

SOP for 51150 Connection with Growatt Inverter

1. Preparation

1.1 Equipment and tools

- a. Equipment: battery, inverter, a RS485 communication box, two TIA 568B national standard network cables, upper computer software (UCS), laptop computer;
- b. Tools: Electric screwdriver /Phillips screwdriver, multimeter (Optional), insulation gloves, insulating tape

1.2 Documents: Product specification Inverter specifications,

2. Operating steps

2.1 Turn off the breaker in the battery and inverter

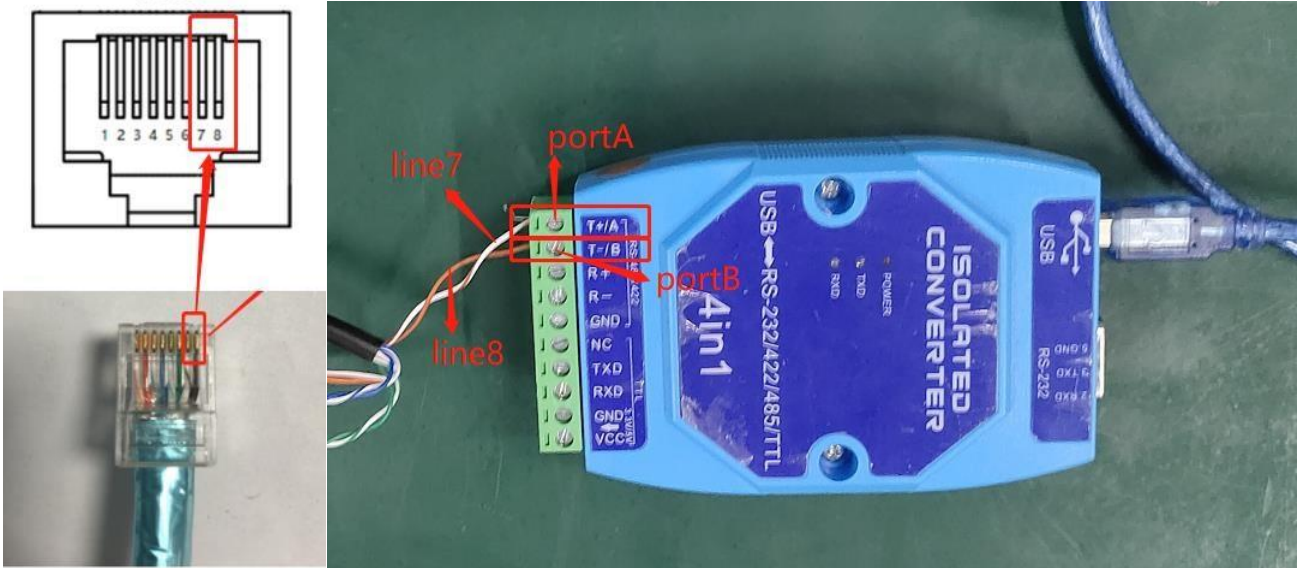


3.2 Connect the power cable between the battery and the inverter (avoid short circuit causing by direct contact between the black and red lines. The red line must be connected to the positive terminal and the black line to the negative terminal)



