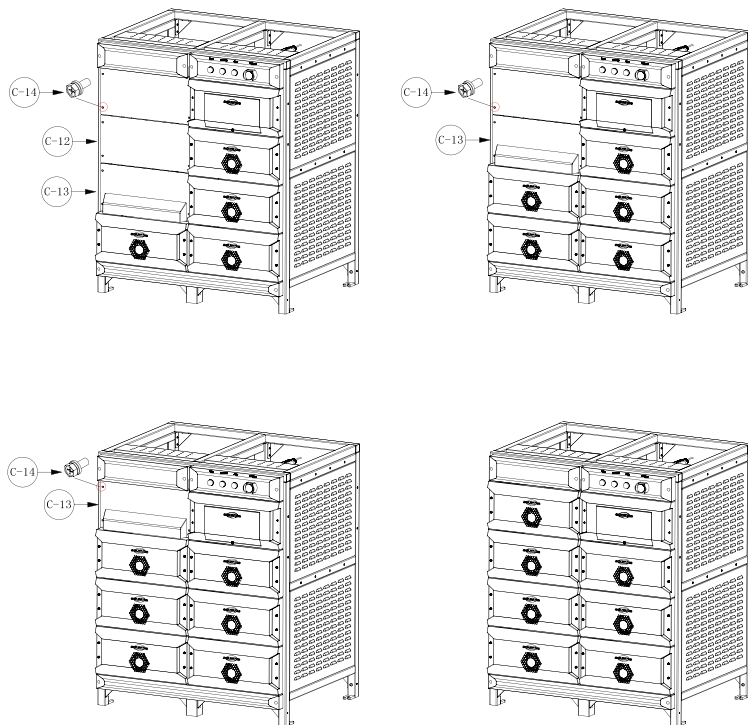


23. According to the specifications and models of the energy storage rack, Install the sealing plate 01 (C-12) and sealing plate 02 (C-13) at the position of the free battery pack by M6*16 hexagon bolts (C-14). Installation finished.



4.3 Inverter Side Wiring

Battery wiring

Before connecting the battery, disconnect the AC circuit breaker on the grid side, the battery side circuit breaker, and turn the inverter DC switch to the "OFF" position.

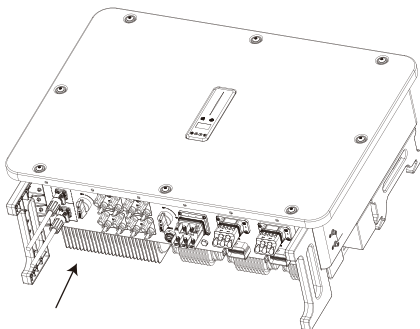


NOTICE

Before connecting to the inverter, please use a multimeter to measure the voltage at the battery end to ensure that it is within 840V before connecting it.

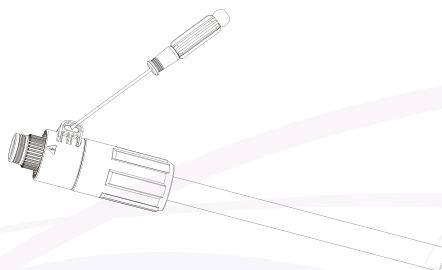
Before connecting the battery terminals, make sure positive and negative polarity right.

- ① Insert the positive and negative connectors into the inverter battery terminals respectively, and make a "click" sound to indicate that the connection is in place.



NOTE

To pull out the plug, you need to press the switch button with a screwdriver before pulling out the plug.



Communication wiring between inverter and battery



Do not connect cables that are not used in the battery communication cable to ground or connect to other devices.



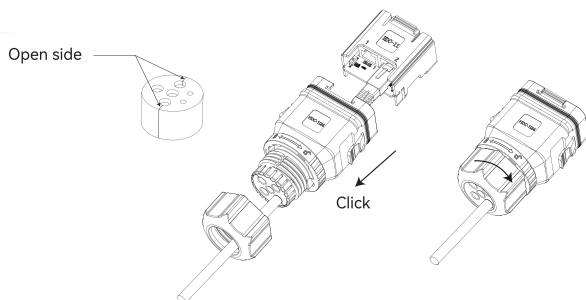
Please use the BMS 1 port for battery communication, the BMS 2 port is invalid.

- ① Use RJ45 crimping pliers as defined by BMS 1 RJ45 port and crimp the RJ45 plug at one end of the inverter.

The BMS 1 RJ45 port definition is shown below:

RJ45	No	Color	Meter
	1	Orange & White	RS485_A3
	2	Orange	RS485_B3
	3	Green & White	/
	4	Green & White	CANH_B1
	5	Blue & White	CANL_B1
	6	Green	/
	7	Brown & White	CANL_Debug
	8	Brown & White	CANH_Debug

- ② Thread the appropriate length of RJ45 plug through the inverter COM3 swivel nut and insert it into the open side of the rubber washer. Insert the RJ45 plug into the corresponding RJ45 terminal in the connector, and connect the RJ45 plug at one end of the inverter to the COM3 interface of the inverter.



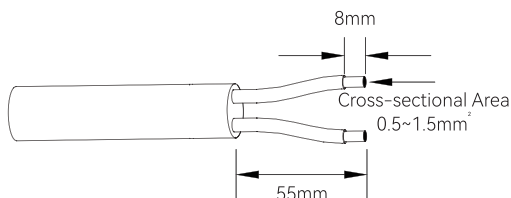
Emergency stop

The emergency stop port is defined as follows:

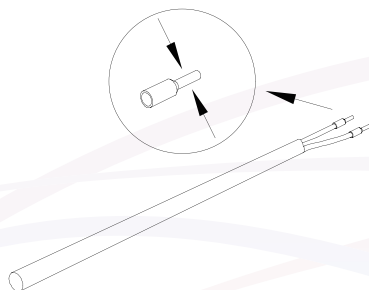
RJ45	No	Color	Meter
	1	Orange & White	Stop+
	2	Orange	
	3	Green & White	Stop-
	4	Blue	
	5	Blue & White	/
	6	Green	/
	7	Brown & White	/
	8	Brown	/

In the COM2 connector of the inverter, there are push-in (snap-in/screw-free) terminal blocks and RJ45 terminals, and the following steps are the wiring steps of the push-in terminal blocks.

