



BF100 Outdoor Air Cooling Battery Cabinet Installation and Debugging Specification

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1. Preparation

1.1 Tools for Delivery Preparation

Tools	Remarks
USB to RS485 Adapter	
Mobile Phone	With Bluetooth functionality
CAN Box	
Full Set of Ratchet Wrenches	
Small Flat-Head Screwdriver	
Multi-meter	

1.2 Spare Parts for After-Sales Support

Spare Parts	Remarks
RJ45 Connectors	
Wire Strippers	With cutting function
Ethernet Cables	
RS485 Shielded Cables	
EMS Mainboard	
BMS Sub-Board	

1.3 Inspection Checklist

Item	Remarks
Appearance Check	Verify door seals, check for paint scratches or dents
Primary Wiring Check	Inspect power terminals for cracks and verify connection reliability
Secondary Wiring Check	Ensure terminal firmness and avoid loose connections
Safety Signage	Confirm presence of clear safety warning signs
Grounding System	Check grounding connections and resistance values
Cabinet Doors	Ensure normal door opening/closing and no wire pinching
Nameplate Check	Ensure nameplate edges are intact without curling or damage
Cabinet Interior	Remove any extra screws, nuts, zip ties, or residual materials
Improvement Checks	Confirm implementation of any required improvements

2. Installation and Wiring

2.1 Pre-Wiring Inspection

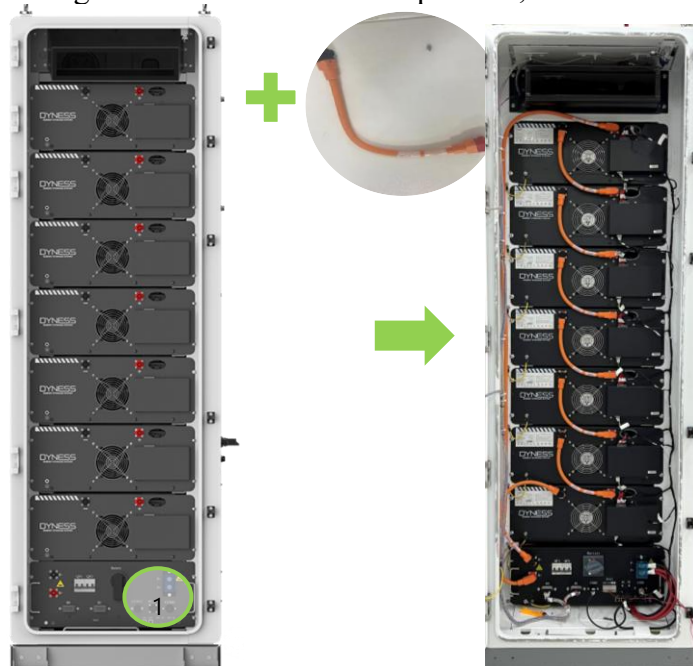
No.	Inspection Item	Confirmed
1	Verify cable and terminal specifications meet requirements	☐
2	Ensure cables are labeled and correctly identified	☐
3	Prepare all necessary accessories	☐
4	Confirm installation personnel are equipped with safety gear	☐
5	Ensure all circuit breakers are in the off position	☐

2.2 Wiring

Step 1 Internal Wiring

To ensure product safety, the battery power cables are shipped separately and require on-site installation:

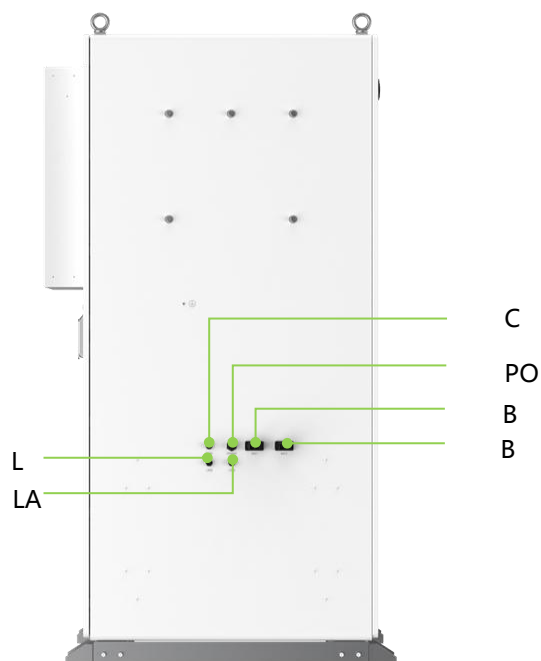
1. Confirm the battery switch on the BDU (Battery Distribution Unit) is in the off position.
2. Connect the battery power cables:
 - a) Use power cables to connect the PACKs in series.
 - b) Connect the negative terminal of the previous PACK to the positive terminal of the next PACK.
 - c) Ensure the black terminal connects to the negative (black) side and the red terminal connects to the positive (red) side.
3. Connect the battery to the BDU power cables:
 - d) Battery positive terminal to BDU positive (red to red).
 - e) Battery negative terminal to BDU negative (black to black).
4. Note: Color coding is crucial—red indicates positive, black indicates negative.



