

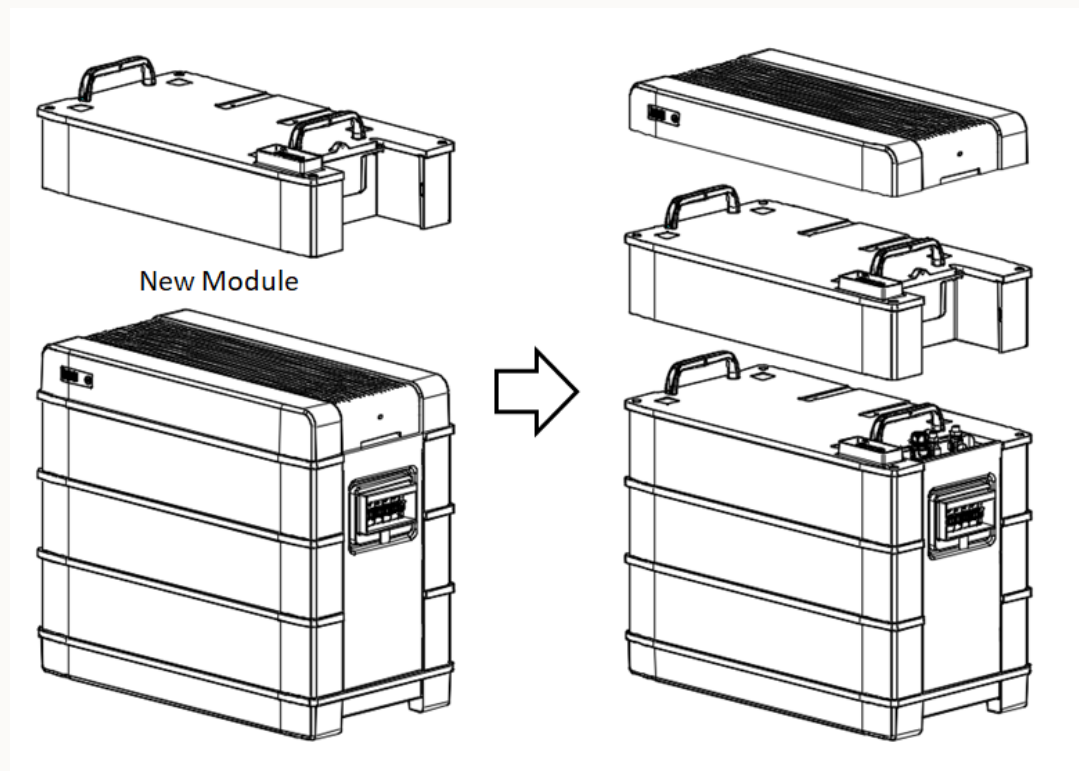
# SBR Battery Expansion in Series

Lecturer: Sungrow service

Date: 2021-12-Confidential



## Capacity expansion in series → SOC should be the same between the old and new



Before installing a new battery module, charge and discharge the battery onsite to ensure that the SOC of the battery onsite is consistent with the new battery module delivered by the installer.

Since the inconsistent SOC of the battery affects the charge and discharge capacity of the entire battery group, so called buckets effect.

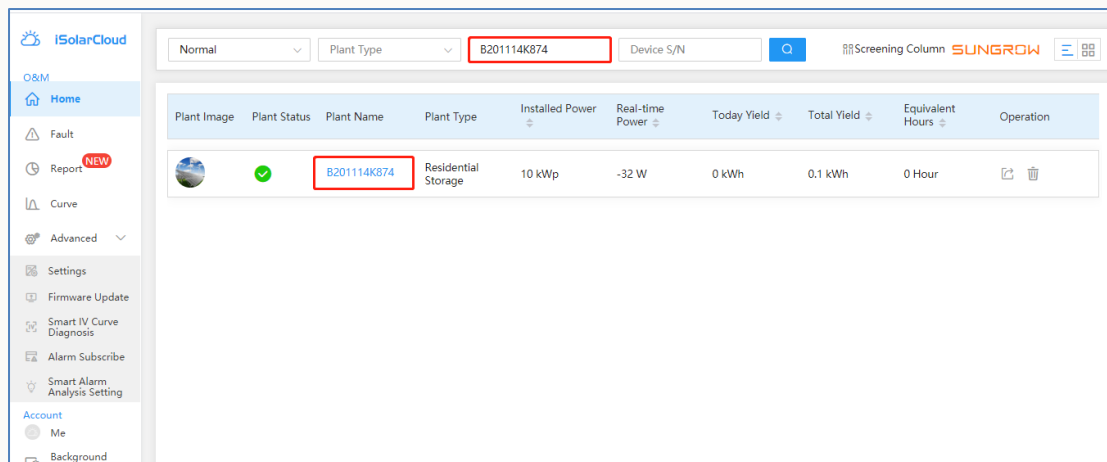
Our SBR battery has automatic equalization function, if the SOC difference is like 5% gap, the battery module can automatically equalize SOC gradually within several days.