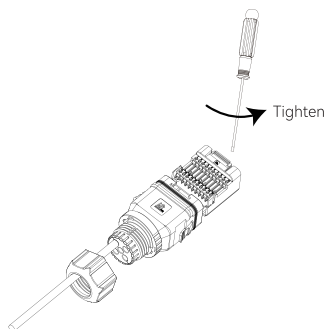
- ① Thread the appropriate length of cable at the other end through the inverter COM2 swivel nut and housing. Strip the cable jacket and strip the cable insulation.



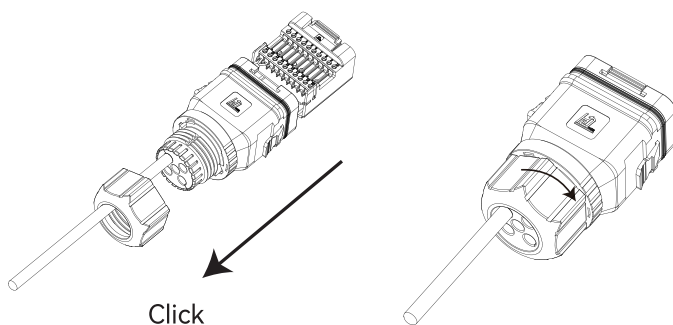
- ② The multi-core cable is twisted into a cluster by hand and crimped onto the pinhole terminal.



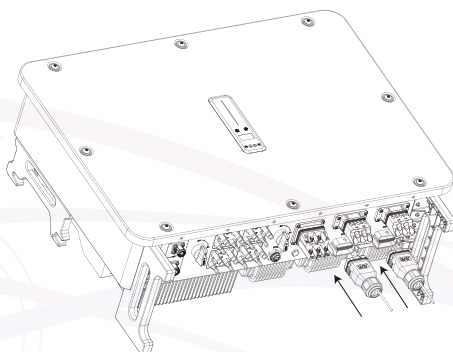
- ③ According to the definition of COM2 terminal of the inverter, use a flathead screwdriver to press and hold the briquette on the terminal block, insert the cable into the hole of the terminal block, and loosen the briquette.



- ④ Pull the cables outward and check that they are securely connected. Insert the terminal block into the connector until it clicks into place and clicks.



- ⑤ Plug the COM2 and COM3 connectors into the corresponding ports of the inverter.



5 Commissioning

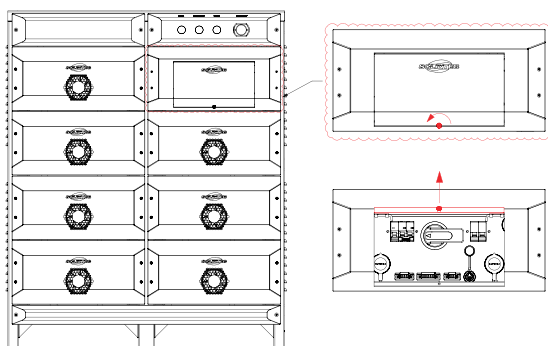


Before the equipment is powered on and debugged, it is necessary to ensure that the equipment has been installed.

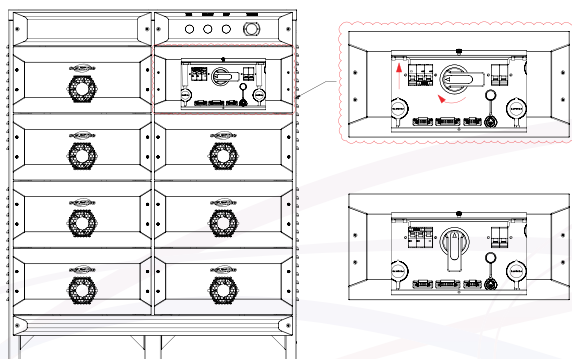
When the energy storage rack is powered on alone, the battery power line P+ (A-05) and battery power line P- (A-06) should be connected after the power-on and commissioning is completed to prevent the equipment from short circuit.

5.1 Storage Rack Power On

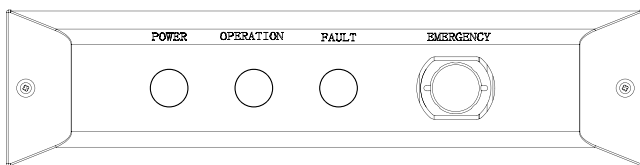
1. Unscrew the operating window fixing bolt on the high-pressure box mask and pull the operating window up.



2. Close the high-voltage box master control switch QF1 and the high-voltage box DC power supply switch QF3 according to the figure.

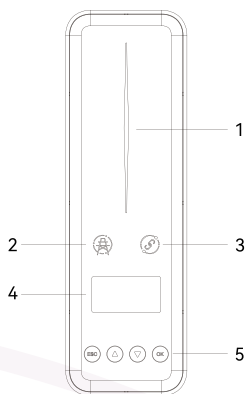


3. Check the running status of the device according to the following table, and when the device is normal, the device is powered on.