Before After
Battery power cable connection diagram

Step 2 External Wiring

This equipment supports external connection to PCS (Power Conversion System). Below are the interface definitions:

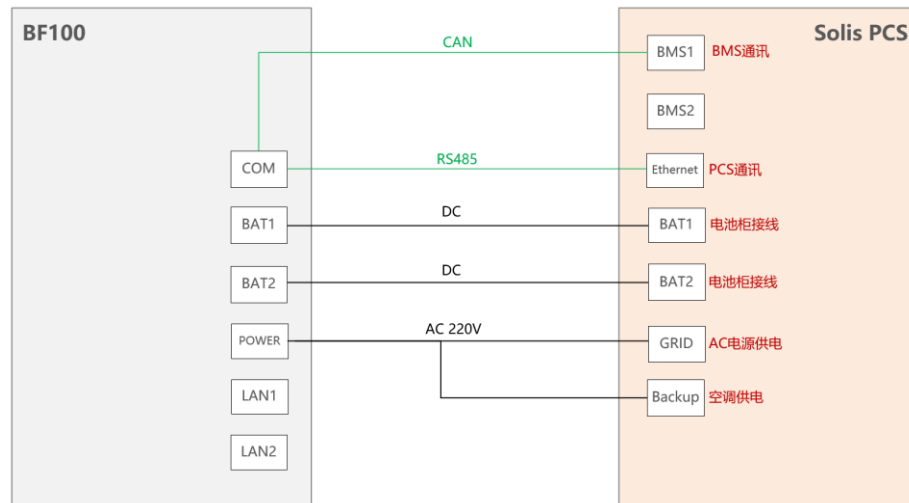


External wiring diagram
External wiring area definition

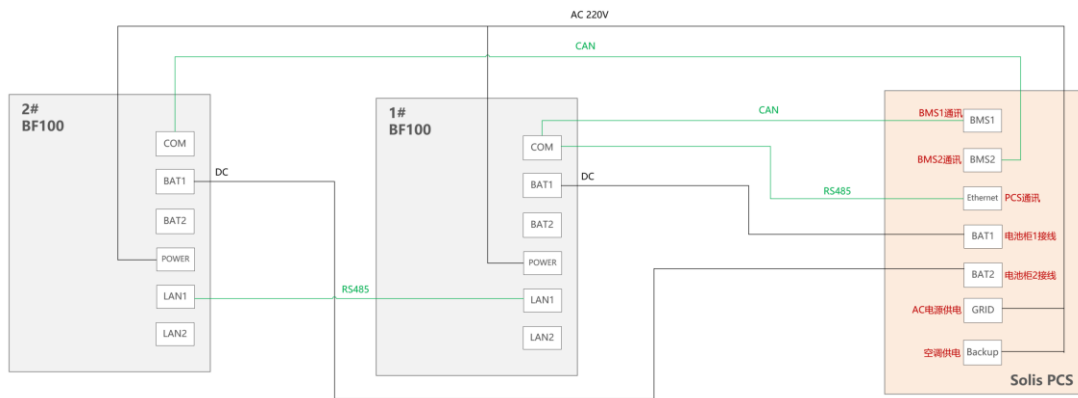
No	Label	Function Description	
1	COM	CAN-2H	PCS communication
		CAN-2L	
		7A	
		7B	
2	POWER	AC230V external power input	
3	BAT1	Battery Interface 1	
4	BAT2	Battery Interface 2	
5	LAN1	Parallel Connection Interface	Same function for Both LAN
6	LAN2		

Wiring guide

One battery cabinet connects to one inverter



Note : "DC" contains positive and negative battery wires.
Two batteries cabinets connect to one inverter.

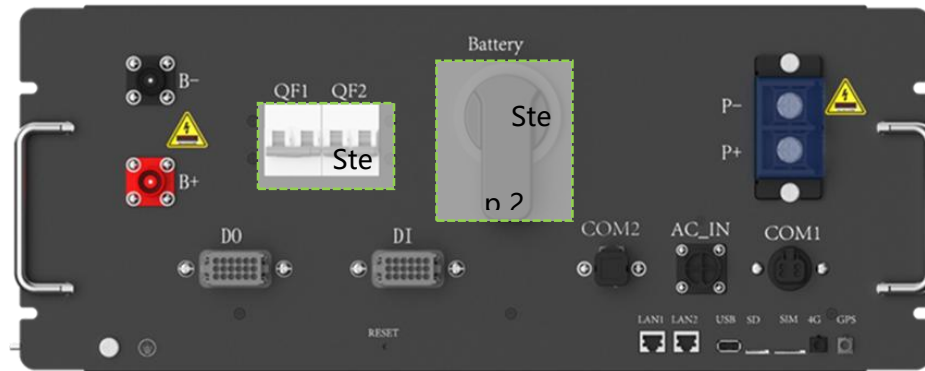


In addition: For details about device installation and cable connections, please refer to the BF100 User Manual.