## Select the correct energy storage station

Open the browser to enter the isolarcloud

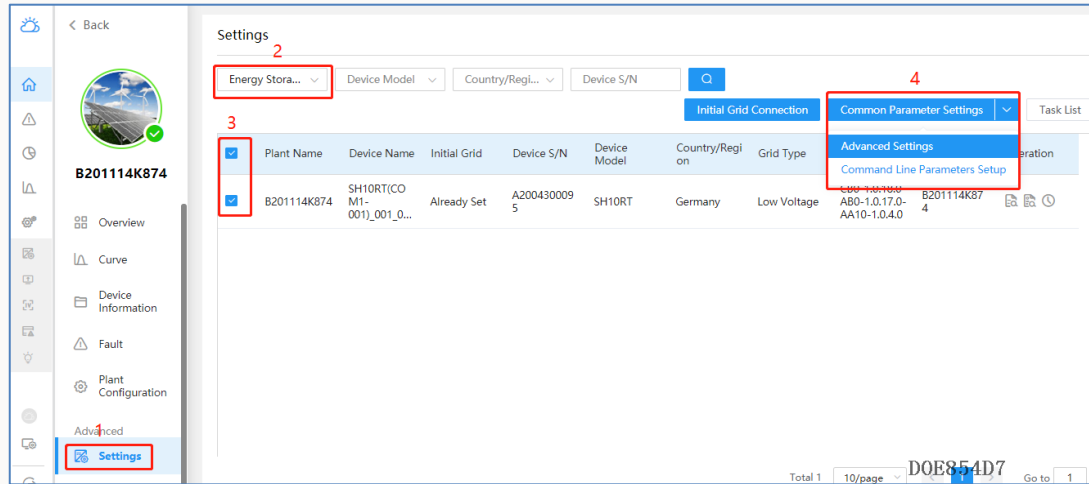


Log in using the corresponding O&M account, and select the onsite storage station that requires capacity expansion based on the power station name or device S/N

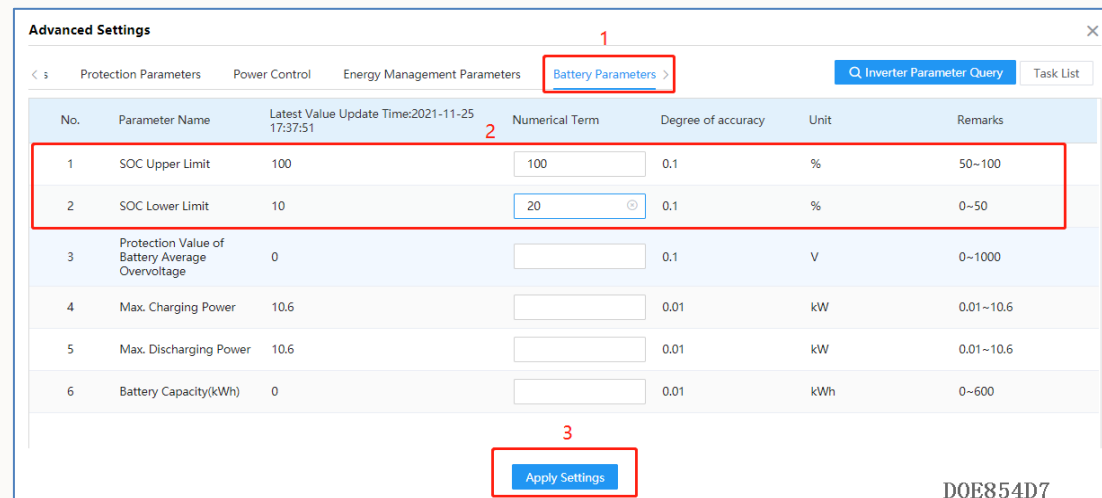


# Set the upper and lower limit SOC

1. Settings
2. Select the inverter type.
3. Select the power station.
4. Select Advanced Settings



## Set upper and lower limit SOC parameters based on requirements



## Charge or discharge to the SOC the same as the new module

Set the forced charge/discharge power as required

The screenshot shows the 'Advanced Settings' window with the 'Energy Management Parameters' tab selected. A table lists parameters for No. 1 through 4. The 'Energy Management Mode' parameter (No. 1) has a dropdown menu open, showing options: 'Please Select', 'Self-Consumption', 'Compulsory Mode', 'External Energy Dispatch VPP', and 'MicroGrid System Mode'. The 'Apply Settings' button is highlighted at the bottom of the window.