Item	Indicator	Status	Description
1	Power indicator	Off	No power.
		White	Always on
2	Operation indicator	Off	Grid lost.
		Green	Always on
3	Fault indicator	Off	The inverter communication is running normally.
		Red	Always on

5.2 Inverter Indicator



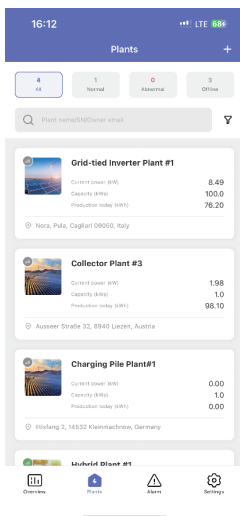
Item	Indicator	Status	Description	
1	Power and alarm indicator	Off	No power.	
		Blue	Quick flashing	Inverter entered self-test status.
			Slow flashing	Inverter entered waiting status.
			Breathe flashing	Inverter works normal.
		Orange	Breathe flashing	Low battery warning, the battery power is about to reach the SOC protection value.
Red	Always on	An alarm or fault is detected, view the fault info on the display.		
2	Grid indicator	Off	Grid lost.	
		Slow flashing	Inverter detected grid but not running in on-grid mode.	
		Always on	Inverter works in on-grid mode.	
3	Communication indicator	Green	Always on	The inverter communication is running normally.
			Flashing	The inverter communicates with EMS or Master inverter through RS485 or CAN.
		Orange	Always on	The inverter isn't communicating with Solinteg smart meter.
		Red	Always on	The inverter isn't communicating with the BMS.
4	Display	Display the inverter's operational status, parameter settings, etc. Display off to save power, press the button to wake up the display.		
5	Button	Switch display information and set parameters.		

5.3 Device Addition and Network Configuration In IntegHub APP

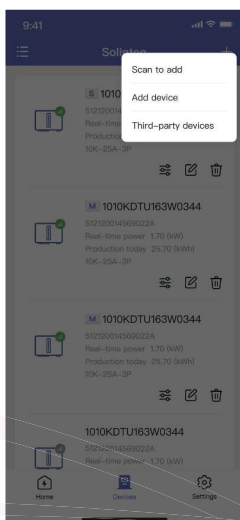
- ① After logging into the APP, follow the on-screen guidance to create a power plant.



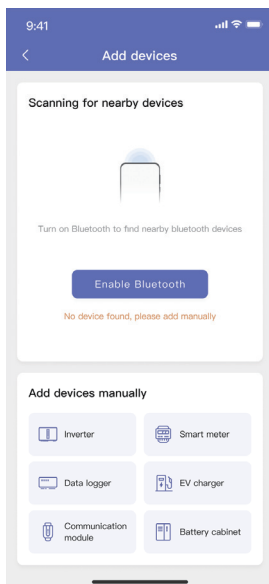
② On the <Plants> interface, select the plant which you need to add new devices and enter it.



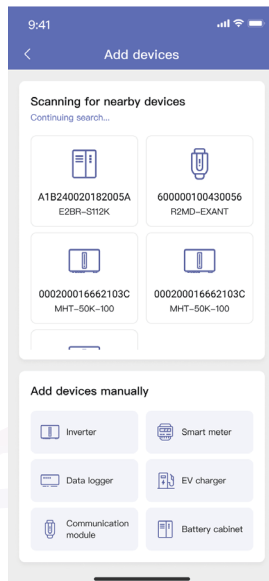
③ After entering the <Plants> section, click on <Devices>, then click the <+> in the upper right corner to add devices.



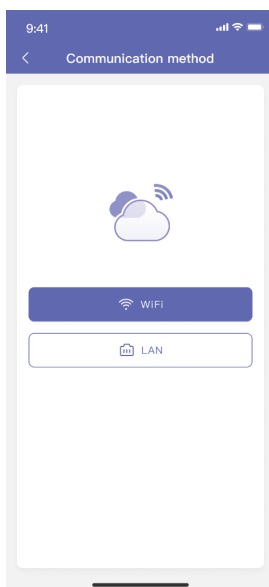
④ Tap <Enable Bluetooth > to turn on your phone's Bluetooth. The APP will automatically scan for Bluetooth of nearby devices.



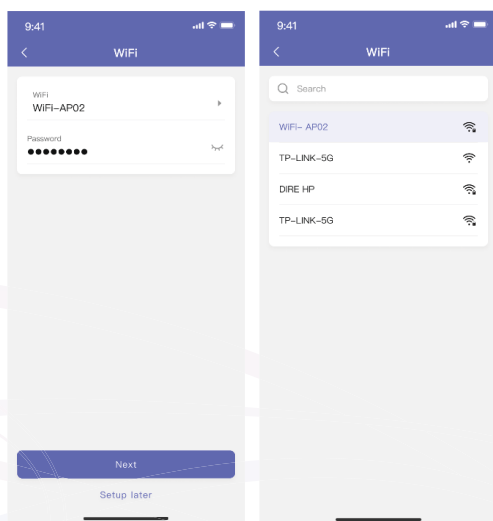
⑤ After scanning, APP will display the devices you want to add. Select the device you want to add.



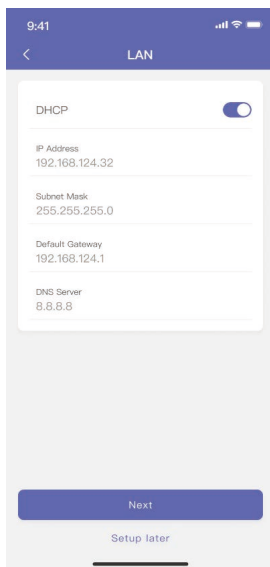
⑥ Enter the device networking method selection has two kinds of networking methods WIFI and LAN.