3. Powering On/Off

3.1 Powering On

1. Turn off the battery circuit breaker ("Battery" breaker) on the BDU.
2. Sequentially turn off the "QF1" and "QF2" switches on the BDU.



BDU operation diagram

Indicator Check:

- Power indicator ("POWER") and running indicator ("RUN") should light up.
- Fault indicator ("FAULT") should remain off.
- The screen should display system status and parameters.

3.2 Powering Off

1. Sequentially turn off the "QF1" and "QF2" switches.
2. Turn off the "Battery" circuit breaker on the BDU.



Warning

Wait five minutes after power-off for the system to fully discharge before performing maintenance.

3.3 Emergency Shutdown

In emergencies, press the red emergency stop button (marked "EPO") on the cabinet door.

4. Battery Cabinet Debugging

4.1 HMI log in

Access Levels:	Directions
Not Logged In:	View system data only.
General User:	View system data and configure basic parameters. Default password: 1111.

4.2 System Overview

The 7-inch HMI screen provides access to system information and parameter settings. Features include:

HMI Overview

main window	main menu	1 st - Submenu	2 nd -Submenu	3 rd - Submenu
main interface	Run Information	Grid		
		Inverter		
		Battery		
		Load		
		DC photovoltaic		
		Electric generator		
	Data Query	EMS	联机状态	
			Parallel state	
			Charge and discharge data	
			peak and valley data	
		BMS Data	Basic	
			Voltage	
			Temperature	
			Alarm	
		PCS Data	Basic	
			Alarm	
		System Data	Meter	
			Fire protection	
			AC	
		Alerting	Real-time alarm	
			History	
		Version		
	Device Settings:	EMS	Operating data	
			Parameter setting	system parameter
			System settings	basic setting
	Login Permissions :	User selection		
		Password modification		

Noted: The HMI interface may be updated with new version. The images in this manual are for reference only.

HMI screen provides access to system information and parameter settings.
Features include:

- **Run Information:** Displays connected device details.
- **Data Query:** View detailed data from subsystems and alarms.
- **Device Settings:** Configure system operation parameters (EMS-related only).
- **Login Permissions:** Manage user roles and passwords.

5. Inverter Debugging

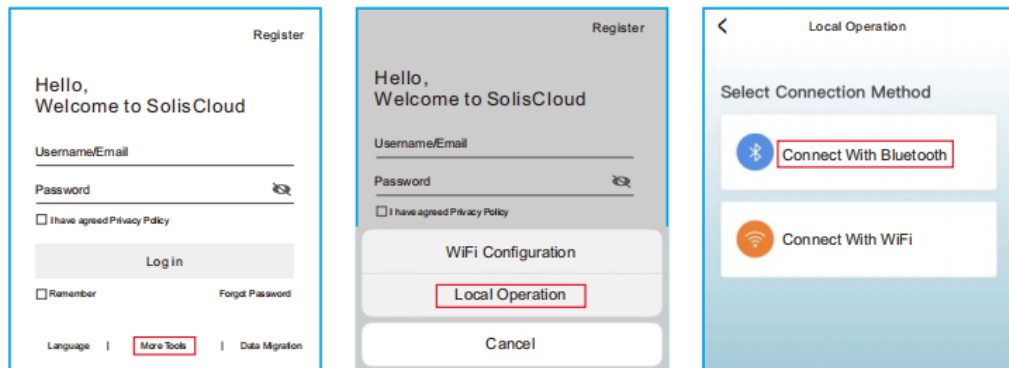
5.1 PCS Log in

Step 1: (Log in to the App via Bluetooth)

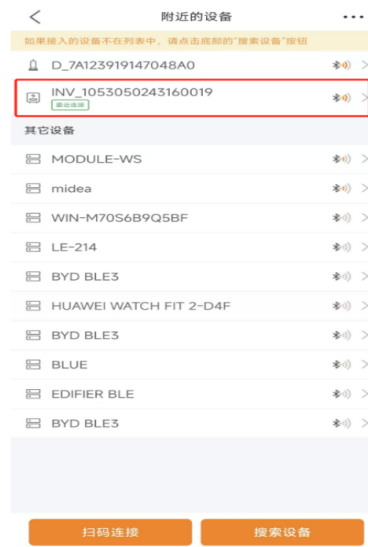
步骤1：使用蓝牙连接。

打开手机上的蓝牙开关，然后打开**Soliscloud APP**。

点击“更多工具” -> “本地操作” -> “蓝牙连接”



Step 2: Select the Bluetooth signal from the inverter (Bluetooth: Inverter SN)



Step 3: Login Account



5.2 Quick Settings via App

a. Set Inverter Time : Adjust to match the local time zone.

If debugging the inverter for the first time, you need to go through the quick settings. After completing this, you can adjust these settings later.

Sequence: Inverter Time -> Energy Meter/CT -> Grid Standard -> Energy Storage Mode -> Battery Model.