3.3 Connect the communication between the UCS and the battery

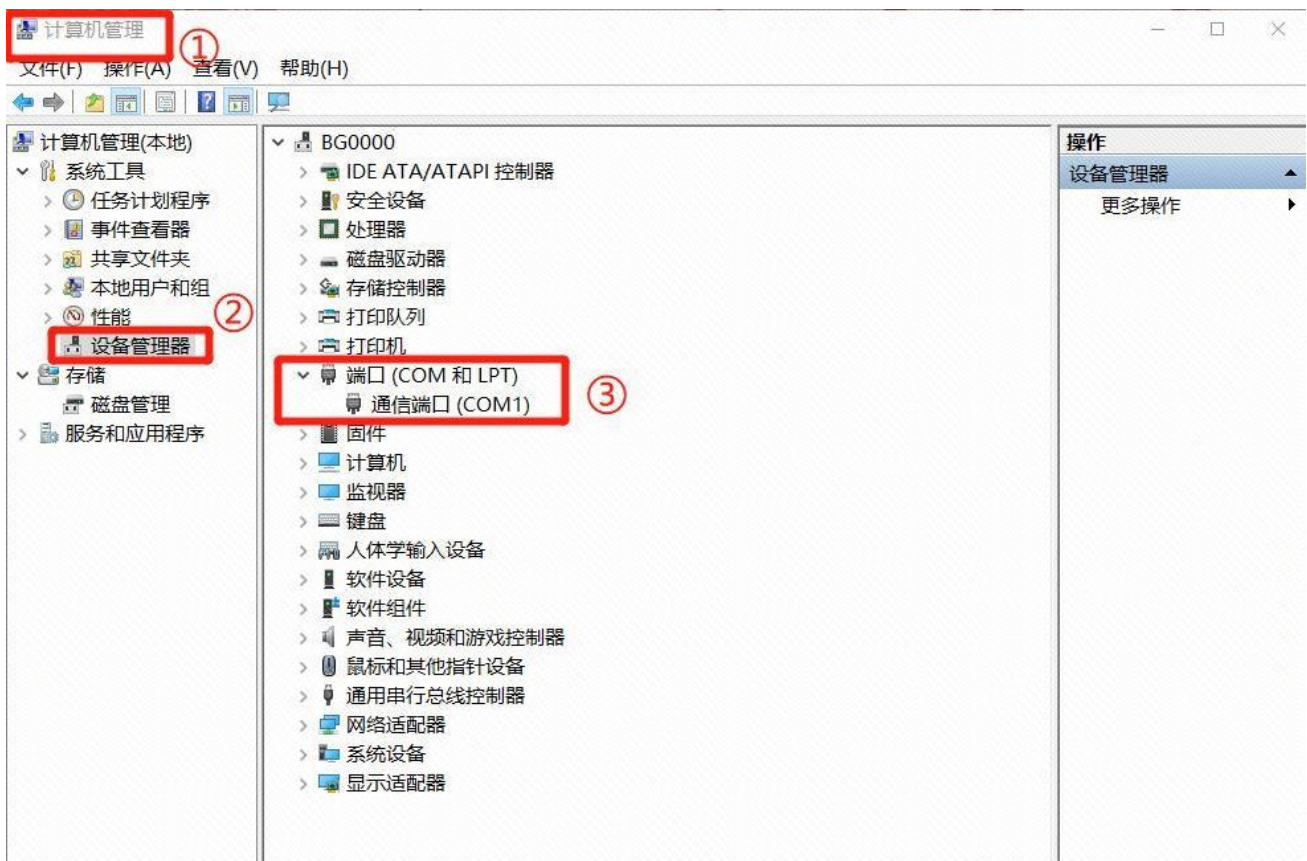
- a. a. Confirmation of the communication protocol between the battery and the UCS as 7A8B - After stripping the TIA568B national standard network cable, connect pin no. 7 to port A and pin no. 8 to port B of the 485 communication box.



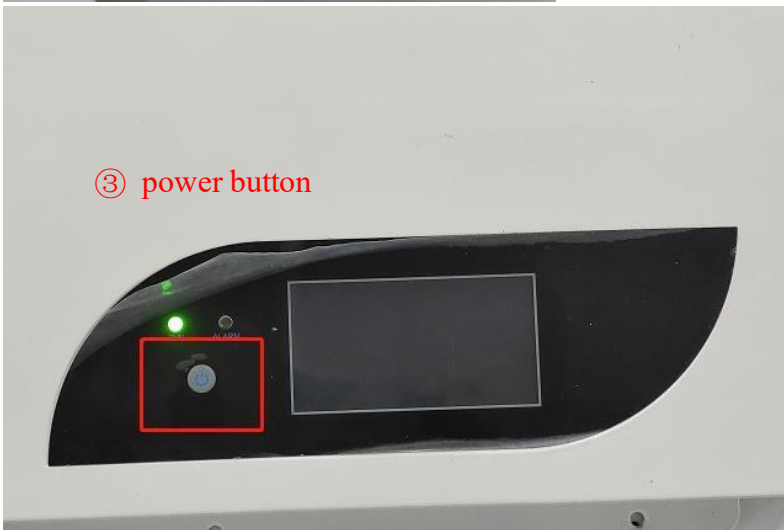
b. Connect the RS485 line in the below indicated position of the battery to the computer



c. Confirm that the communication cable can be driven: Open "Computer Management" on the computer → click "Device Manager" → click "Ports", if the corresponding "Communication port (COM1)", then the communication cable can be driven; If not, please contact us to provide the corresponding driver.



