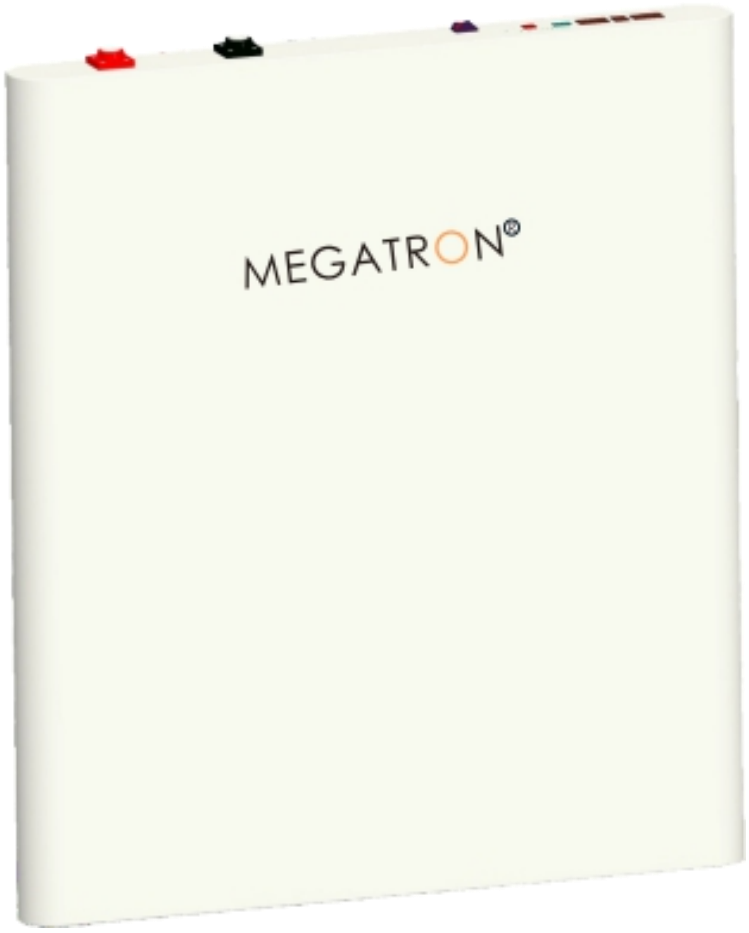
Ultra Slim LiFePO4 Battery Series User Manual

MEG-BATT-1



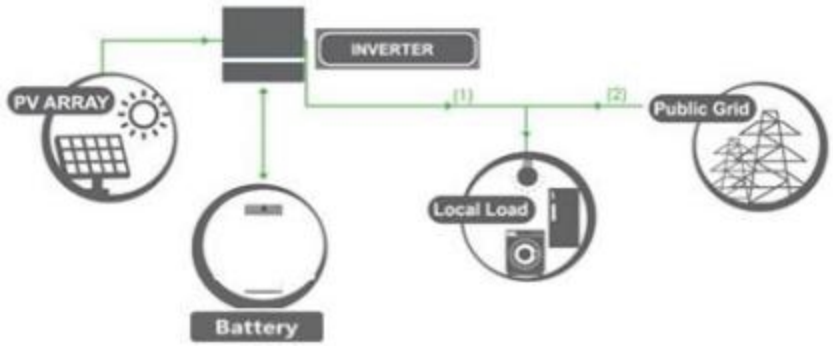
Change history

Change Record	Change time	Versions	Describe
00/01	2023/11/6	A0	New Issue

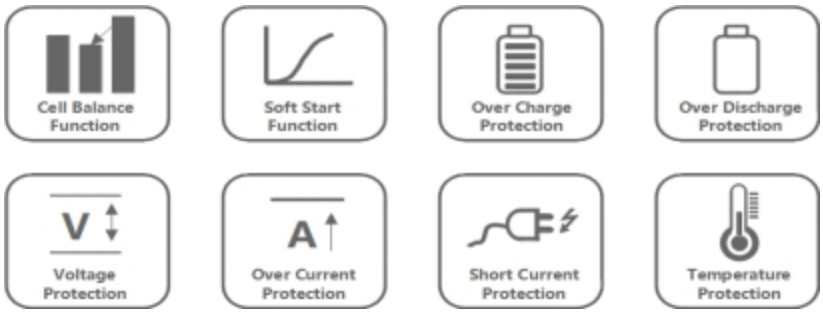
Contents

1.Application

Be specially designed for multiple energy storage application scenarios including household, data center, and commercial building, bank, hospital, school, railway station, airport and telecom, etc.