Inverter Time:

- Set the inverter's date and time.
- Toggle the slider next to "Sync with Phone Time."
- Click "Next" in the bottom-right corner to proceed.



b. Battery

- Select Battery Quantity : 1
- Select Battery Model: "Lithium battery HV"
- Select Connect Method : As illustrated in following figure.



c. CT/ Energy Meter Settings:

- 1) Set energy meter type to "Eastron Standard Three-Phase".
- 2) Install the meter on the grid side.

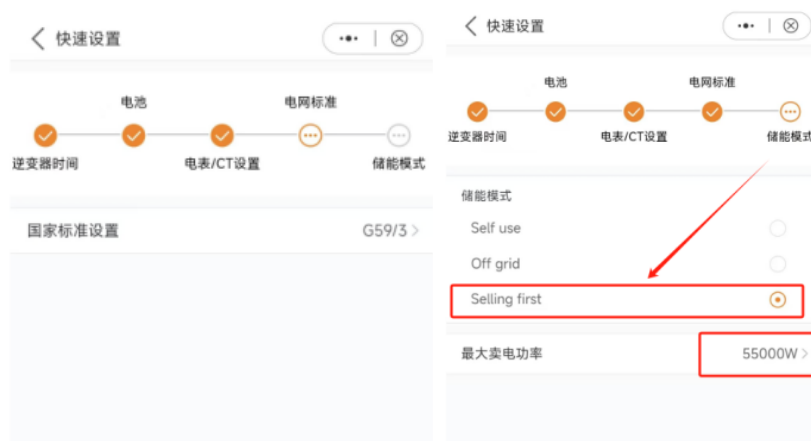
- 3) Configure CT ratio: Default value is "60" (Solis offered ESCT-T50-300A/5A CT) ;
- 4) Ensure correct CT direction.



d. Grid Standards: Configure according to local requirements.

e. Energy Storage Mode:

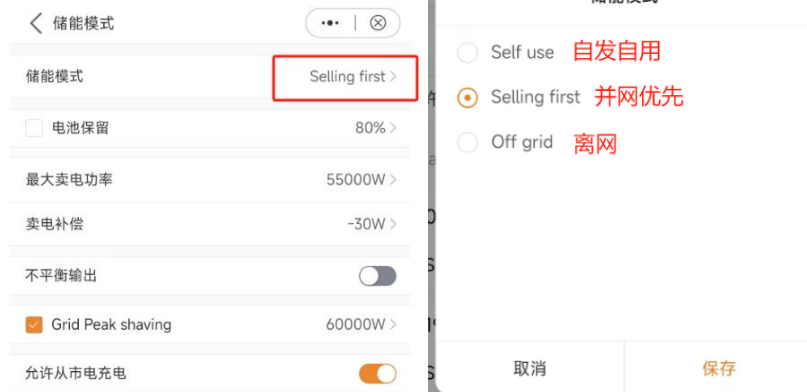
- Set to "Grid Priority".



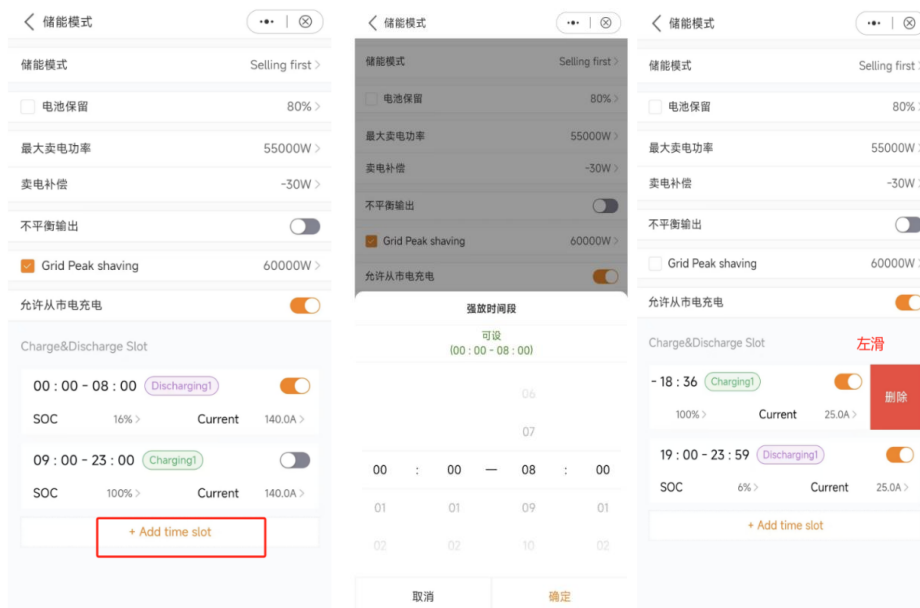
- After the quick setting ,click "Finish" and the APP will enter the home page.



- Set ➡ Energy storage mode



- Adding a Time range



● By swiping to the left side of the screen, users can delete the current time period Settings.