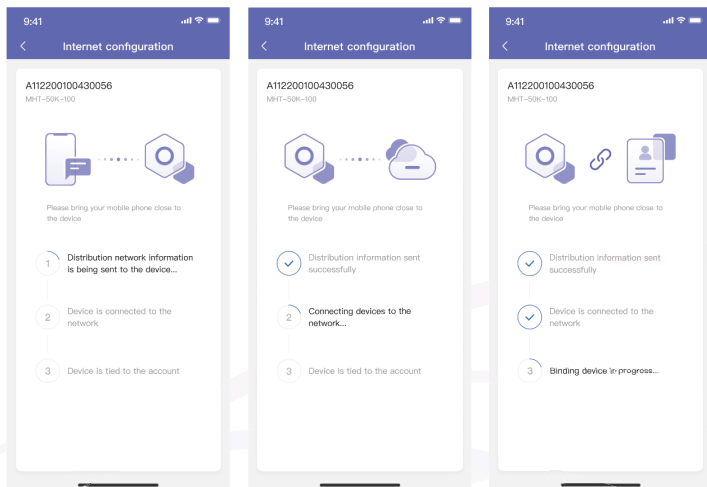
⑦ After selecting Wi-Fi networking, enter the Wi-Fi configuration interface. Select the connected Wi-Fi and enter the password. Click <Next> to enter the next step, click <Setup later> to setup later.

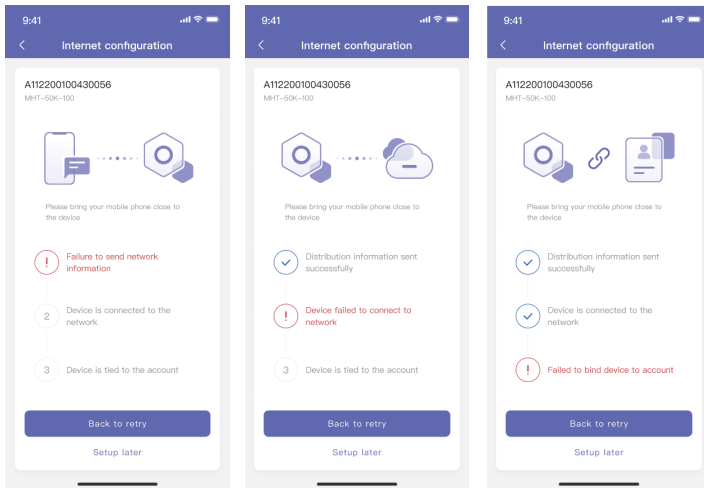


⑧ After selecting LAN, enter LAN configuration interface, DHCP function is turned on by default, after DHCP is turned off, users can set IP address, subnet mask, default gateway, domain name server. Click < Next > to enter the next step, click < Setup later > slightly after setting.

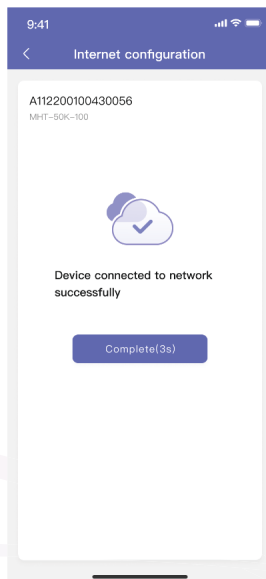


⑨ After configuring Wi-Fi or LAN information, APP follows the following three steps to enter network configuration. When each step fails, the failure reason will be displayed.

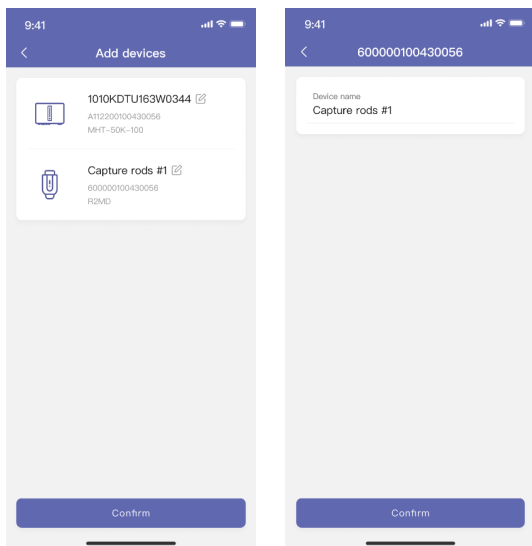




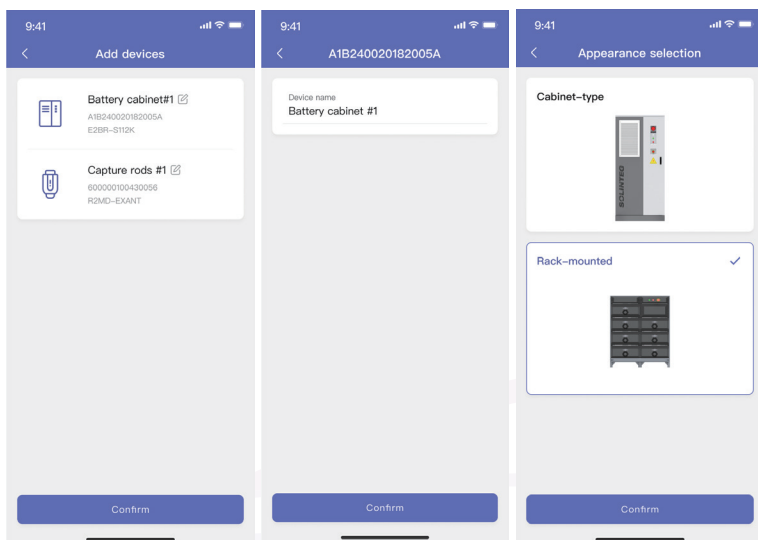
⑩ After completing the configuration, click <Complete> to complete the network configuration.



⑪ After completing the network allocation, you can add devices. Click the Edit button to rename the device, and click <Confirm> to finish adding the device.