2.Feature



3.Advantages

❶ Long Design Life ❷ Multiple Protection

❸ Modular Design ❹ Dekra Certification

❺ Scalable & Flexible ❻ Easy Maintenance

4. MEG-BATT-1 Specification

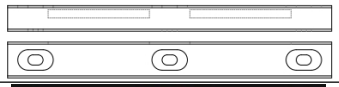
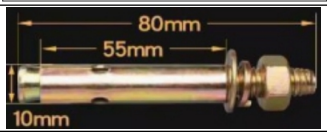
No.	Items	Specification
1	Product Name	Ultra Slim LiFePO4 Battery
2	Module Model	MEG-BATT-1
3	Battery Type	LFP 16S
4	Nominal Capacity	5.12kWh
5	Usable Capacity	4.86kWh (95% DOD)
6	Nominal Voltage	51.2V
7	Working Voltage	43.2 ~58.4Vdc
8	Charging Voltage	58.4V
9	Max. Charge Current	100A
10	Max. Discharge Current	150A
11	Communication Port	RS485, CAN, DRY CONTACT, RS232
12	Storage Temperature	-10℃~35℃ (Recommended)
13	Storage Humidity	≤85% (RH)
14	Working Temperature	Charging： 0℃ ~ 50℃ Discharging： -20℃ ~ 60℃
15	Working Humidity	≤95% (RH) No Condensation
16	Working Altitude	≤2000m
17	Ingress Protection	IP55
18	Protective Class	1
19	Weight	49kg
20	Dimension	780*698*68mm
21	Design Life	10 Years (25℃)
22	Cycle Life	＞6000 (25℃) , 60% EOL
23	Scalability	Module: Max. 16 in parallel (Capacity 81.92kWh)
24	Certification	CE, IEC62619, UN38.3 (upcoming)

5. Capacity Expansion Solution

Product Name	High Capacity Expandable Battery System			
Product Model	MEG-BATT-1-2P	MEG-BATT-1-3P	MEG-BATT-1-4P	MEG-BATT-1-5P
Normal Capacity (kWh)	10.24	15.36	20.48	25.6
Normal Voltage (V)	51.2	51.2	51.2	51.2
Working Voltage(V)	43.2~58.4Vdc	43.2~58.4Vdc	43.2~58.4Vdc	43.2~58.4Vdc
Charging Voltage(V)	58.4	58.4	58.4	58.4
Max. Charge Current (A)	150	150	150	150
Max. Discharge Current (A)	150	150	150	150
Weight (KG)	49*2	49*3	49*4	49*5
Dimension(MM)	780*698*68(*2)	780*698*68(*3)	780*698*68(*4)	780*698*68(*5)
Design Life	10 years (25℃)	10 years (25℃)	10 years (25℃)	10 years (25℃)
Scalability	Max. 16 in parallel	Max. 16 in parallel	Max. 16 in parallel	Max. 16 in parallel

6. Folding Inspection

Please check the product before installation. Make sure nothing in the packaging is damaged or missing. You should receive the following items in the package:

No.	Picture	Category	Quantities
1		Ultra Slim LiFePO4 Battery	1
2		User's Manual (Please keep it for future reference)	1
3		Mounting Plate	2
4		Expansion Screw	6
5		Parallel power cable of battery (L=1500mm) Connecting two batteries in order to connect two or more batteries in parallel	Optional Accessories
6		Paralle communication line RJ45(L=1500m) Communication cable between batteries, keeping two or more batteries	Optional Accessories