3.4 Turn on the battery circuit breaker, inverter switch, then press the power button to start.

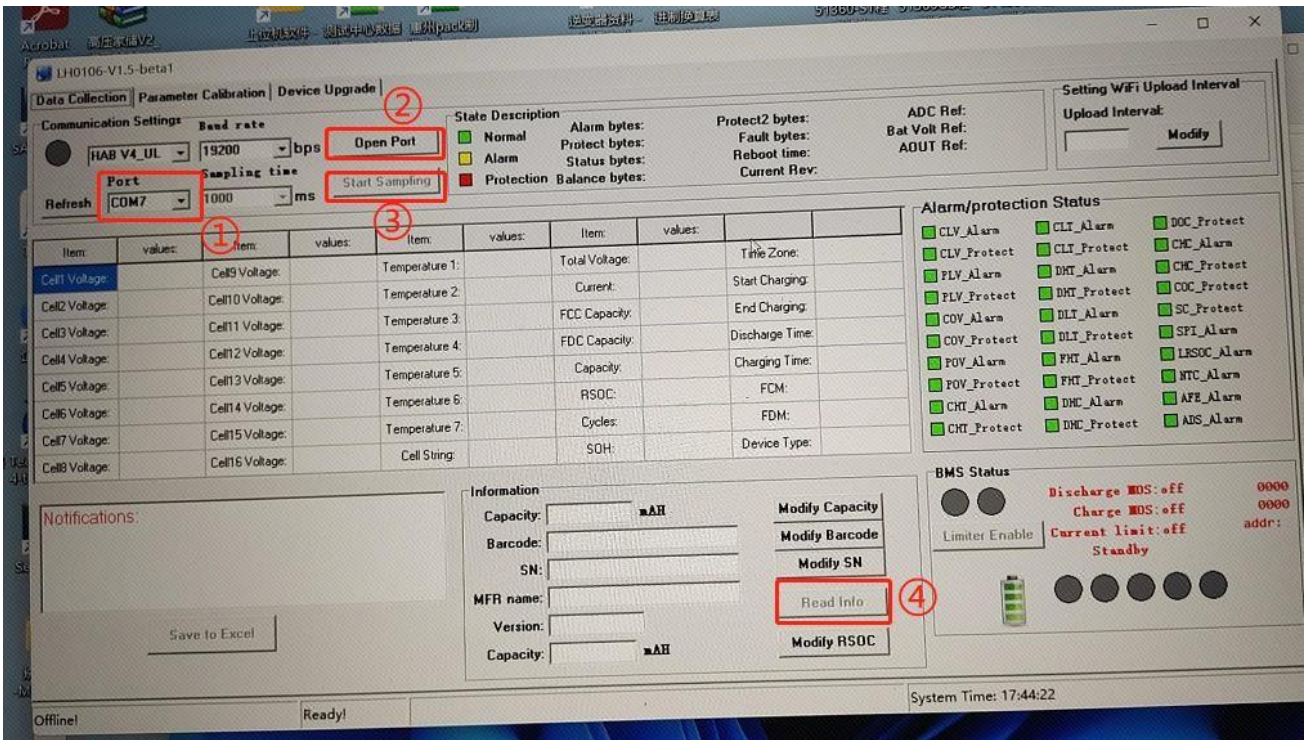


3.5 Set the protocol setting for the battery via UCS

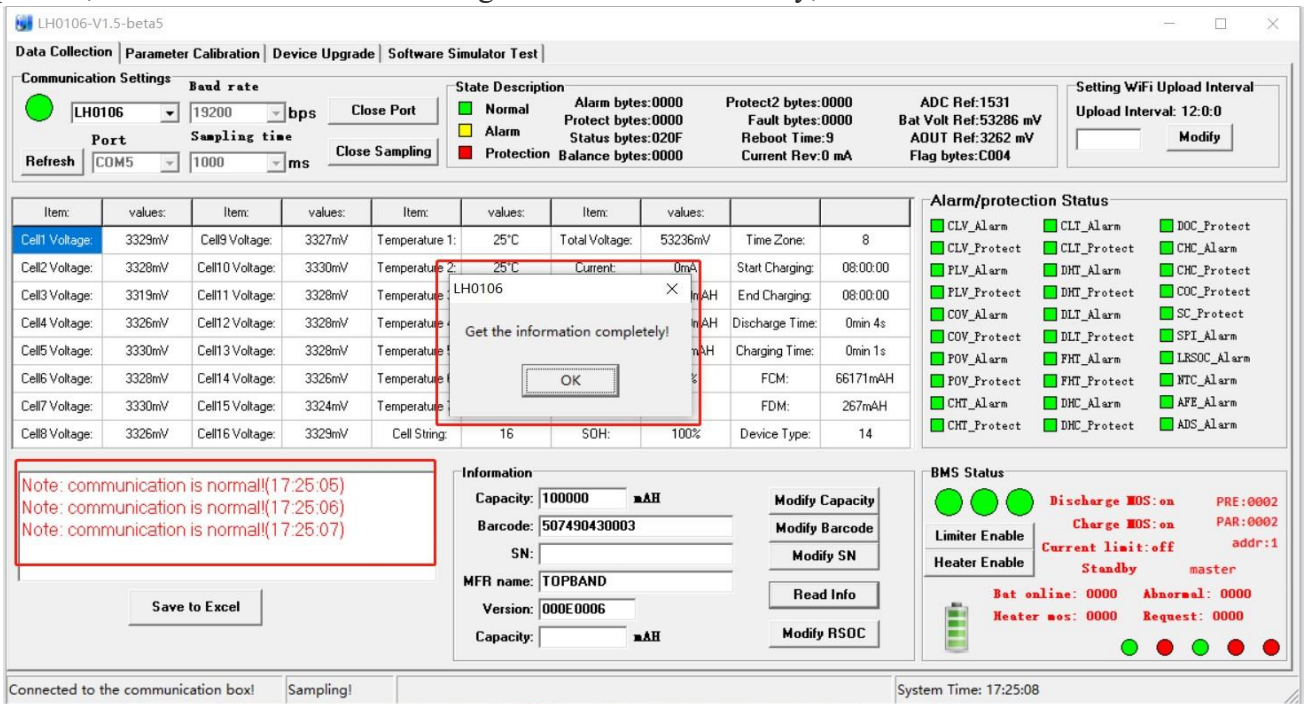
a. Open the host APP on the computer: LH0106-V1.5-beta5. The APP icon is as follows;



- b. “Open Port” → “Start Sample”→ “Read info”;
