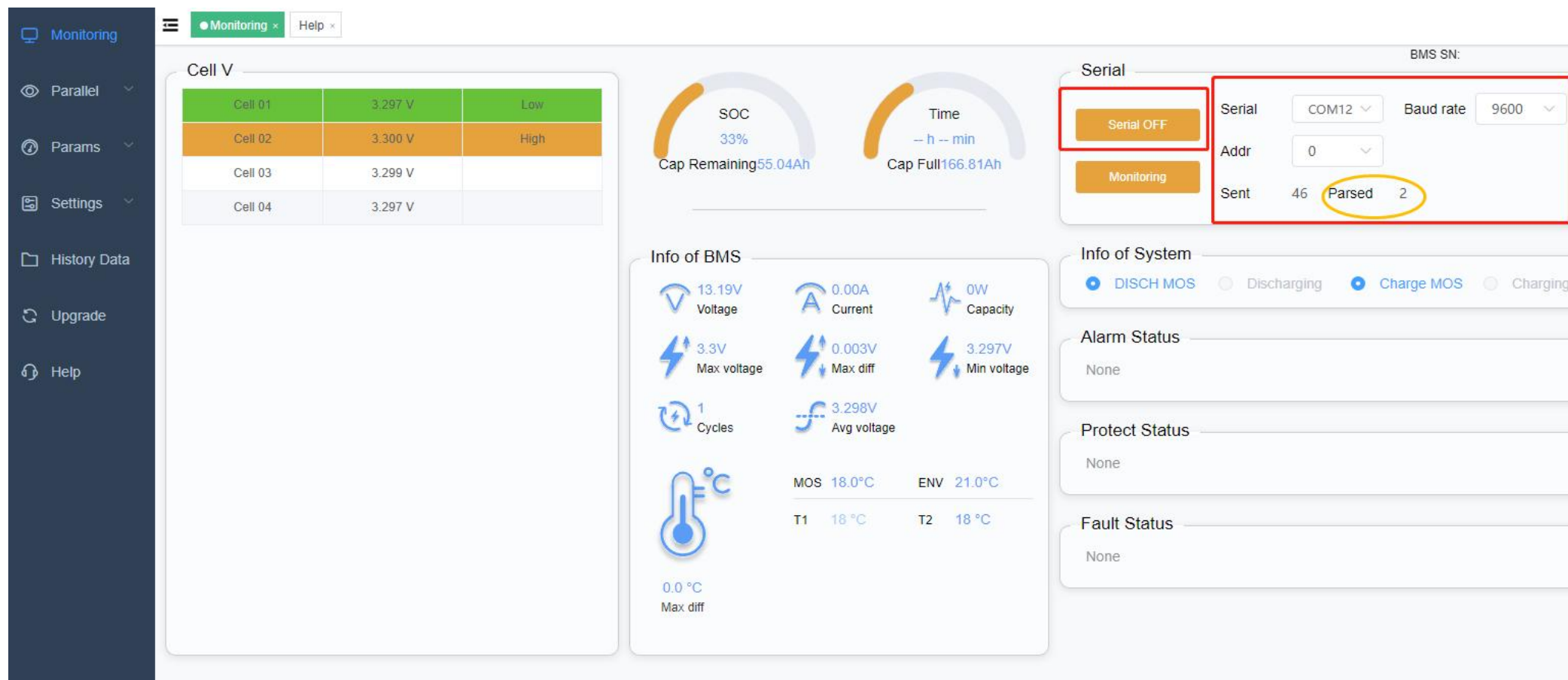