7. Preparation before Inspection

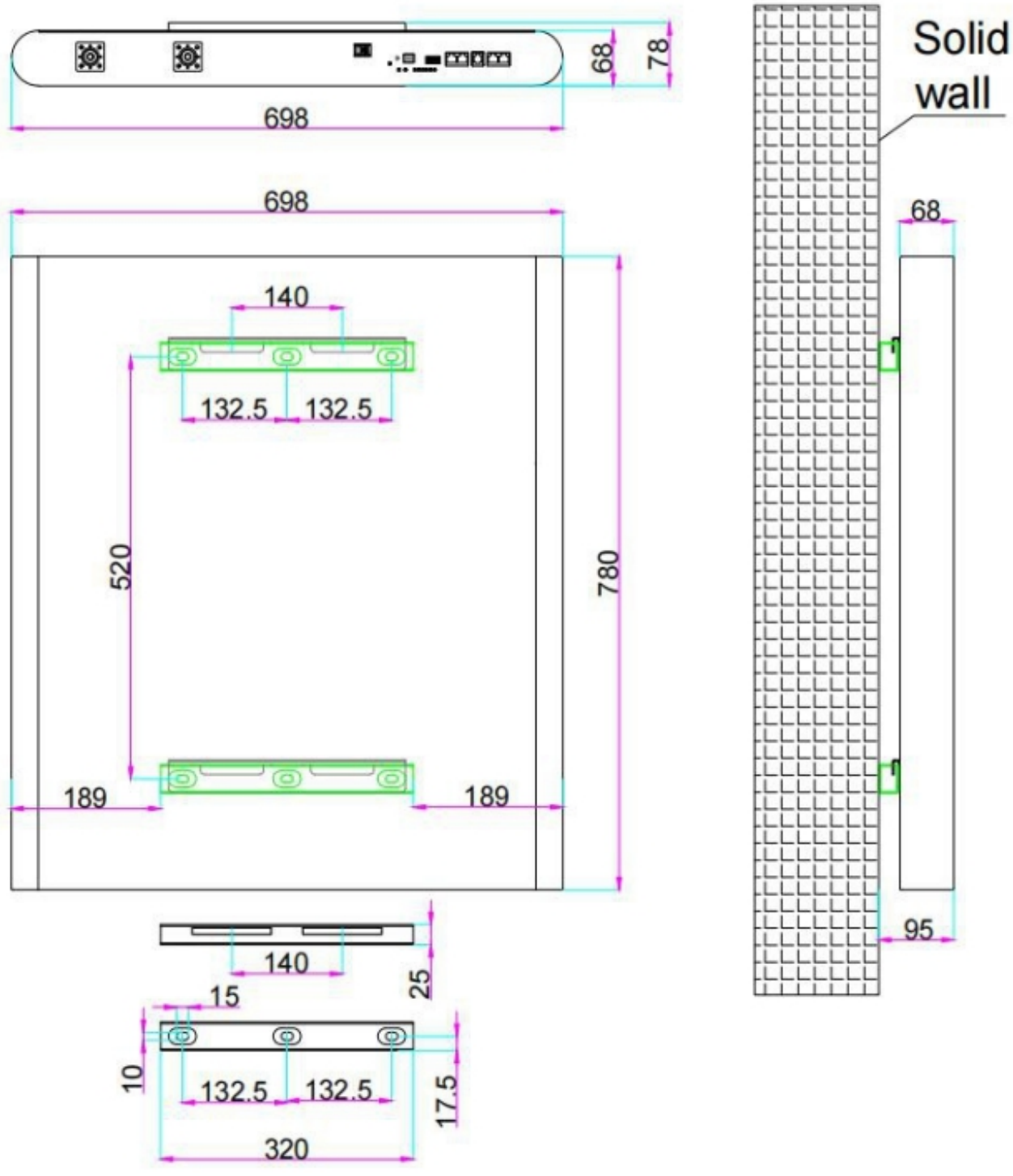
Before choosing an installation location, consider the following:

7.1 Do not install this product on surfaces of flammable building materials.
7.2 Mounted on the surface of a solid material.
7.3 Please install this energy storage battery at eye level for a more intuitive view of the the LCD.
7.4 For heat dissipation, ensure that the distance is 20cm from both sides and 50cm from the bottom of the u7nit.
7.5 The ambient temperature of the installation location should be between 0~45 degrees Celsius to ensure optimal operation.
7.6 The recommended installation position should e vertically attached to the wall and kept at a safe distance from other objects and surfaces to ensure sufficient space for heat dissipation and wire collection.

8. Installation Dimension Drawing

NOTE: The following picture is only a schematic diagram of the equipment. If the actual chassis does not conform to the schematic due to a structural upgrate, it is subject to prior notice.

Only suitable for installation om concrete or other non-combustible solid surface.



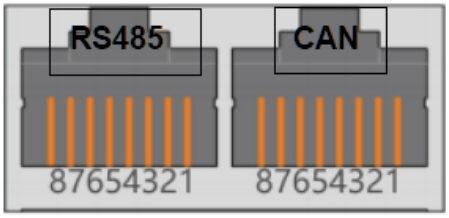
Appendix

Communication Setting With Multiple Brands' Inverters

1. MEGATRON lithium battery RS485/CAN Communication Cable Order (sequence)

Instruction as below:

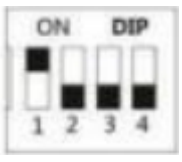
Dual RJ45 Port:



PIN Number	RS485 PORT		PIN Number	CAN Port
Pin1	RS485-B		Pin1	NC
Pin2	RS485-A		Pin2	NC
Pin3	GND		Pin3	GND
Pin4	NC		Pin4	CANH
Pin5	NC		Pin5	CANL
Pin6	GND		Pin6	GND
Pin7	RS485-A		Pin7	NC
Pin8	RS485-B		Pin8	NC