No.	Parameter Name	Latest Value	Update Time:2021-11-25 17:37:51	Numerical Term	Degree of accuracy	Unit	Remarks
1	Energy Management Mode	Compulsory Mode			--	--	--
2	Charging Start Power	0				kW	0~5
3	Discharging Start Power	0				kW	0~5
4	External EMS Heartbeat	0				s	1~1000

Time	Remain Estimate SOC
< 3 month	24.0%
3~4 month	23.0%
4~5 month	22.0%
5~6 month	21.0%
6~7 month	20.5%
7~8 month	20.0%
8~9 month	19.5%

EM	046	A	1	20	3	04	0001	A	A
				year	month	day			



Example: Assume that the SOC of the new battery module is 20%, and the battery on user site is 70%.

1. Set the upper limit to 100% and the lower limit to 20%, enter the forced mode.
2. **\*Select forced charge first and issue the command. After charging to 100%**, select forced discharge and issue the command. the battery will automatically discharge to 20% and stop.
3. Then the battery SOC on user site is the same as SOC of the new battery module 20%, so the installer can install the new battery module.

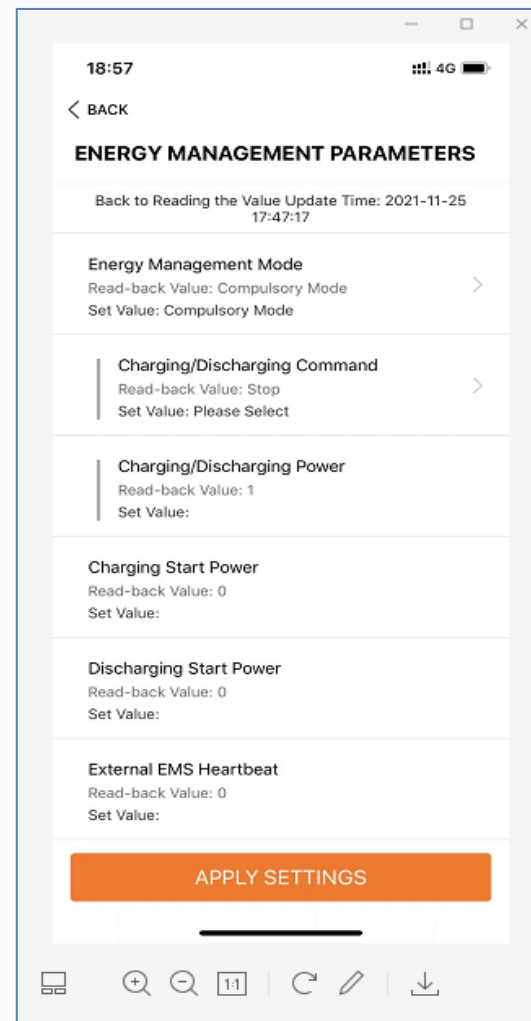
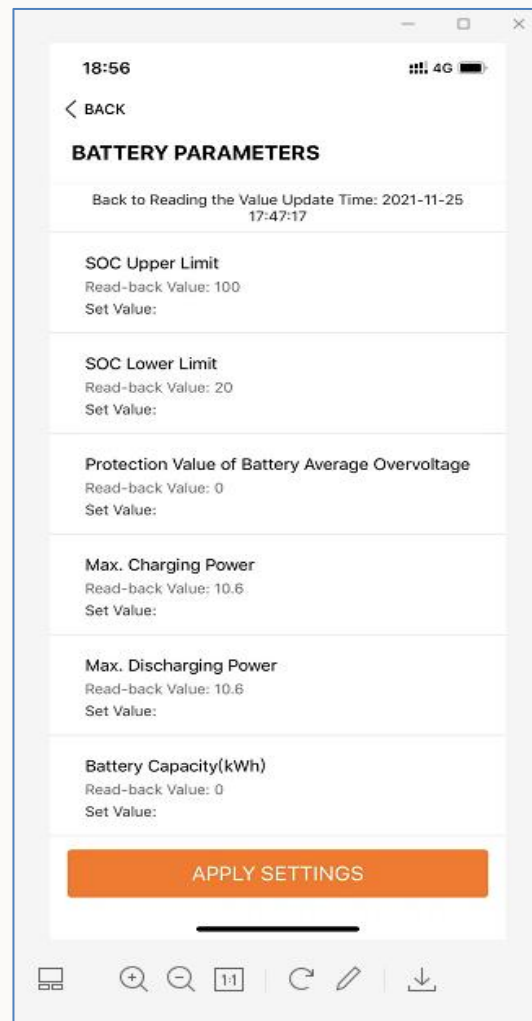
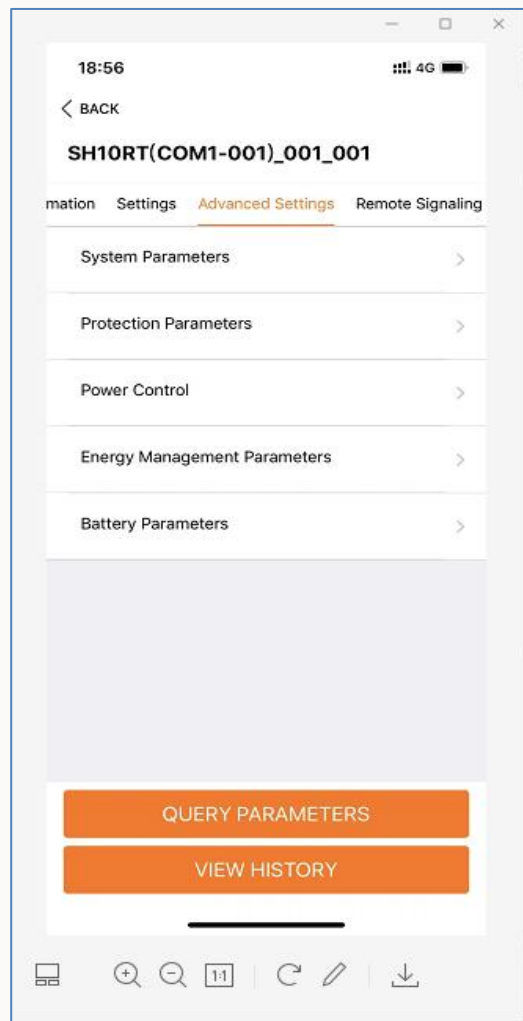
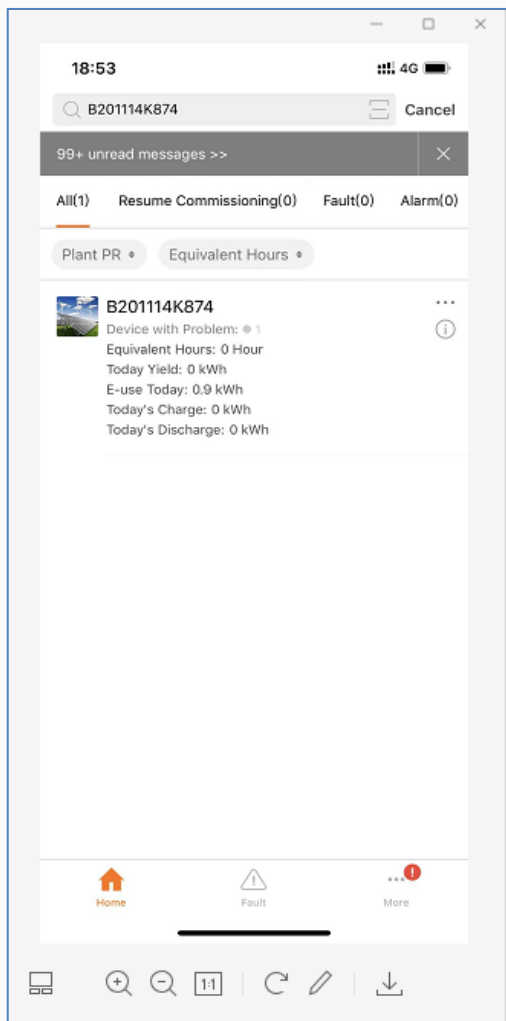
*\*A calibration is performed to improve the accuracy of SOC, but it takes some time; Alternatively, the calibration step can be omitted and the target SOC value can be directly set and charged or discharged to the target SOC.*