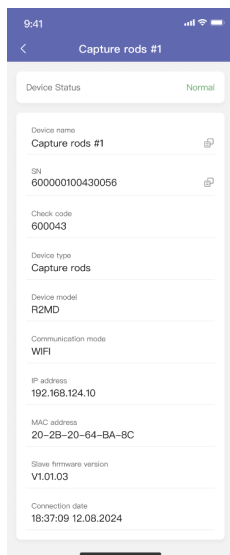


Inverter



E2BR-S64K/80K/96K/112k-R

⑫ Enter the device details, you can view the device name, SN, device type, device model, communication mode (Wi-Fi or LAN), device IP address, device MAC address, inverter sub-firmware version number, connection date.



Inverter



E2BR-S64K/80K/96K/112k-R

6 Device Maintenance

6.1 Maintenance Requirements

To ensure the normal operation of the equipment and prevent damage, please inspect and maintain the equipment regularly. When the environment or operating conditions of the equipment are poor, users should also increase the frequency of maintenance according to the site conditions. Equipment maintenance must be carried out by professionals.

Item	Requirements	Period
Device operating environment	<ol style="list-style-type: none"> 1. Check the temperature and humidity, corrosion and dust conditions around the equipment. 2. Check the ventilation and water accumulation around the equipment. 	3 months
Device operating status	<ol style="list-style-type: none"> 1. Use a thermal imager or other monitoring device to detect signs of heat in the device. 2. Check whether the equipment is damaged, abnormal noise, deformation and other abnormalities. 3. Check the exhaust of the equipment fan. 4. Check whether the equipment has any abnormalities such as fault alarms. 	1 month
System cleaning	<ol style="list-style-type: none"> 1. Check the dust condition in the equipment. 2. Check the dust accumulation of the battery pack fan. 	3 months
Device appearance	<ol style="list-style-type: none"> 1. Whether the equipment shell is damaged. 2. Whether there is corrosion in the structural parts. 	3 months
Electrical connection	<ol style="list-style-type: none"> 1. Check whether the cable connection is reliable. 2. Check whether the components are installed reliably. 3. Check whether there is any discharge phenomenon on the surface of the component. 	6 months
Battery pack	<ol style="list-style-type: none"> 1. Check the battery pack for abnormal noise, deformation, leakage and other abnormalities. 2. Long-term storage, the time shall not exceed six months, and the battery shall be replenished according to the remaining battery power (SOC shall not be less than 10%). 	1 month
Fighting Equipment	In accordance with local fire protection requirements, please ask professionals to perform maintenance and replacement.	According to local requirements
Cable replacement	Ask a professional for maintenance and replacement.	According to local requirements

Bumps and other situations may occur during equipment handling, transportation and installation, resulting in damage to the surface coating of the rack. The user must repair the damaged area.

1. Please choose the corresponding paint or self-spray paint according to the color number, and prepare tools and materials such as brushes, sandpaper, anhydrous ethanol, cotton cloth, tape, plastic sheeting, etc.
2. Use tape to cover the area around the damaged area with plastic sheeting or other materials to prevent color contamination.
3. Gently sand the damaged area with sandpaper to remove surface rust and dirt.
4. After soaking the cotton cloth with anhydrous ethanol, wipe the repaired area to remove surface dust and dirt, and then wipe it with a dry cotton cloth.
5. Apply paint evenly over the damaged area with a bristle brush or self-spray until it is completely covered.



When the damaged area is too large, please contact professional maintenance personnel for treatment.

6.2 Alarm and Troubleshooting

Troubleshooting and processing should be carried out by professional personnel according to local requirements.

Fault code	Name	System action	Handling measures
E400	BMS Comm	Abnormal communication between Controller and Inverter	<ol style="list-style-type: none"> 1. Check if correct selection of battery ID 2. Check the working status of battery 3. Check the quality of comm. connection between inverter and BMS 4. Check whether the line sequence of the communication line is correct
E431	Abnormal Battery Voltage	Battery voltage deviation >100V (measured value by inverter and value reported by BMS)	<ol style="list-style-type: none"> 1. Check if power cable is connected correctly 2. Check if any leakage or damage of the power cable 3. Check if any alarm and/or protection of battery 4. Reboot battery after removing anomalies and re-installation. If problem remains, contact manufacturer after-sales for solution"

Fault code	Name	System action	Handling measures
E432	Abnormal BAT Parallel No.	Actual paralleled cluster No. is different from configured target No.	<ol style="list-style-type: none"> 1. Check if the target parallel no. is set correctly. If incorrect, revise the target No. into correct value. 2. Check if any communication malfunctions between batteries/ clusters and inverter. If any malfunction, resolve it and re-execute the parallel process. 3. Check if each cluster is powered on. If any cluster without power, turn on the DC breaker of each battery/cluster and re-execute the parallel process. 4. Check if there is any alarm or protection in any cluster. If any alarm or protection, resolve it and re-execute the parallel process. 5. Check if the voltage deviation between batteries/clusters is $\leq 2.5V$. If anything abnormal, charge or discharge the batteries/cluster to ensure the voltage deviation $\leq 2.5V$ and then re-execute the parallel process.
E401	Low SOC	Battery is overdischarged (SOC<5% or value set)	<ol style="list-style-type: none"> 1. Check comm. and power connection between battery and inverter. 2. Check if connection between inverter, PV, grid and diesel generator. 3. Check if load is oversized
E402	Low SOH	Battery healthy is too bad	<ol style="list-style-type: none"> 1. Check if no complete charge/discharge cycles during long-term period 2. Check if there is performance deviation between cells 3. Check if there is performance deviation between batteries
E403	BMS Sleeping	Threshold is triggered, which lead to sleep mode	<ol style="list-style-type: none"> 1. Check if grid and/or PV can be stable and continuous for enough time. 2. Check if power connection between battery and inverter.
E404	BAT Voltage Sensor Fault	There might be something wrong with battery voltage sensor	<ol style="list-style-type: none"> 1. Reboot the battery 2. If problem remains, contact manufacturer after-sales for solution
E405	BAT Temp. Sensor Fault	There might be something wrong with battery temperature sensor	<ol style="list-style-type: none"> 1. Reboot the battery 2. If problem remains, contact manufacturer after-sales for solution
E406	BAT Internal Comm Fault	There might be something wrong with battery internal comm. circuit	<ol style="list-style-type: none"> 1. Check comm. cable between battery module and controller. 2. Reboot the battery. If problem remains, contact manufacturer after-sales for solution
E407	Input OV Fault	Input voltage on battery is too high	<ol style="list-style-type: none"> 1. Check if power cables are incorrectly connected to other source 2. Check if there is malfunction of inverter