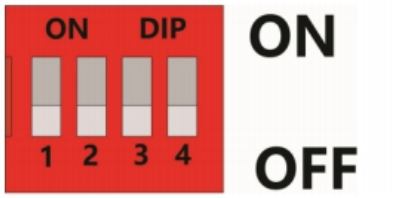
2. Dial-up switch settings when PACK is used in parallel

2.1 Different PACK can be distinguished by setting the dialing switch on BMS to avoid setting the same address. The definition of BMS dial switch refers to the following table;

2.2 RS485 performing muti-machine parallel communication operation, it is necessary to configure the DIP address of each PACK first. The dialing code adopts BCD code format, the definition of address 1(master) is 

,address 2 is 

Dial switch:

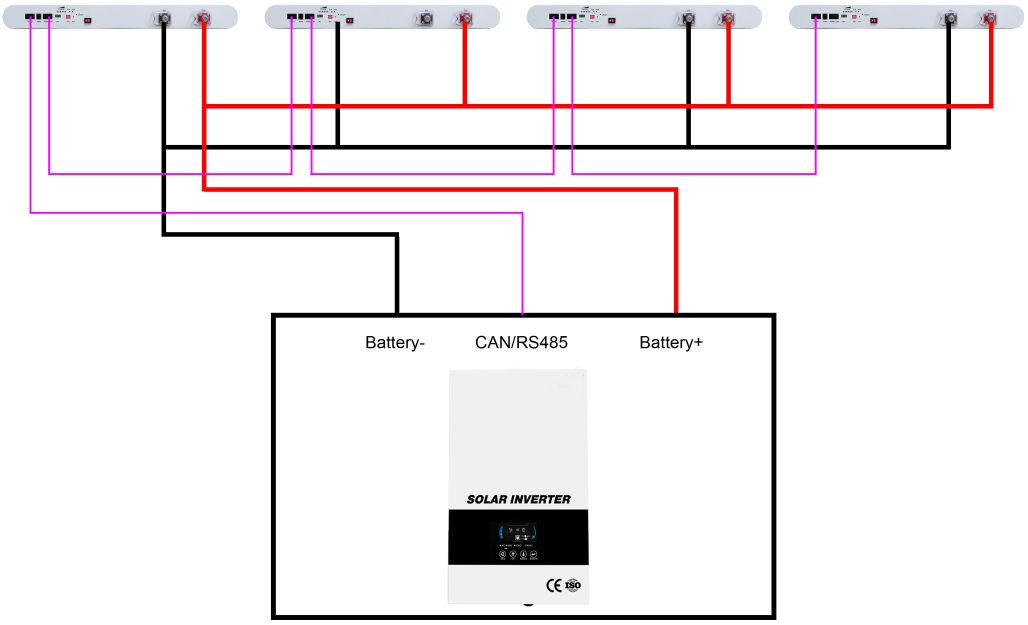


2.3 BCD CODE:

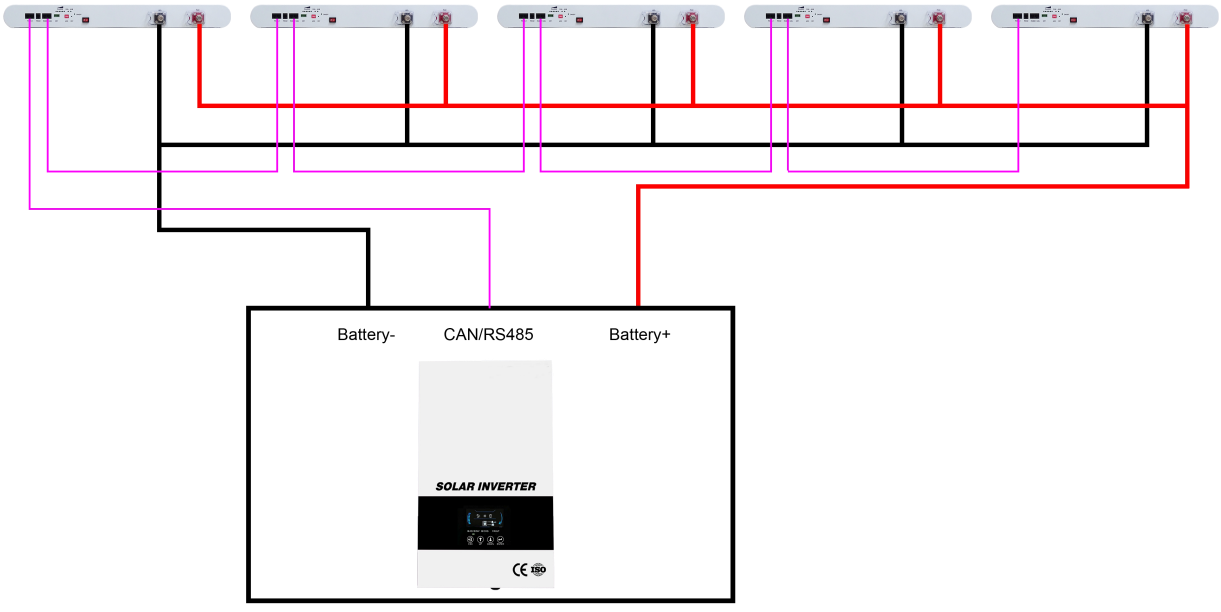
Address	Codes the switch position			
	#1	#2	#3	#4
1 master	ON	OFF	OFF	OFF
2 slave	OFF	ON	OFF	OFF
3 slave	ON	ON	OFF	OFF
4 slave	OFF	OFF	ON	OFF
5 slave	ON	OFF	ON	OFF
6 slave	OFF	ON	ON	OFF
7 slave	ON	ON	ON	OFF
8 slave	OFF	OFF	OFF	ON
9 slave	ON	OFF	OFF	ON
10 slave	OFF	ON	OFF	ON
11 slave	ON	ON	OFF	ON
12 slave	OFF	OFF	ON	ON
13 slave	ON	OFF	ON	ON
14 slave	OFF	ON	ON	ON
15 slave	ON	ON	ON	ON