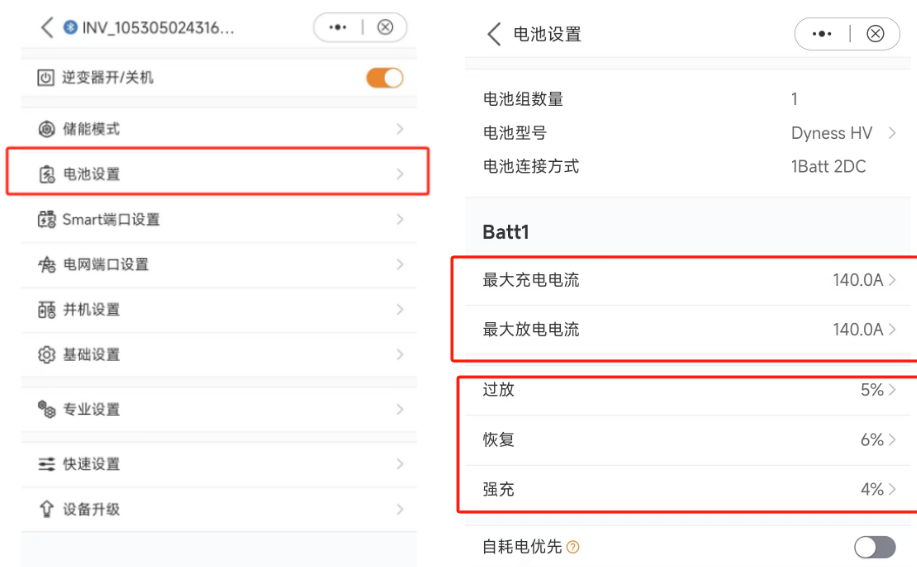
■ Charging SOC 100%

- When the battery's State of Charge (SOC) reaches the set value of 100%, charging will automatically stop.
- This is a protection mechanism to prevent overcharging, thereby extending the battery's lifespan and ensuring safety.

■ Discharging SOC 6%

- When the battery's State of Charge (SOC) drops to the set value of 6%, discharging will automatically stop.
- This setting prevents over-discharging, avoiding damage to battery cells or a decrease in battery capacity.

f. Battery parameter setting



■ Maximum Charging Current: 140A

- Maximum Discharging Current: 140A
- Over-discharge SOC: 5%
- Recovery SOC: 6%
- Recovery SOC: 4%
- ✓ Configuration is complete. You can now use the screen to control the PCS (Power Conversion System) to power on.
- ✓ Once the system has successfully started, use the mobile app to send a 50kW charging command.

5.3 Parallel Configuration

a. Inverter expansion

1. Enable parallel operation on the PCS host via Bluetooth:
 - Set the host as "Master" with ID "1".
 - Set the "Slaves" with ID "2".
2. Adjust battery cabinet addresses to match the PCS units for proper communication.



b. Dc Cabinet Expansion

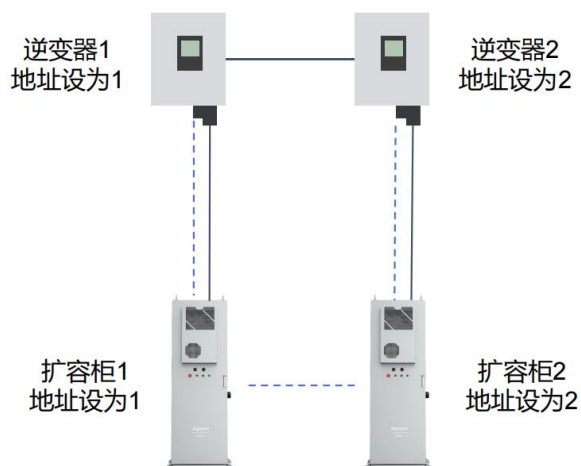


There is an HMI screen in the DC cabinet, enable parallel operation for both the master and slave units, set the master unit as 1 and the slave unit as 2.

The total number of parallel systems is equal to the number of master units plus the number of slave units.

c. Multiple Cabinets in Parallel

In the case of multiple parallel connections, taking two PCS units and two battery expansion cabinets as an example, the address of each battery cabinet should match its corresponding PCS unit. See the diagram below:



5.4 Cloud Servers

a. EMS Version

EMS 版本需更新至 2025052601 或以上。

EMS version needs to be updated to the latest version (2025051601 and subsequent versions).

操作步骤：详见《EMS 更新 sop》

Operation steps: See EMS Update sop for details

b. HMI Version

HMI 版本需更新至 2025052601 或以上。

HMI version needs to be updated to the latest version (2025051601 and subsequent versions).