Fault code	Name	System action	Handling measures
E408	Input Reversed Fault	Input polarity is reversed	<ol style="list-style-type: none"> 1. Check if power cables are reversely connected 2. Check if there is malfunction of invertererter
E409	BAT Relay Checking Fault	There might be something wrong with battery relay	<ol style="list-style-type: none"> 1. Reboot the battery 2. If problem remains, contact manufacturer after-sales for solution
E410	Cell Damaged Fault	Cell voltage < 2.0V	<ol style="list-style-type: none"> 1. Reboot the battery 2. If problem remains, contact manufacturer after-sales for solution
E411	Shutdown Circuit Fault	Can not completely switch off the system	<ol style="list-style-type: none"> 1. Reboot the battery 2. If problem remains, contact manufacturer after-sales for solution
E412	BMIC Fault	Sensor chip is abnormal	<ol style="list-style-type: none"> 1. Reboot the battery 2. If problem remains, contact manufacturer after-sales for solution
E413	BAT Internal Bus Fault	Battery internal bus is abnormal	<ol style="list-style-type: none"> 1. Reboot the battery 2. If problem remains, contact manufacturer after-sales for solution
E414	Self-checking Fault	Self-checking failed	<ol style="list-style-type: none"> 1. Reboot the battery 2. If problem remains, contact manufacturer after-sales for solution
E415	Safety Function Fault	Chip self-checking failed	<ol style="list-style-type: none"> 1. Reboot the battery 2. If problem remains, contact manufacturer after-sales for solution
E416	ISO Fault	Isolation is too low	<ol style="list-style-type: none"> 1. Turn off the whole system 2. Check if any damage or breakage in devices, cables, terminals, etc. 3. Check if any circuit shorted by foreign matters. 4. Reboot battery after removing anomalies. If problem remains, contact manufacturer after-sales for solution
E417	Cell UV	Cell votage is too high, which triggers the protection	<ol style="list-style-type: none"> 1. Check if there is any malfunction of invertererter, which leads to inexecution of forced-charging 2. Check if the external source (PV, utility grid, diesel generator, etc.) stop working, which leads to inexecution of forced-charging 3. Reboot and then charge the battery immediately.
E418	Cell OV	Cell votage is too low, which triggers the protection	<ol style="list-style-type: none"> 1. Check if there is any malfunction of invertererter, which leads to inexecution of forced-discharging 2. Check if any unsuitable setting and/or configuration , which leads to inexecution of forced-discharging 3. Reboot and then discharge the battery immediately.

Fault code	Name	System action	Handling measures
E419	Cluster UV	Cluster voltage is too high, which triggers the protection	<ol style="list-style-type: none"> 1. Check if there is any malfunction of inverter, which leads to inexecution of forced-charging 2. Check if the external source (PV, utility grid, diesel generator, etc.) stop working, which leads to inexecution of forced-charging 3. Reboot and then charge the battery immediately.
E420	Cluster OV	Cluster voltage is too low, which triggers the protection	<ol style="list-style-type: none"> 1. Check if there is any malfunction of inverter, which leads to inexecution of forced-discharging 2. Check if any unsuitable setting and/or configuration, which leads to inexecution of forced-discharging 3. Reboot and then discharge the battery immediately.
E421	Charge UT	Cluster voltage is too high, which triggers the protection	<ol style="list-style-type: none"> 1. Check if battery temp. is reasonable 2. Check if any malfunction of temp. sensors 3. Increase the environment temp. to warm up battery and then reboot the battery.
E422	Charge OT	Cluster voltage is too low, which triggers the protection	<ol style="list-style-type: none"> 1. Check if battery temp. is reasonable 2. Check if any malfunction of temp. sensors 3. Reduce the environment temp. to cool down battery and then reboot the battery.
E423	Discharge UT	Temperature is too low for discharge, which triggers the protection.	<ol style="list-style-type: none"> 1. Check if battery temp. is reasonable 2. Check if any malfunction of temp. sensors 3. Increase the environment temp. to warm up battery and then reboot the battery.
E424	Discharge OT	Temperature is too high for discharge, which triggers the protection.	<ol style="list-style-type: none"> 1. Check if battery temp. is reasonable 2. Check if any malfunction of temp. sensors 3. Reduce the environment temp. to cool down battery and then reboot the battery.
E425	Charge OC	Temperature is too low for charge, which triggers the protection.	<ol style="list-style-type: none"> 1. Check if current limitation of battery decreases cause of temp, SOC, etc. 2. Check if inverter does not charge according to current limitation 3. Reboot battery after checking or adjusting configuration of inverter
E426	Discharge OC	Temperature is too high for charge, which triggers the protection.	<ol style="list-style-type: none"> 1. Check if current limitation of battery decreases cause of temp, SOC, etc. 2. Check if inverter does not discharge according to current limitation 3. Reboot battery after checking or adjusting configuration of inverter