- b. After opening the interface of the UCS as shown in the figure, select the communication serial port that was successfully driven in step 3.4 in the port drop-down box,and click “Open Port” → “Start Sample”→ “Read info”



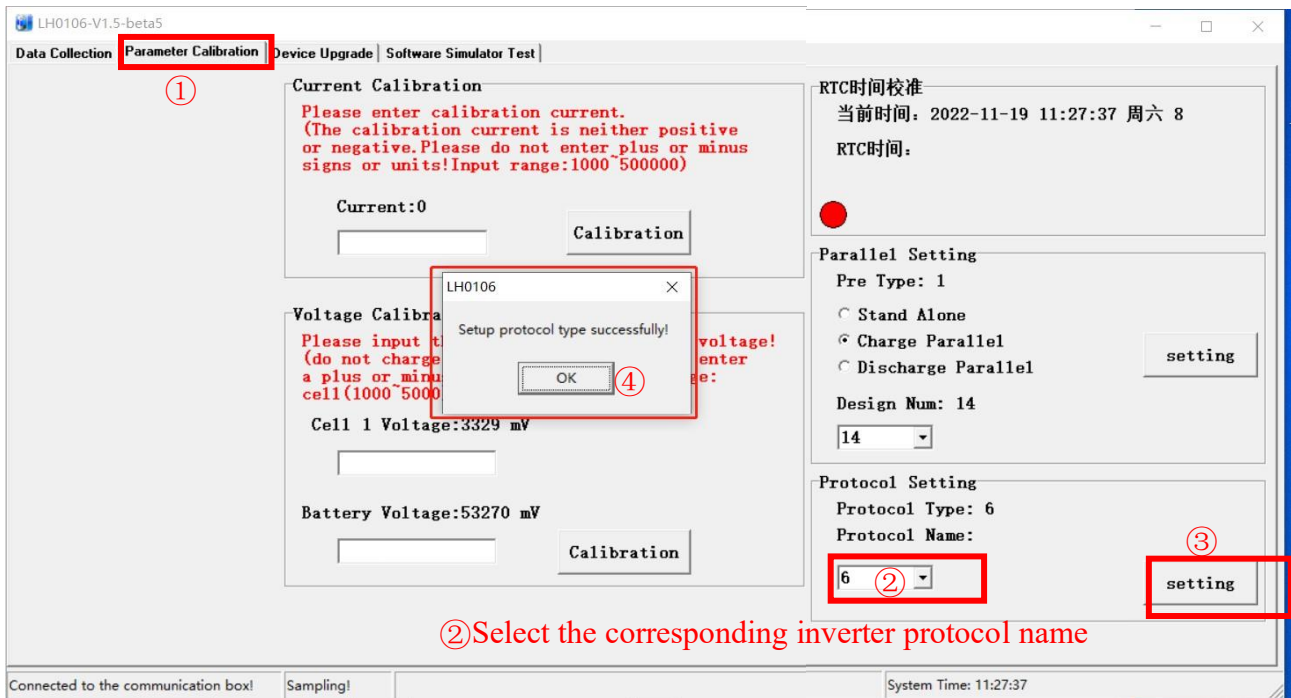
c. Successful communication after seeing the following dialog box and the Note display; if not present, confirm the line connection again or contact us directly;