操作步骤: 详见《屏幕升级 sop》

Operation steps: See the Screen Upgrade sop for details

c. Dyness's cloud platform

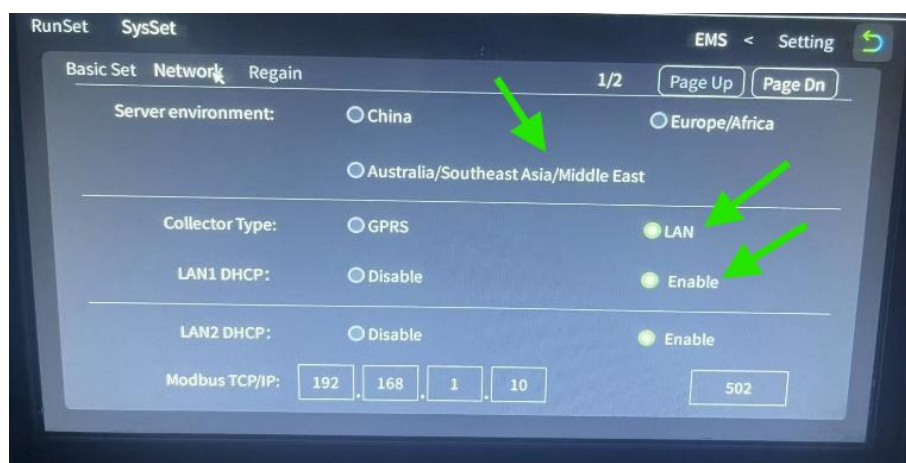
Cabinet networking can be added to Dyness's cloud platform.

将准备好的网线插入电脑, 运行 cmd 命令, ping 出 IP 地址、子网掩码、默认网关的值, 将网线插入柜子 LAN2 口

Plug the prepared network cable into the computer, run the cmd command, ping out the IP address, subnet mask, and default gateway values, and plug the cable into the cabinet LAN2 port



- 1) 按照安装地点选择所属服务器环境;
Select the server environment to which it belongs according to the installation location;
- 2) 采集器类型选择 LAN;
Collector type;
- 3) LAN1 DHCP 选择使能;
LAN1 DHCP select enable;

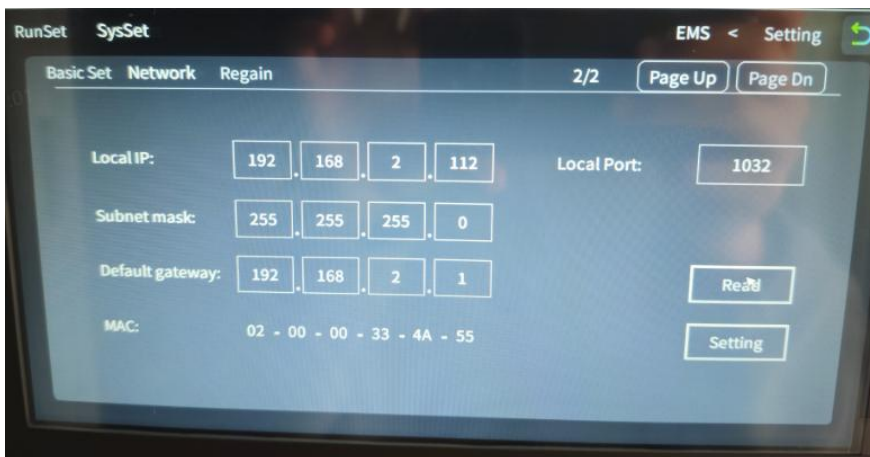


4) 点击“下一页”

将 ping 出的子网掩码、默认网关写入，另选择一个固定的 IP 地址写入本地 ip, 点击设置，设备进入重启。

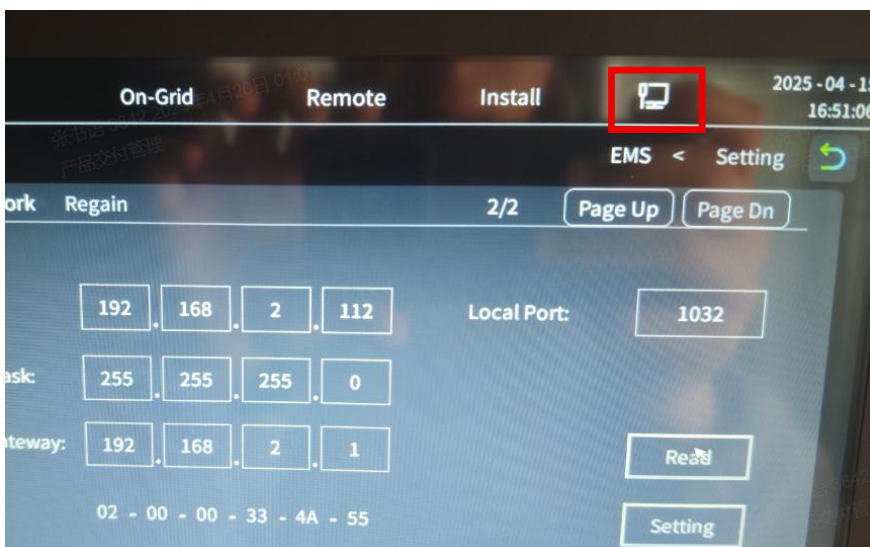
Click “Next Page”.