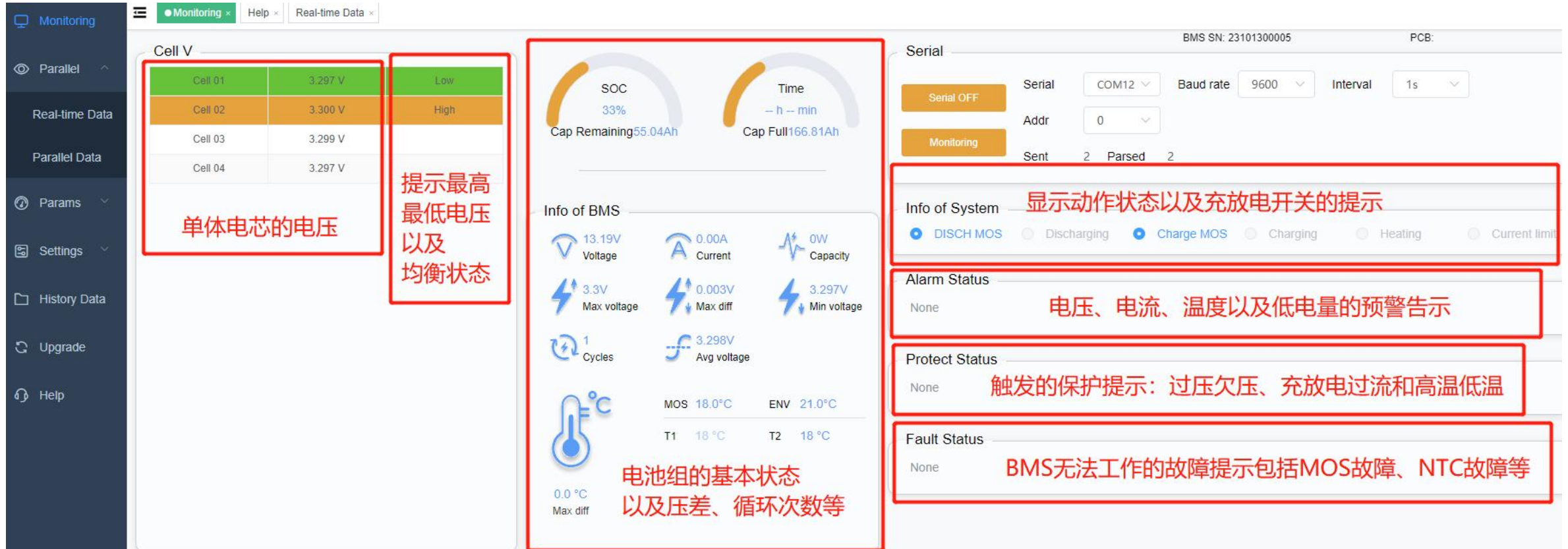