3. Schematic diagram of parallel connection

3.1 1-4 batteries, connect the positive power line of each battery with the positive power line, and the negative power line with the negative power line, as follows:



3.2 5-15 batteries in parallel connection diagram (The positive cable connected to the inverter is connected from the master battery, and the negative cable is connected from the last slave):



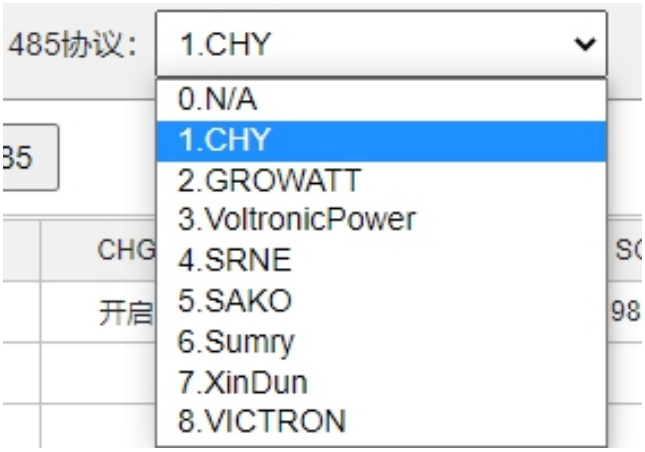
4. How to set the communication for multiple brands of inverters by host computer

4.1 Factory default setting of inverter communicate, RS485 is Growatt, CAN is DEYE, SUNSYNK,LUXPOWER. If need switch to other protocol, the RS232 crystal head of the communication cable is inserted into the battery communication port, the USB end is inserted into the computer;

4.2 Open the BMS tool：

4.3 Select the corresponding inverter protocol from BMS Tool, click setting(设置),then restart the BMS ON/OFF , the inverter protocol will be set successful;

