battery pack are insulated and protected.
- b. If the battery pack is stored for a long period of time without use, it is recommended that it be charged 30%-60%, and it is prohibited to store it completely uncharged.
- c. Batteries that have been in storage for more than 3 months should be recharged for 2-3 hours at 0.2C~0.3C.
- d. Batteries should be stored in a dry, clean, ventilated, non-corrosive gas environment, away from sources of ignition, to avoid exposure to the sun.
- e. Do not store or put in high temperatures over 60°C for a long period of time, otherwise, it will cause function deterioration and life span reduction.

11. Warning

To prevent possible battery leakage, heat generation, and explosion, please observe the following warning:

Warning!

- a. It is strictly forbidden to immerse the battery in seawater or water. When not in use, it should be placed in a cool and dry environment;
- b. It is strictly forbidden to reverse the positive and negative poles to use the battery;
- c. It is forbidden to use metal to directly connect the positive and negative electrodes of the battery to a short circuit;
- d. It is forbidden to transport or store batteries together with metals, such as hairpins, necklaces, etc;
- e. It is forbidden to knock or throw, step on the battery, etc.;
- f. It is forbidden to directly weld the battery and pierce the battery with nails or other sharp objects.

Attention!

- a. It is forbidden to use or place the battery under high temperatures (in the hot sun or in a very hot car), otherwise, it may cause the battery to overheat, catch fire or fail to function, and shorten its life; the recommended temperature for long-term battery storage is 10-45°C;
- b. It is forbidden to throw batteries into fires or heaters to prevent fire, explosion, and environmental pollution. Scrapped batteries should be returned to the supplier or battery recycling point for disposal;
- c. Do not use it in places with strong static electricity and strong magnetic fields, otherwise it will easily damage the battery safety protection device and bring unsafe hidden dangers;
- d. If the battery leaks and the electrolyte enters the eyes, do not rub it. Immediately rinse the eyes with clean water and send them to the hospital for treatment, otherwise, the eyes will be hurt. If the battery emits and odor, heats up, discolors, deforms, or has any abnormality during use, storage, or charging, immediately remove the battery from the device or charger and stop using it;
- e. It is forbidden to insert the positive and negative poles of the battery directly into the power socket, and a special charger for lithium-ion batteries must be used;
- f. Check the battery voltage and connectors before installation, and use it only after everything is normal;
- g. The battery is stored in half power. If the battery has not been used for three months, it needs to be recharged once;
- h. If the electrode is dirty, it should be wiped with a dry cloth before use. Otherwise, it may cause poor contact and function failure;

Need additional information?

Just Contact BASEN!



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