

Increase battery capacity by adding additional battery modules

During operation of your storage system, it might become apparent that additional consumers might require you to extend the battery capacity. You can add one or more battery modules using the following procedure.



Please note that a maximum of 6 battery modules can be added to the RCT Power storage.

Extend your system in 3 steps:

- 1 Preparing the existing battery system
- 2 Adding additional battery stacks
- 3 Calibrating the new system

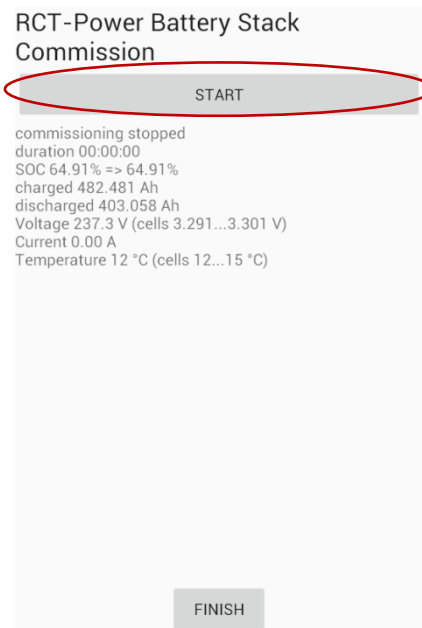
1.1 Preparing the existing battery system

As a first step, the battery modules are required to be charged to a SOC of 100%. They are then discharged to a SOC of 50%. This ensures that they have a defined SOC value matching the standard delivery SOC of the expansion module(s). The time required for this process step is approx. 2-3 hours, depending on the initial state of charge.

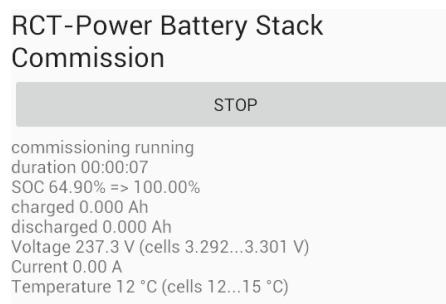
The first step can be started by the end consumer. It can avoid unnecessary waiting times for the installer on site.

Step	Description
1	Launch "RCT Power APP" and establish connection to the inverter
2	Press the Set-up icon "  ". 
3	Tap on "LOGIN" Enter the password in the dialogue box and press "OK" to enter the configuration options screen. (Login Customer Area, password: "*****")
4	Select "MAINTENANCE AND TEST" and then "BATTERY EXTENSION". 

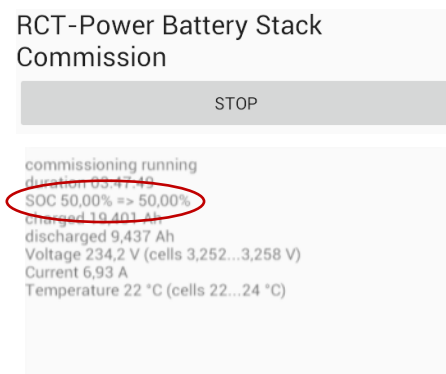
- 5 The menu item "RCT-Power Battery Stack Commission" will be displayed. Press "START" to start the calibration.



The existing battery stack will now fully charge (SOC of 100%) and then automatically discharge to a SOC of 50%.



- 6 After the discharge process has completed the system is held in the state " SOC 50% => 50% ".



The following process steps should be carried out by a qualified technician if possible.

ATTENTION, PLEASE:



The system automatically switches back into compensation mode after 36 hours. Ensure that you have either completed the battery extension or have switched off the system.

- 7 Press "STOP" to return the system to normal compensation mode after the calibration has completed. Then press "FINISH" to complete the process.



After the system has returned to compensation mode, immediately switch off the battery and inverter.

(DC switch for Power Storage DC/mains fuse for Power Storage AC)

RCT-Power Battery Stack Commission

STOP

commissioning running
duration 03:47:49
SOC 50,00% => 50,00%
charged 19,401 Ah
discharged 9,437 Ah
Voltage 234,2 V (cells 3,252...3,258 V)
Current 6,93 A
Temperature 22 °C (cells 22...24 °C)

RCT-Power Battery Stack Commission

START

commissioning stopped
duration 04:16:51
SOC 50,12% => 97,00%
charged 19,434 Ah
discharged 12,334 Ah
Voltage 236,7 V (cells 3,286...3,289 V)
Current -1,41 A
Temperature 22 °C (cells 22...24 °C)

FINISH

1.2 Adding additional battery stacks

Now additional battery modules can be added to the existing battery stack.

(The total maximum number of modules in the stack = 6.)

Connect the new modules to the existing modules as described in the instructions. Ensure battery cable and CAN connectors are correctly wired.

Depending on the mounting location of the inverter it might become necessary to move the inverter's wall mounting brackets upwards.