Write the ping subnet mask and default gateway, and choose a fixed IP address to write the local ip, click set, and the device will reboot.



5) 等待 1min 后主页面出现上网图标时，表示设备上网成功.

Waiting for 1min and then the Internet icon appears on the main page, it means the device is successfully connected to the Internet.



6) 登录安装商权限：密码 Dynesslylf—设置—EMS—Adv 设置—按照图示设置参数值

Manufacture login : Dynesslylf--setting--EMS--Advset-- Set the parameter values as shown below.

BF100

Init

R&D

2024 -01 -01
00:00:00

RunSet

SysSet

DataSet

AdvSet

EMS < Setting

DebParm

2/2

Page Up

Page Dn

Device Type Code:

0

Sys Rated Power(kW):

0.0

Data type:

unsigned

Register values:

0

write

03 Addr:

0

Read value:

0

Read

04 Addr:

0

Read value:

0

Read

17

6. Final Acceptance

6.1 Timed Charge/Discharge Function Testing

Perform short-term timed charge/discharge tests to verify system compliance. Ensure to reset to the correct time after testing.

6.2 Transformer Protection Function Testing

Set the transformer protection value near the current load. Test with high PCS charging power. If the transformer power exceeds the protection value, PCS power should decrease, indicating proper functionality.

6.3 Anti-Backflow Function Testing

Enable PCS power exceeding the current load power. If PCS power decreases, the anti-backflow protection function is operational. Reset PCS power to normal values after testing.

6.4 Project Information Summary

Record project details, including unique scenarios or exceptions.

项目名称	项目地	项目规模	光伏情况（如有）	运行策略	设置时段（如有）	销售联系人及联系方式	业主联系人及联系方式	备注

6.5 Debugging Issues Summary

Document issues encountered during debugging, categorized into EPC, product, or commissioning problems.