1. Connect the RJ45 port to RJ45-2 or RJ45-3, connect the USB to the computer, enable the monitoring software, open the communication serial port of the corresponding RS485 device, select the correct baud rate (9600) and dial address (the baud rate and address number shall be subject to the actual BMS product specification, generally the single-machine address is selected: 0), and finally click Open Serial Port to communicate normally with the BMS and obtain basic parameters. When the communication is normal, the parsing success value will increase.



2. Once the BMS communicates with the host computer, it can monitor the basic parameters and status of the BMS in real time. This information includes battery voltage, current, SOC, SOH, cycle count, switch status, battery temperature, alarm status, protection status, and fault status.

Monitoring
Parallel
Real-time Data
Parallel Data
Params
Params 1
ParamsOpt
Settings
History Data
Upgrade
Help

Monitoring x Params 1 x Real-time Data x Parallel Data x

Monitoring Clear data Export the data

2023-12-20 00:00:00 - 2023-12-20 15:45:39 Get Real-time Clear data base

BMS SN: PCB: Set field Auto Scroll

No	time	Total volt...	Total curr...	SOC(%)	SOH(%)	Full capacity...	The remaini...	The num...	Env TEMP(°C)	MOS TEMP(°C)	Alert status	PROT state	Fault status	Cell Nur
26	2023-12-20 15:46:06	13.19	0.00	33.00	100	166.81	55.04	1.0	22.0	18.0				4
27	2023-12-20 15:46:07	13.19	0.00	33.00	100	166.81	55.04	1.0	22.0	18.0				4
28	2023-12-20 15:46:08	13.18	-1.09	32.99	100	166.81	55.04	1.0	22.0	18.0				4
29	2023-12-20 15:46:09	13.18	-2.09	32.99	100	166.81	55.04	1.0	22.0	18.0				4
30	2023-12-20 15:46:10	13.18	-2.18	32.99	100	166.81	55.04	1.0	22.0	18.0				4
31	2023-12-20 15:46:11	13.18	-2.14	32.99	100	166.81	55.04	1.0	22.0	18.0				4
32	2023-12-20 15:46:12	13.18	-2.10	32.99	100	166.81	55.04	1.0	22.0	18.0				4
33	2023-12-20 15:46:13	13.18	-2.03	32.99	100	166.81	55.04	1.0	22.0	18.0				4
34	2023-12-20 15:46:14	13.18	-1.98	32.99	100	166.81	55.04	1.0	22.0	18.0				4
35	2023-12-20 15:46:15	13.18	-1.92	32.99	100	166.81	55.04	1.0	22.0	18.0				4
36	2023-12-20 15:46:16	13.18	-1.89	32.99	100	166.81	55.04	1.0	22.0	18.0				4

3. Real-time data monitoring: Click to start monitoring, you can monitor the BMS data display and storage in real time, and can also export it to Excel Table data format.

Monitoring
Parallel
Real-time Data
Parallel Data
Params
Params 1
ParamsOpt
Settings
History Data
Upgrade
Help

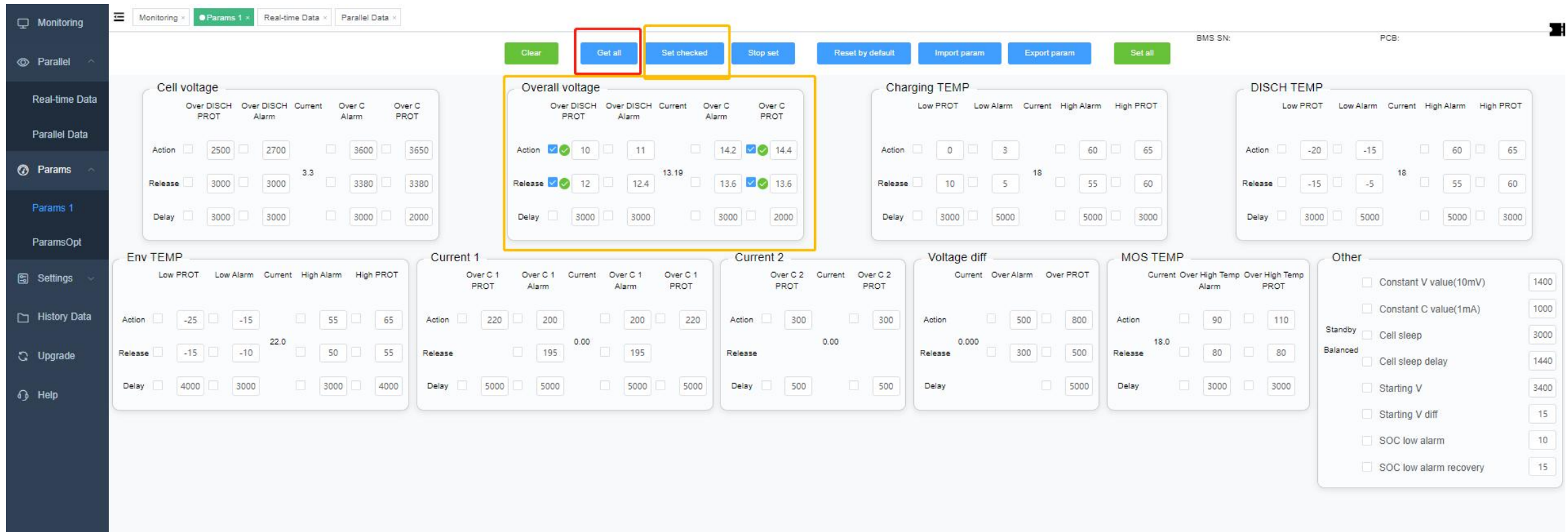
Monitoring x Params 1 x Real-time Data x Parallel Data x