d. Confirm the protocol name of the Growatt inverter is "6" by checking the product specification for the UCS setting requirements.

Protocol name	Protocol description
0	Topband Modbus, 19200bps
1	Schneider Modbus, 19200bps
2	Solark(Deye) Modbus: 9600bps
3	Victron CANbus, 250kbps
4	UZ-CANbus, 500kbps
5	
6	Growatt Modbus, 9600bps
7	
8	Voltronic Modbus: 9600bps
9	(Deye)00-CANbus, 500kbps
10	Solark CANbus, 500kbps
11	SMA Canbus, 500kbps

e. Select Parameter calibration in the UCS, according to the inverter interface protocol name is 6, in the figure Protocol Name arrow drop-down position select "6", and then click "setting", after the successful setting will appear in the window and press OK. The setting through the UCS is finished!



e. After the protocol is set successfully, remove the network cable from the battery port

3.6 Connect the communication cable line between the inverter and the battery

a. Confirm the inverter protocol: The communication protocol of the Victron inverter is line 2 in the national standard network cable for A, and line 1 for B;

Instruction from manufacturer to choose which protocol to match the BMS.

1. Connect the end of RJ45 of battery to BMS communication port of inverter
 Make sure the lithium battery BMS port connects to the inverter is Pin to Pin, the inverter BMS port pin assignment shown as below.

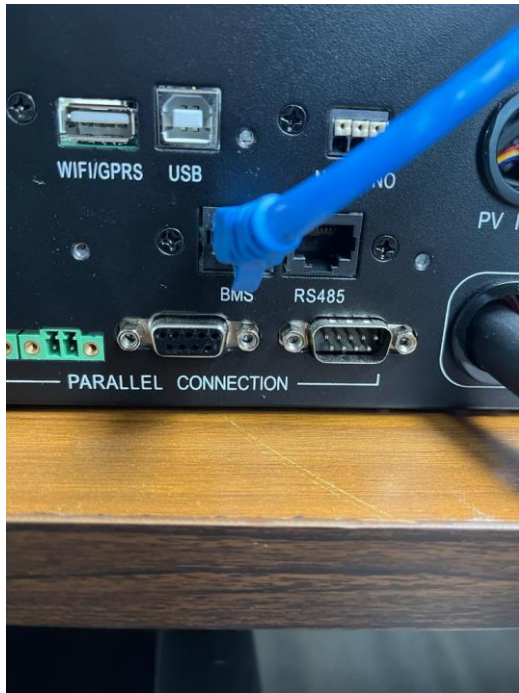
Pin number	RS485 port	CAN port
1	RS485B	--
2	RS485A	--
3	--	--
4	--	CANH
5	--	CANL
6	--	--
7	--	--
8	--	--

b. Confirm the can protocol in the battery: The communication protocol of the battery is line 2 in the national standard network cable for A, and line 1 for B.

RS485 Modbus

RS485 port	
Pin No.	Definition
1	Inverter RS485B
2	Inverter RS485A
3	NC
4	NC
5	NC
6	NC

d. Connect the lines between the battery and inverter according to the above protocol explanation for the battery and inverter: As the below indication, the communication between the battery and inverter is finished.



3.7 Turn on the inverter switch. If the inverter screen displays the same SOC as the actual battery, the connection is successful.