After the wiring is completed and the new modules are integrated into the existing battery stack, the inverter and the BMS can be switched on again.



The BMS will now automatically update the new modules to the latest software version. This is indicated by the LED lights of the BMS-master device which are flashing alternately between red and green.

After the software update has been completed, the initialisation process starts (LED colour = "orange"). Once this process is completed, the LED colour changes to "green" and the battery is being connected to the inverter.

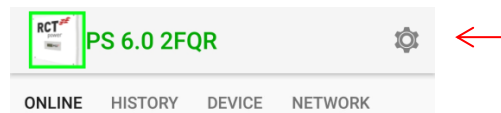
1.3 Calibrating the new system

Continue to complete the extension:

Step	Description
------	-------------

1	Launch "RCT Power APP" and establish connection to the inverter.
---	--

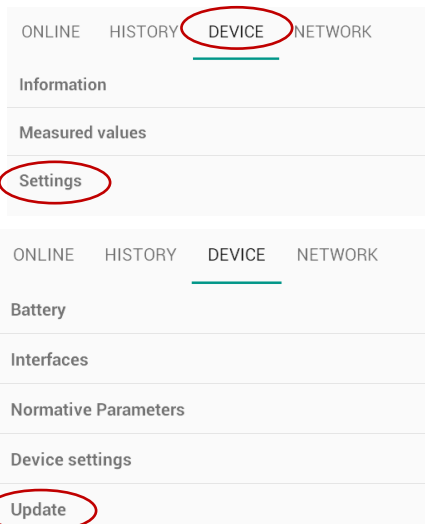
2	Press the Set-up icon "  ".
---	--



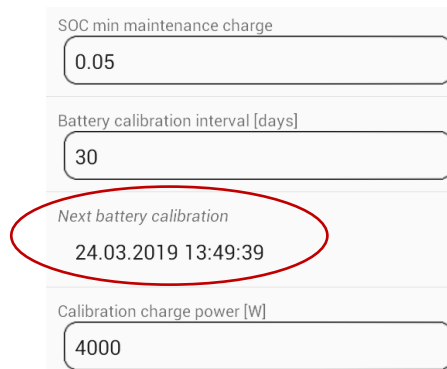
3	Tap on "LOGIN" Enter the password in the dialogue box and press "OK" to enter the configuration options screen.
---	---

(Login Installer Area, password: "installer",
Login Customer Area, password: "*****")

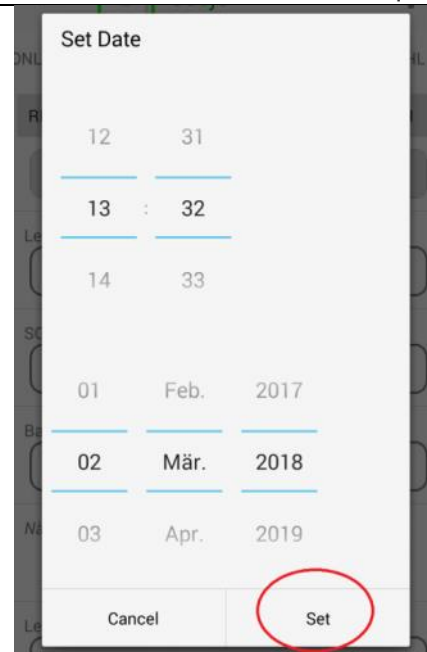
4	Follow this menu path "DEVICE" → "Settings" → "Battery"
---	---



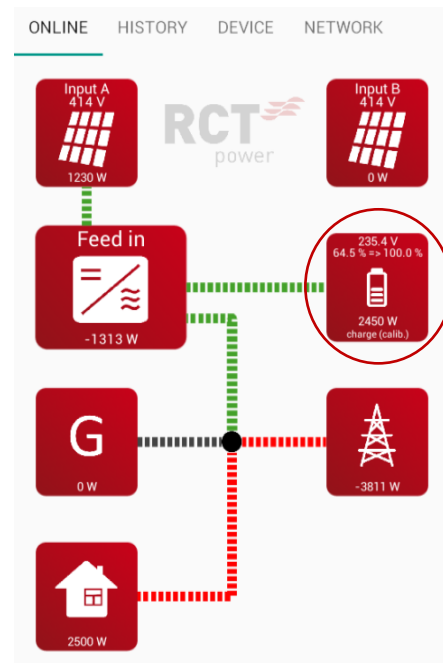
5	In the Battery menu, scroll down to "Next battery calibration" and tap the date line.
---	---



Select a time or date that is in the past and press "Set" to trigger the calibration.



- 6 The system will now begin calibration. You can check progress in the RCT Power APP. In the Menu "ONLINE" check the Battery Icon for the notification message "charge (calib.);" and the SOC target value 100%.



The battery capacity extension is now complete and after a successful calibration run, the system will switch to compensation mode.