4.4 RS485 protocol and CAN protocol as below:



4.5 Remark of inverter protocol code:

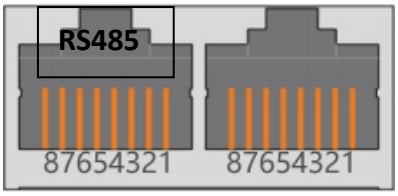
Inverter protocol code remark

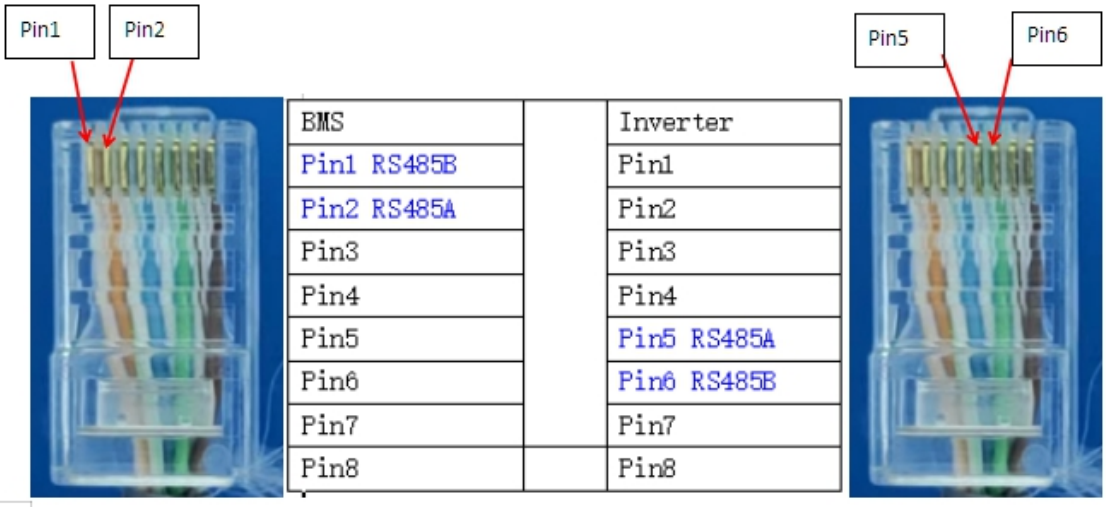
RS485 Protocol	
Protocol code	**Inverter brand**
CHY	ChuangHuiYuan 创汇原
GROWATT	GROWAT 古瑞瓦特
VoltronicPower	VoltronicPower 日月元
SRNE	SRNE 硕日
SAKO	SAKO 三科
Sumry	Sumry 三瑞
XinDun	XinDun 欣顿
VICTRON	Victron 维克托

CAN Protocol	
Protocol code	**Inverter brand**
PYLON TECH	PYLON TECH 派能
DEYE	DEYE（SUNSYNK) 德业
SOROTEC	SORO Power 索瑞德
MEGAREVO	MEGAREVO 迈格瑞能
GOODWE	GOODWE 固得威
SOFAR	SOFAR 首航
MUST PV1800F	MUST 美克
LUXPOWER	Luxpower 鹏程
VICTRON	Victron 维克托

5. CHY Inverter RS485 Communication Setting

Dual RJ45 Port(RS485 & CAN):





BMS		Inverter
Pin1 RS485B		Pin1
Pin2 RS485A		Pin2
Pin3		Pin3
Pin4		Pin4
Pin5		Pin5 RS485A
Pin6		Pin6 RS485B
Pin7		Pin7
Pin8		Pin8

Process of installation:

Step 1. Use the RS485 cable to connect inverter and lithium battery .

Step 2. Replace the battery BMS protocol to “CHY” by BMS tool and host computer.(Please refer to **page 4,point 4.2**)

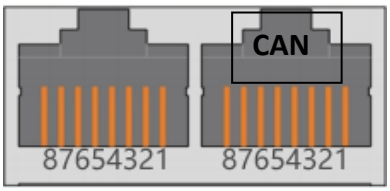
Step 3. Turn on the switch of battery , power output ready .

Step 4. Turn on the inverter (**Warning: Turn on the battery first and then the inverte**r), and set the program 05 as “LIB” on the LCD, then restart the inverter.

Step 5. Press the ESC button continuously 5 seconds and you can view the BMS communication data.

6. LUXPOWER Inverter CAN Communication Setting (Default protocol)

Dual RJ45 Port(RS485 & CAN):



BMS		Inverter
Pin1		Pin1
Pin2		Pin2
Pin3		Pin3
Pin4 CANH		Pin4 CANH
Pin5 CANL		Pin5 CANL
Pin6		Pin6
Pin7		Pin7
Pin8		Pin8

Process of installation:

Step 1. Use the CAN cable to connect inverter and lithium battery .

Step 2. Replace the battery BMS protocol to “LUXPOEWR” by BMS tool and host computer.(Please refer to **page 4,point 4.2**)

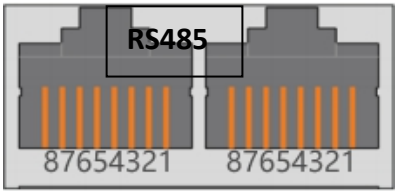
Step 3. Turn on the switch of battery , power output ready .