Fault code	Name	System action	Handling measures
E427	Battery Module UV	Battery module voltage is too high, which triggers the protection	<ol style="list-style-type: none"> 1. Check if there is any malfunction of invertererter, which leads to inexecution of forced-charging 2. Check if the external source (PV, utility grid, diesel generator, etc.) stop working, which leads to inexecution of forced-charging 3. Reboot and then charge the battery immediately.
E428	Battery Module OV	Battery module voltage is too low, which triggers the protection	<ol style="list-style-type: none"> 1. Check if there is any malfunction of invertererter, which leads to inexecution of forced-discharging 2. Check if any unsuitable setting and/or configuration , which leads to inexecution of forced-discharging 3. Reboot and then discharge the battery immediately.
E429	Terminal OT	Terminal temperature is too high, which triggers the protection.	<ol style="list-style-type: none"> 1. Check if terminal temp. is reasonable 2. Check if any malfunction of temp. sensors 3. Reduce the enviroment temp. to cool down terminal and then reboot the battery.
E430	Abnormal Leakage	Leakage current is too high, which triggers the protection.	<ol style="list-style-type: none"> 1. Turn off the whole system 2. Check if any damage or breakage in devices, cables, terminals, etc. 3. Check if any circuit shorted by foreign matters. 4. Reboot battery after removing anomalies.
I400	Cell UV	Cell voltage is too high, which triggers the alarm	<ol style="list-style-type: none"> 1. Check if there is any malfunction or incorrect configuration of invertererter, which leads to unstopped discharging. 2. Check if there is obvious cell voltage deviation. 3. Charge the battery immediately. 4. If there is cell volatge deviation, fully charge and discharge the battery for several times (>10 cycles). If unsolved, contact manufacturer after-sales for solution.
I401	Cell OV	Cell voltage is too low, which triggers the alarm	<ol style="list-style-type: none"> 1. Check if there is any malfunction or incorrect configuration of invertererter, which leads to inexecution protection according to charging voltage limitation. 2. Check if any unsuitable setting and/or configuration , which leads to inexecution of forced-discharging 3. Discharge the battery immediately 4. If there is cell volatge deviation, fully charge and discharge the battery for several times (>10 cycles). If unsolved, contact manufacturer after-sales for solution.
I402	Cluster UV	Cluster voltage is too high, which triggers the alarm	<ol style="list-style-type: none"> 1. Check if there is any malfunction or incorrect configuration of invertererter, which leads to unstopped discharging. 2. Check if load power is oversized. 3. Charge the battery immediately.

Fault code	Name	System action	Handling measures
I403	Cluster OV	Cluster voltage is too low, which triggers the alarm	<ol style="list-style-type: none"> 1. Check if there is any malfunction or incorrect configuration of invertererter, which leads to inexecution protection according to charging voltage limitation. 2. Check if any unsuitable setting and/or configuration , which leads to inexecution of forced-discharging 3. Discharge the battery immediately.
I404	Charge UT	Cluster voltage is too high, which triggers the alarm	<ol style="list-style-type: none"> 1. Check if battery temp. is reasonable 2. Check if any malfunction of temp. sensors 3. Increase the enviroment temp. to warm up battery.
I405	Charge OT	Cluster voltage is too low, which triggers the alarm	<ol style="list-style-type: none"> 1. Check if battery temp. is reasonable 2. Check if any malfunction of temp. sensors 3. Reduce the enviroment temp. to cool down battery or reduce the charging current.
I406	Discharge UT	Temperature is too low for discharge, which triggers the alarm.	<ol style="list-style-type: none"> 1. Check if battery temp. is reasonable 2. Check if any malfunction of temp. sensors 3. Increase the enviroment temp. to warm up battery.
I407	Discharge OT	Temperature is too high for discharge, which triggers the alarm.	<ol style="list-style-type: none"> 1. Check if battery temp. is reasonable 2. Check if any malfunction of temp. sensors 3. Reduce the enviroment temp. to cool down battery or reduce the discharging current.
I408	Charge OC	Temperature is too low for charge, which triggers the alarm.	<ol style="list-style-type: none"> 1. Check if current limitation of battery decreases cause of temp, SOC, etc. 2. Check if invertererter does not charge according to current limitation 3. Reboot battery after checking or adjusting configuration of invertererter
I409	Discharge OC	Temperature is too high for charge, which triggers the alarm.	<ol style="list-style-type: none"> 1. Check if current limitation of battery decreases cause of temp, SOC, etc. 2. Check if invertererter does not discharge according to current limitation 3. Reboot battery after checking or adjusting configuration of invertererter
I410	Battery Module UV	Battery module voltage is too high, which triggers the alarm	<ol style="list-style-type: none"> 1. Check if there is any malfunction or incorrect configuration of invertererter, which leads to unstoppable discharging. 2. Check if load power is oversized. 3. Charge the battery immediately.