Stop the forced charge/discharge. Select stop for the charge/discharge command.

No.	Parameter Name	Latest Value	Update Time:2021-11-25 17:37:51	Numerical Term	Degree of accuracy	Unit	Remarks
1	Energy Management Mode	Compulsory Mode		Compulsory M...	--	--	--
1-1	Charging/Discharging Command	Stop		Please Select	--	--	--
1-2	Charging/Discharging Power	1		Please Select	0.01	kW	0~10.6
2	Charging Start Power	0		Charge	0.01	kW	0~5
3	Discharging Start Power	0		Discharge	0.01	kW	0~5
4	External EMS Heartbeat	0		Stop	1	s	1~1000

Reset SOC upper and lower limits to the original default values (SOC upper limit 100%, SOC lower limit 10%)

No.	Parameter Name	Latest Value	Update Time:2021-11-25 17:47:17	Numerical Term	Degree of accuracy	Unit	Remarks
1	SOC Upper Limit	100		100	0.1	%	50~100
2	SOC Lower Limit	20		10	0.1	%	0~50
3	Protection Value of Battery Average Overvoltage	0			0.1	V	0~1000
4	Max. Charging Power	10.6			0.01	kW	0.01~10.6
5	Max. Discharging Power	10.6			0.01	kW	0.01~10.6
6	Battery Capacity(kWh)	0			0.01	kWh	0~600



THANK YOU!