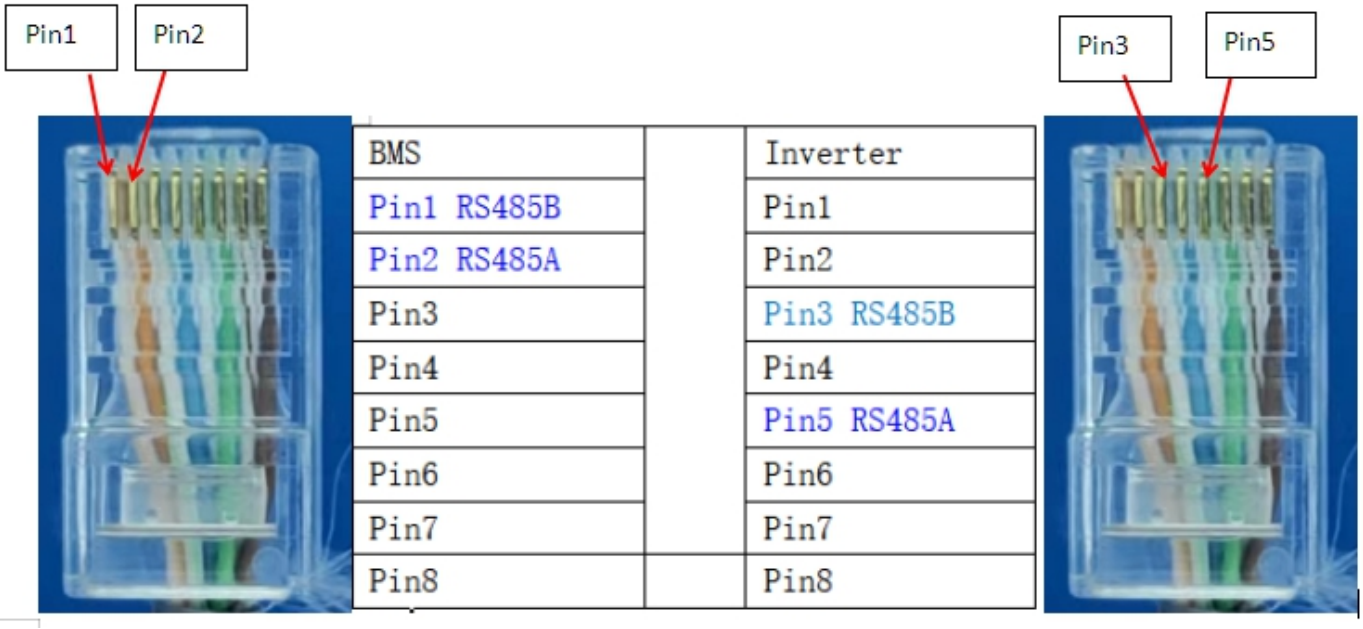
Step 4. Turn on the inverter (**Warning: Turn on the battery first and then the inverte**r)

Step 5. To connect battery BMS, need to set the battery types as “Li-ion” in Program 03. After set“Li-ion”in Program 03, then choose battery brand to “2 Pylon Battery”.

7. Voltronic Inverter RS485 Communication Setting

Dual RJ45 Port(RS485 & CAN):





BMS		Inverter
Pin1 RS485B		Pin1
Pin2 RS485A		Pin2
Pin3		Pin3 RS485B
Pin4		Pin4
Pin5		Pin5 RS485A
Pin6		Pin6
Pin7		Pin7
Pin8		Pin8

Process of installation:

Step 1. Use the RS485 cable to connect inverter and lithium battery .Please choose the RS485 inverter

Step 2. Replace the battery BMS protocol to “VoltronicPower” by BMS tool and host computer.(Please refer to **page 4,point 4.2**)

Step 3. Press the button to start lithium battery , power output ready .

Step 4. Turn on the inverter **(Warning: Turn on the battery first and then the inverter).**

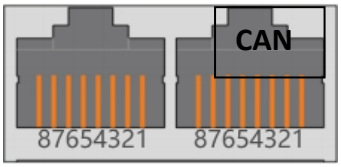
Step 5. To connect battery BMS, need to set the battery type:LIb-protocol. After selected,Maximum charging

current, Bulk charging voltage (C.V voltage), Floating charging voltage and Low DC cut off voltage setting

will be automatically set up, no need for further setting.

8. DEYE Inverter CAN Communication Setting (Compatible Sunsynk,Default protocol)

Dual RJ45 Port(RS485 & CAN):



BMS		Inverter
Pin1		Pin1
Pin2		Pin2
Pin3		Pin3
Pin4 CANH		Pin4 CANH
Pin5 CANL		Pin5 CANL
Pin6		Pin6
Pin7		Pin7
Pin8		Pin8

Process of installation:

Step 1. Use the CAN cable to connect inverter and lithium battery .