Fault code	Name	System action	Handling measures
I411	Battery Module OV	Battery module voltage is too low, which triggers the alarm	<ol style="list-style-type: none"> 1. Check if there is any malfunction or incorrect configuration of invertererter, which leads to inexecution protection according to charging voltage limitation. 2. Check if any unsuitable setting and/or configuration , which leads to inexecution of forced-discharging 3. Discharge the battery immediately.
I412	Terminal OT	Terminal temperature is too high, which triggers the alarm.	<ol style="list-style-type: none"> 1. Check if terminal temp. is reasonable 2. Check if any malfunction of temp. sensors 3. Reduce the enviroment temp. to cool down terminal and then reboot the battery.
I413	Abnormal Fan	Fan of battery module is abnormal	<ol style="list-style-type: none"> 1. Turn off the battery and check if power cable of fan is connected correctly 2. Contact manufacturer after-sales for solution
I414	Abnormal Leakage	Leakage current is too high, which triggers the alarm.	<ol style="list-style-type: none"> 1. Turn off the whole system 2. Check if any damage or breakage in devices, cables, terminals, etc. 3. Check if any circuit shorted by foreign matters. 4. Reboot battery after removing anomalies.
W400	Cell UV	Cell voltage is too high, which triggers the warning	<ol style="list-style-type: none"> 1. Check if there is any malfunction or incorrect configuration of invertererter, which leads to unstopped discharging. 2. Check if there is obvious cell voltage deviation. 3. Charge the battery immediately. 4. If there is cell volatge deviation, fully charge and discharge the battery for several times (>10 cycles). If unsolved, contact manufacturer after-sales for solution.
W401	Cell OV	Cell voltage is too low, which triggers the warning	<ol style="list-style-type: none"> 1. Check if there is any malfunction or incorrect configuration of invertererter, which leads to inexecution protection according to charging voltage limitation. 2. Check if any unsuitable setting and/or configuration , which leads to inexecution of forced-discharging 3. Discharge the battery immediately 4. If there is cell volatge deviation, fully charge and discharge the battery for several times (>10 cycles). If unsolved, contact manufacturer after-sales for solution.
W402	Cluster UV	Cluster voltage is too high, which triggers the warning	<ol style="list-style-type: none"> 1. Check if there is any malfunction or incorrect configuration of invertererter, which leads to unstopped discharging. 2. Check if load power is oversized. 3. Charge the battery immediately.

Fault code	Name	System action	Handling measures
W403	Cluster OV	Cluster voltage is too low, which triggers the warning	<ol style="list-style-type: none"> 1. Check if there is any malfunction or incorrect configuration of invertererter, which leads to inexecution protection according to charging voltage limitation. 2. Check if any unsuitable setting and/or configuration , which leads to inexecution of forced-discharging 3. Discharge the battery immediately.
W404	Charge UT	Cluster voltage is too high, which triggers the warning	<ol style="list-style-type: none"> 1. Check if battery temp. is reasonable 2. Check if any malfunction of temp. sensors 3. Increase the enviroment temp. to warm up battery.
W405	Charge OT	Cluster voltage is too low, which triggers the warning	<ol style="list-style-type: none"> 1. Check if battery temp. is reasonable 2. Check if any malfunction of temp. sensors 3. Reduce the enviroment temp. to cool down battery or reduce the charging current.
W406	Discharge UT	Temperature is too low for discharge, which triggers the warning.	<ol style="list-style-type: none"> 1. Check if battery temp. is reasonable 2. Check if any malfunction of temp. sensors 3. Increase the enviroment temp. to warm up battery.
W407	Discharge OT	Temperature is too high for discharge, which triggers the warning.	<ol style="list-style-type: none"> 1. Check if battery temp. is reasonable 2. Check if any malfunction of temp. sensors 3. Reduce the enviroment temp. to cool down battery or reduce the discharging current.
W408	Charge OC	Temperature is too low for charge, which triggers the warning.	<ol style="list-style-type: none"> 1. Check if current limitation of battery decreases cause of temp, SOC, etc. 2. Check if invertererter does not charge according to current limitation 3. Reboot battery after checking or adjusting configuration of invertererter
W409	Discharge OC	Temperature is too high for charge, which triggers the warning.	<ol style="list-style-type: none"> 1. Check if current limitation of battery decreases cause of temp, SOC, etc. 2. Check if invertererter does not discharge according to current limitation 3. Reboot battery after checking or adjusting configuration of invertererter
W410	Battery Module UV	Battery module voltage is too high, which triggers the warning	<ol style="list-style-type: none"> 1. Check if there is any malfunction or incorrect configuration of invertererter, which leads to unstoppped discharging. 2. Check if load power is oversized. 3. Charge the battery immediately.
W411	Battery Module OV	Battery module voltage is too low, which triggers the warning	<ol style="list-style-type: none"> 1. Check if there is any malfunction or incorrect configuration of invertererter, which leads to inexecution protection according to charging voltage limitation. 2. Check if any unsuitable setting and/or configuration , which leads to inexecution of forced-discharging 3. Discharge the battery immediately.

Fault code	Name	System action	Handling measures
W412	BMU Offline	BMU in battery module is offline	Turn off battery and contact manufacturer after-sales for solution.
W413	BMCU Offline	BMCU in controller is offline	Turn off battery and contact manufacturer after-sales for solution.
W414	SN Change of Module	Battery module(s) changed	<ol style="list-style-type: none"> 1. Check if any battery module is removed or added 2. Check if SOC and voltage of all the battery modules are the same when added 3. Contact installer, distributor or manufacturer after-sales for confirmation and elimination.
W415	Abnormal Change of Cluster Voltage	Cluster voltage changes too much in 2s	<ol style="list-style-type: none"> 1. Check if power cable is connected correctly. 2. Check if abnormal change of voltage and SOC. 3. Reboot battery after removing anomalies. If problem remains, contact manufacturer after-sales for solution
W416	Abnormal Cluster ΔV	There is visible voltage deviation between clusters	<ol style="list-style-type: none"> 1. Check if power cable is connected correctly. 2. Check if abnormal change of voltage and SOC. 3. Check if battery mode and number in each cluster is the same. 4. Reboot battery after removing anomalies. If problem remains, contact manufacturer after-sales for solution
W417	Abnormal Module ΔV	There is visible voltage deviation between battery modules	<ol style="list-style-type: none"> 1. Check if power cable is connected correctly. 2. Check if abnormal change of voltage and SOC. 3. Reboot battery after removing anomalies. If problem remains, contact manufacturer after-sales for solution

7 Disposal

The energy storage cabinet contains batteries, please dispose of the equipment according to local requirements.



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