序号	问题发生项目地	图片	问题描述	原因	问题处理及建议项	备注
1						
2						
3						
4						

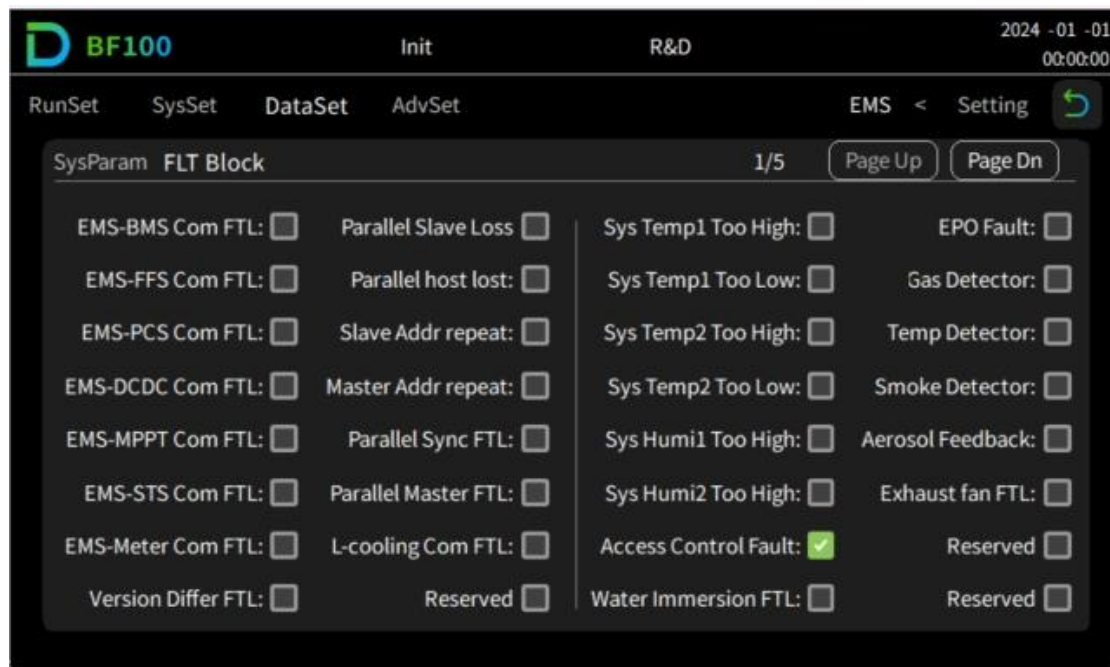
7. Trouble Shooting

7.1 BF100& Ginlong (Solis) communication fault

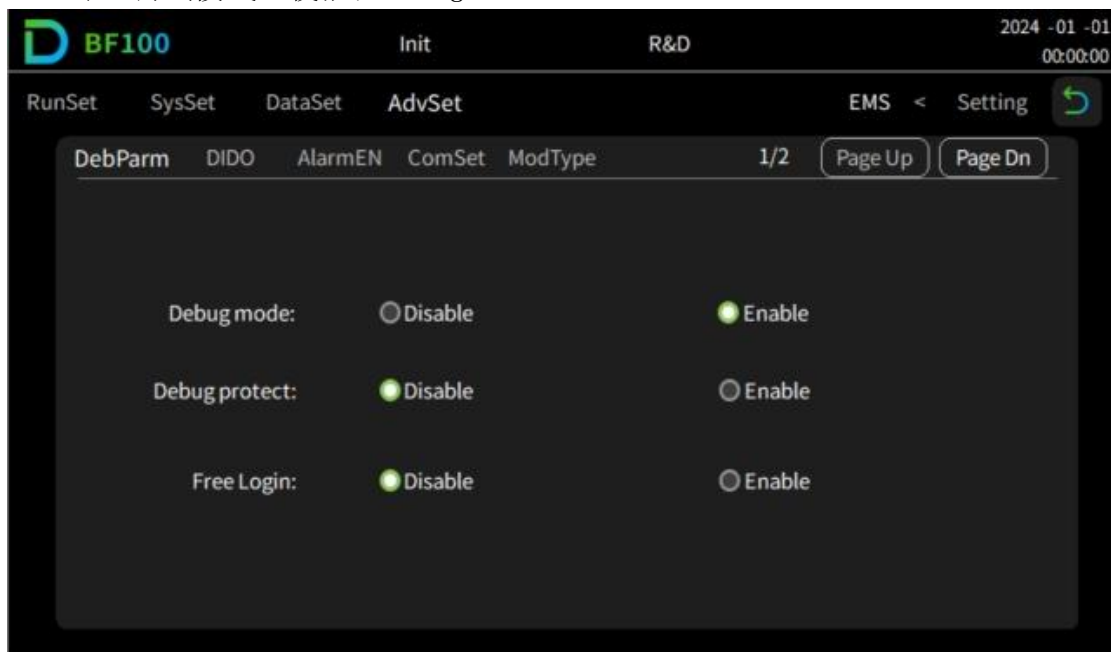
- 1) 登录密码/login password: Dynessly1f (仅对运营商开放/Available only to advance).
- 2) 打开 ems 设置; Tap ems settings.



- 3) 屏蔽门禁故障; block access control fault.



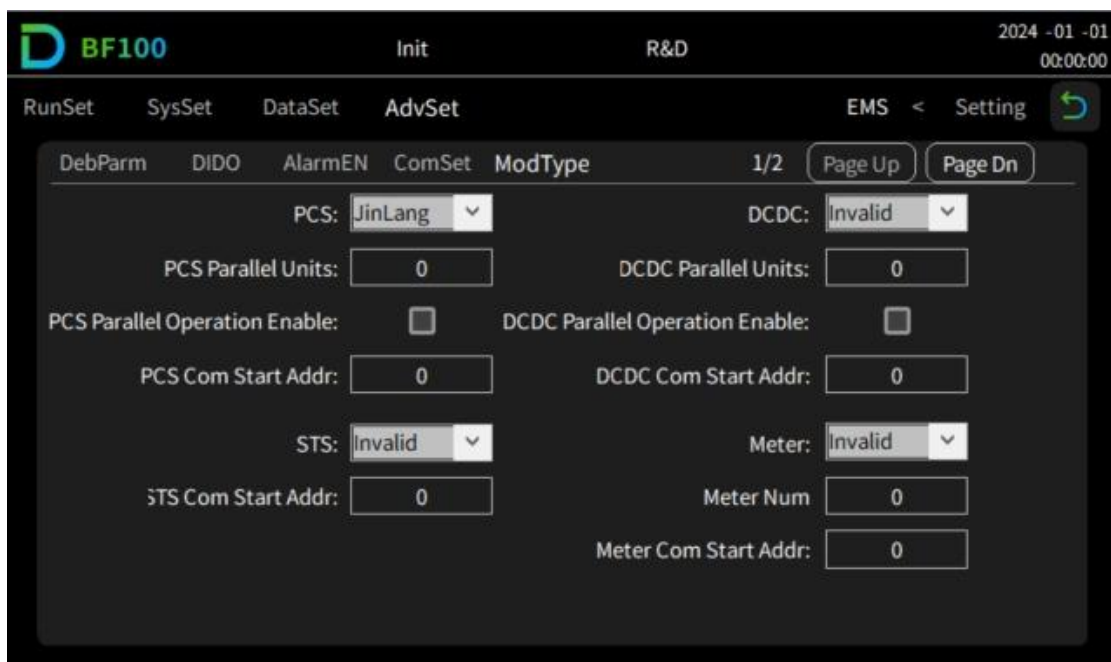
4) 调试模式，使能；debug mode: enable.



5) 通讯地址变更 Change of mailing address.

a) PCS 选择 锦浪逆变器 PCS choose JinLang.

b) 更改 PCS 地址，尝试将地址更改 1 到 5;
Change PCS COM START ADDR, Trying to change the address from 1 to 5.



6) 通讯故障解除后，恢复门禁故障，关闭调试模式；

Restore access control failures after communication failures are cleared; debug mode: disable!!!!!!