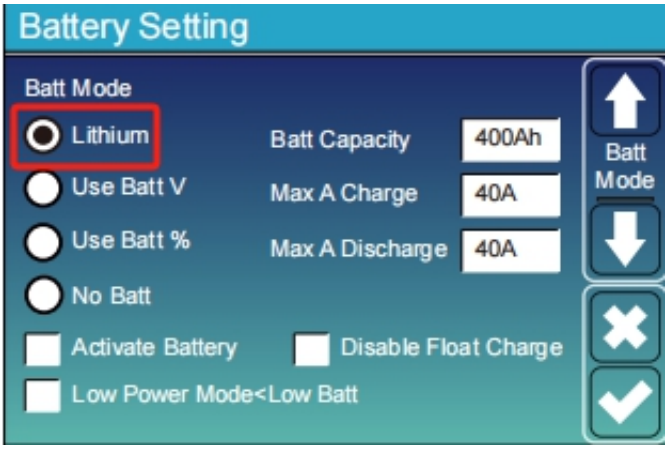
Step 2. Press the button to start lithium battery , power output ready . Replace the battery BMS protocol to “DEYE” by BMS tool and host computer.(Please refer to **page 4,point 4.2**)

Step 3. Turn on the inverter **(Warning: Turn on the battery first and then the inverter).**

Step 4. Be sure to select inverter work model type as “Lithium Model: 00” on the inverter screen. As below picture.

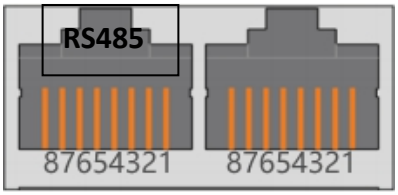
If communication between the inverter and battery is successful, the inverter screen will show the battery system real-time status.

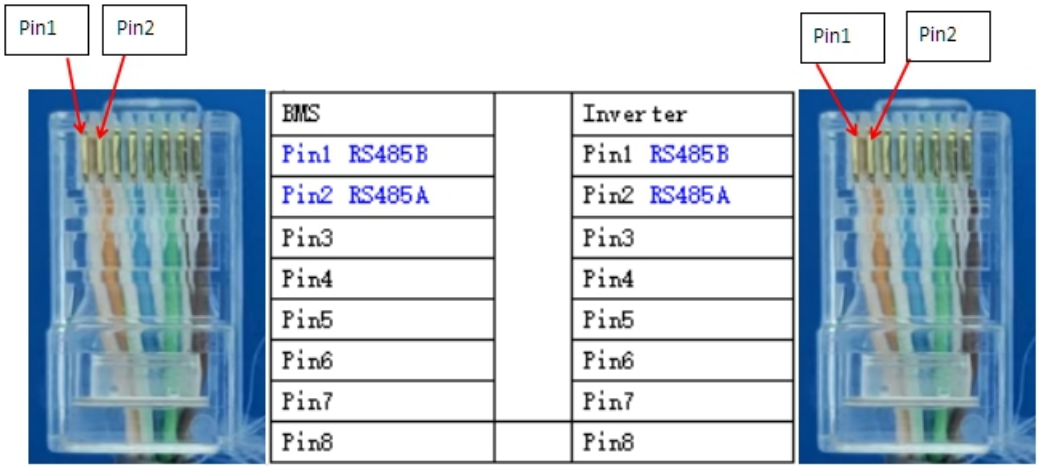
PS:



9. Growatt Inverter RS485 Communication Setting (Default protocol)

Dual RJ45 Port(RS485 & CAN):





BMS		Inverter
Pin1 RS485B		Pin1 RS485B
Pin2 RS485A		Pin2 RS485A
Pin3		Pin3
Pin4		Pin4
Pin5		Pin5
Pin6		Pin6
Pin7		Pin7
Pin8		Pin8

Process of installation:

Step 1. Use the RS485 cable to connect inverter and lithium battery .

Step 2. Replace the battery BMS protocol to “GROWATT” by BMS tool and host computer.(Please refer to **page 4,point 4.2**)

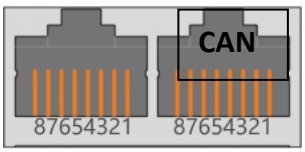
Step 3. Turn on the switch of battery , power output ready .

Step 4. Turn on the inverter (**Warning: Turn on the battery first and then the inverte**r);

Step 5. Set the program 05 as “LI” on the LCD. After set “LI” in Program 05, it will switch to Program 36 to choose communication protocol，choose RS485 communication protocol L01~L50.

10. VICTRON Inverter CAN Communication Setting

Dual RJ45 Port(RS485 & CAN):



BMS		Inverter
Pin1		Pin1
Pin2		Pin2
Pin3		Pin3
Pin4 CANH		Pin4
Pin5 CANL		Pin5
Pin6		Pin6
Pin7		Pin7 CANH
Pin8		Pin8 CANL

Process of installation:

Step 1. Use the CAN cable to connect inverter and lithium battery .

Step 2. Press the button to start lithium battery , power output ready . Replace the battery BMS protocol to “VICTRON” by BMS tool and host computer.(Please refer to **page 4,point 4.2**)

Step 3. Turn on the inverter **(Warning: Turn on the battery first and then the inverter).**

Step 4. The inverter setting refer to the user manual of Victron, this setting is available in the Settings -> DVCC menu on the GX device.