Monitoring Clear data Export the data Set field Continue Fixed Auto Scroll

BMS SN: PCB: Start from 0 End of 4 Current Addr 4

No	time	PACK	Total volt...	Total curr...	SOC(%)	SOH(%)	Full capacity...	The remaini...	The num...	Env TEMP(°C)	MOS TEMP(°C)	Current state	Alert status	PROT state
1	2023-11-06 15:00:45	0	13.09	10.02	99.99	100	150.00	149.98	0.0	31.0	29.0	有true, 无false, ...		
2	2023-11-06 15:00:48	0	13.09	10.04	99.99	100	150.00	149.98	0.0	31.0	29.0	有true, 无false, ...		
3	2023-11-06 15:00:49	0	13.09	10.02	99.99	100	150.00	149.98	0.0	31.0	29.0	有true, 无false, ...		
4	2023-11-06 15:00:50	0	13.09	10.04	99.99	100	150.00	149.98	0.0	31.0	29.0	有true, 无false, ...		
5	2023-11-06 15:00:51	0	13.09	10.05	99.99	100	150.00	149.98	0.0	31.0	29.0	有true, 无false, ...		
6	2023-11-06 15:00:53	0	13.09	10.02	99.99	100	150.00	149.98	0.0	31.0	29.0	有true, 无false, ...		
7	2023-11-06 15:00:54	0	13.09	10.03	99.99	100	150.00	149.98	0.0	31.0	29.0	有true, 无false, ...		
8	2023-11-06 15:00:54	0	13.09	10.04	99.99	100	150.00	149.98	0.0	31.0	29.0	有true, 无false, ...		
9	2023-11-06 15:00:55	0	13.09	10.04	99.99	100	150.00	149.98	0.0	31.0	29.0	有true, 无false, ...		
10	2023-11-06 15:00:56	0	13.09	10.03	99.99	100	150.00	149.98	0.0	31.0	29.0	有true, 无false, ...		
11	2023-11-06 15:00:57	0	13.09	10.03	99.99	100	150.00	149.98	0.0	31.0	29.0	有true, 无false, ...		

Multiple groups of parallel data: Click to start monitoring, you need to manually set the start and end addresses of the PACK to be monitored, you can Monitor multiple groups of PACK real-time data, and compare and display the data of each group of battery packs. It can also be exported to Excel Table data format.



The screenshot displays the 'Params 1' configuration page of the Docan BMS interface. The top navigation bar includes 'Monitoring', 'Parallel', 'Real-time Data', and 'Parallel Data'. The 'Params 1' section is active, showing various parameter settings. The 'Overall voltage' section is highlighted with an orange box, and the 'Get all' button is highlighted with a red box. The 'Set checked' button is highlighted with a yellow box. The 'Overall voltage' section contains the following parameters:

Over DISCH PROT	Over DISCH Alarm	Current	Over C Alarm	Over C PROT
Action ☐	2500 ☐	2700 ☐	3600 ☐	3650 ☐
Release ☐	3000 ☐	3000 ☐	3380 ☐	3380 ☐
Delay ☐	3000 ☐	3000 ☐	3000 ☐	2000 ☐

The 'Charging TEMP' section contains the following parameters:

Low PROT	Low Alarm	Current	High Alarm	High PROT
Action ☐	0 ☐	3 ☐	60 ☐	65 ☐
Release ☐	10 ☐	5 ☐	55 ☐	60 ☐
Delay ☐	3000 ☐	5000 ☐	5000 ☐	3000 ☐

The 'DISCH TEMP' section contains the following parameters:

Low PROT	Low Alarm	Current	High Alarm	High PROT
Action ☐	-20 ☐	-15 ☐	60 ☐	65 ☐
Release ☐	-15 ☐	-5 ☐	55 ☐	60 ☐
Delay ☐	3000 ☐	5000 ☐	5000 ☐	3000 ☐

The 'Env TEMP' section contains the following parameters:

Low PROT	Low Alarm	Current	High Alarm	High PROT
Action ☐	-25 ☐	-15 ☐	55 ☐	65 ☐
Release ☐	-15 ☐	-10 ☐	50 ☐	55 ☐
Delay ☐	4000 ☐	3000 ☐	3000 ☐	4000 ☐

The 'Current 1' section contains the following parameters:

Over C 1 PROT	Over C 1 Alarm	Current	Over C 1 Alarm	Over C 1 PROT
Action ☐	220 ☐	200 ☐	200 ☐	220 ☐
Release ☐	195 ☐	195 ☐	195 ☐	195 ☐
Delay ☐	5000 ☐	5000 ☐	5000 ☐	5000 ☐

The 'Current 2' section contains the following parameters:

Over C 2 PROT	Current	Over C 2 PROT
Action ☐	300 ☐	300 ☐
Release ☐	0.00 ☐	0.00 ☐
Delay ☐	500 ☐	500 ☐

The 'Voltage diff' section contains the following parameters:

Current	Over Alarm	Over PROT
Action ☐	500 ☐	800 ☐
Release ☐	0.000 ☐	300 ☐
Delay ☐	5000 ☐	5000 ☐

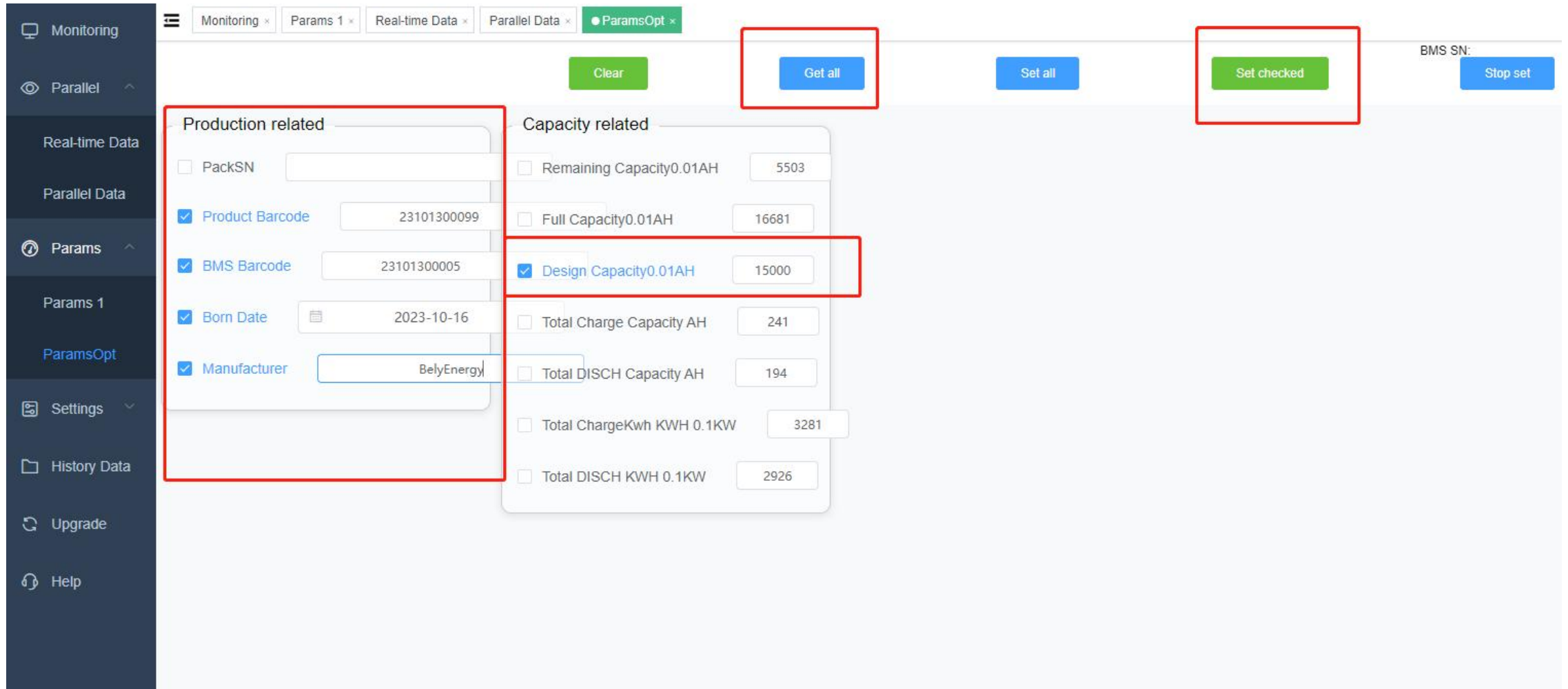
The 'MOS TEMP' section contains the following parameters:

Current	Over High Temp Alarm	Over High Temp PROT
Action ☐	90 ☐	110 ☐
Release ☐	18.0 ☐	80 ☐
Delay ☐	3000 ☐	3000 ☐

The 'Other' section contains the following parameters:

Parameter	Value
Constant V value(10mV)	1400
Constant C value(1mA)	1000
Standby Cell sleep	3000
Balanced Cell sleep delay	1440
Starting V	3400
Starting V diff	15
SOC low alarm	10
SOC low alarm recovery	15

4. Basic Parameters: When entering the interface for the first time, click Read All to obtain the basic BMS setting parameters. This section includes functions such as reading basic parameter information, restoring default parameters, writing a single parameter, writing all parameters, importing parameters, and exporting parameters (manually writing and modifying default information parameters is not recommended). Check the parameters to be modified and click Write to select them. A green ✓ will appear when the modification is successful. (If required, the password is: 666666, or 654123)



Monitoring x Params 1 x Real-time Data x Parallel Data x ParamsOpt x

Clear Get all Set all Set checked Stop set

BMS SN:

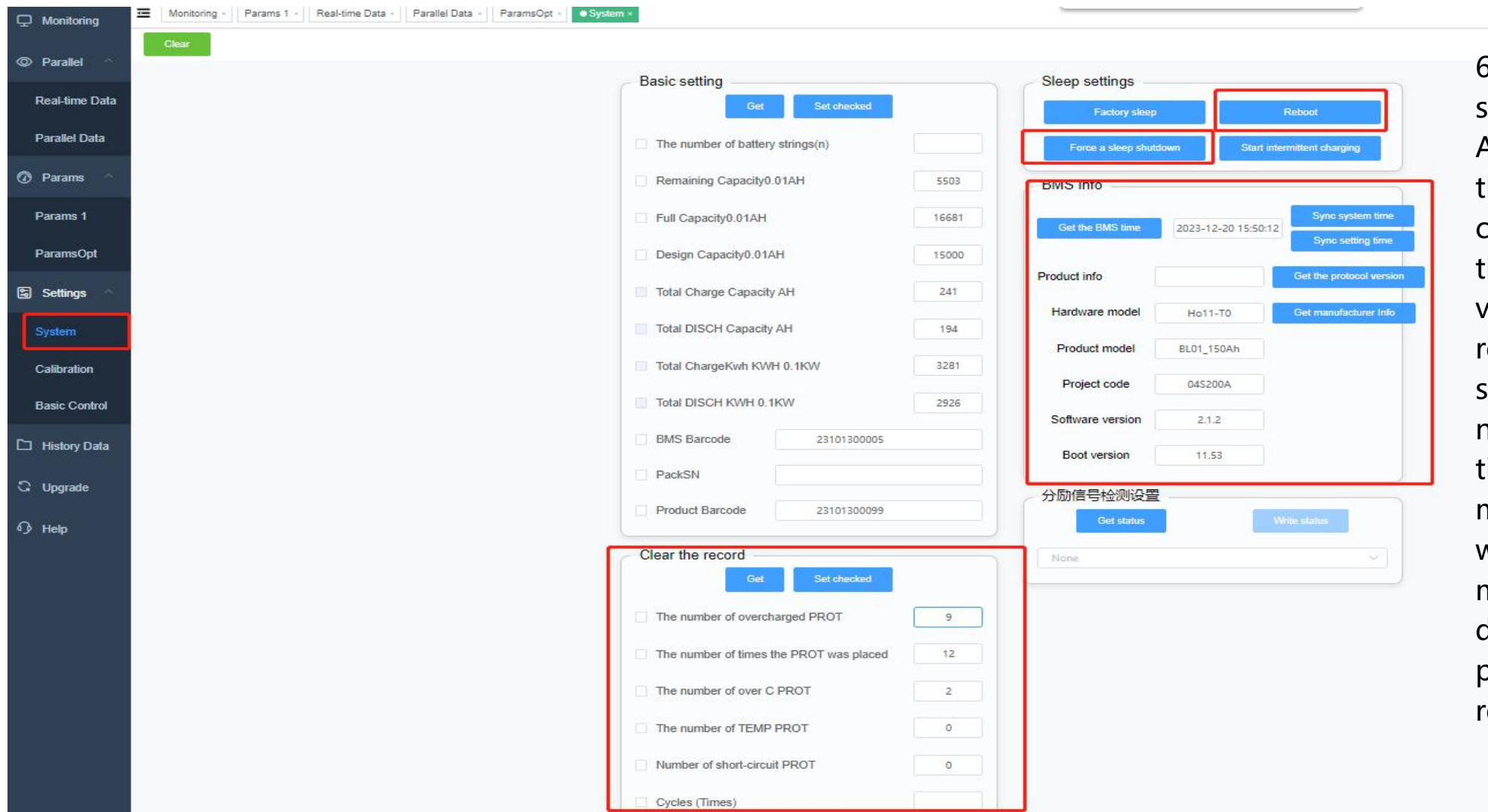
Production related

- ☐ PackSN
- ☒ Product Barcode 23101300099
- ☒ BMS Barcode 23101300005
- ☒ Born Date 2023-10-16
- ☒ Manufacturer BelyEnergy

Capacity related

- ☐ Remaining Capacity0.01AH 5503
- ☐ Full Capacity0.01AH 16681
- ☒ Design Capacity0.01AH 15000
- ☐ Total Charge Capacity AH 241
- ☐ Total DISCH Capacity AH 194
- ☐ Total ChargeKwh KWH 0.1KW 3281
- ☐ Total DISCH KWH 0.1KW 2926

5. Click Read All to view and modify the merchant name, display date, model, Bluetooth ID name, and nominal capacity (design capacity). (No modification is required for remaining, fully charged, and other capacities unless otherwise specified)



The screenshot shows the 'System' parameter settings page. The sidebar on the left has a 'System' option highlighted with a red box. The main content area is divided into several sections:

- Basic setting:** Contains fields for battery strings, capacity, and design capacity. It also has checkboxes for 'The number of battery strings(n)', 'Remaining Capacity0.01AH', 'Full Capacity0.01AH', 'Design Capacity0.01AH', 'Total Charge Capacity AH', 'Total DISCH Capacity AH', 'Total ChargeKwh KWH 0.1KW', and 'Total DISCH KWH 0.1KW'. There are also fields for 'BMS Barcode', 'PackSN', and 'Product Barcode'.
- Sleep settings:** Contains buttons for 'Factory sleep', 'Reboot', 'Force a sleep shutdown', and 'Start intermittent charging'. The 'Reboot' button is highlighted with a red box.
- BMS info:** Contains buttons for 'Get the BMS time', 'Sync system time', 'Sync setting time', 'Get the protocol version', and 'Get manufacturer info'. It also displays fields for 'Product info', 'Hardware model', 'Product model', 'Project code', 'Software version', and 'Boot version'.
- Product info:** Contains fields for 'Hardware model', 'Product model', 'Project code', 'Software version', and 'Boot version'.
- Clear the record:** Contains checkboxes for 'The number of overcharged PROT', 'The number of times the PROT was placed', 'The number of over C PROT', 'The number of TEMP PROT', 'Number of short-circuit PROT', and 'Cycles (Times)'. This section is highlighted with a red box.

6. System parameter settings: Click Read All when entering for the first time. This content can monitor the BMS system version information, restart the BMS, click sleep, and record the number of protection times triggered by modification (manual writing and modification of default information parameters is not recommended)

Monitoring

Parallel

Real-time Data

Parallel Data

Params

Params 1

ParamsOpt

Settings

System

Calibration

Basic Control

Monitoring ×

Params 1 ×

Real-time Data ×

Parallel Data ×

ParamsOpt ×

System ×

● Calibration ×

C coefficient

CHG Coefficient1.0033GetSet

DISCH Coefficient1.0033GetSet

Current calibration

BMS SN:

Standby current (A)CalibrationUndo Simple

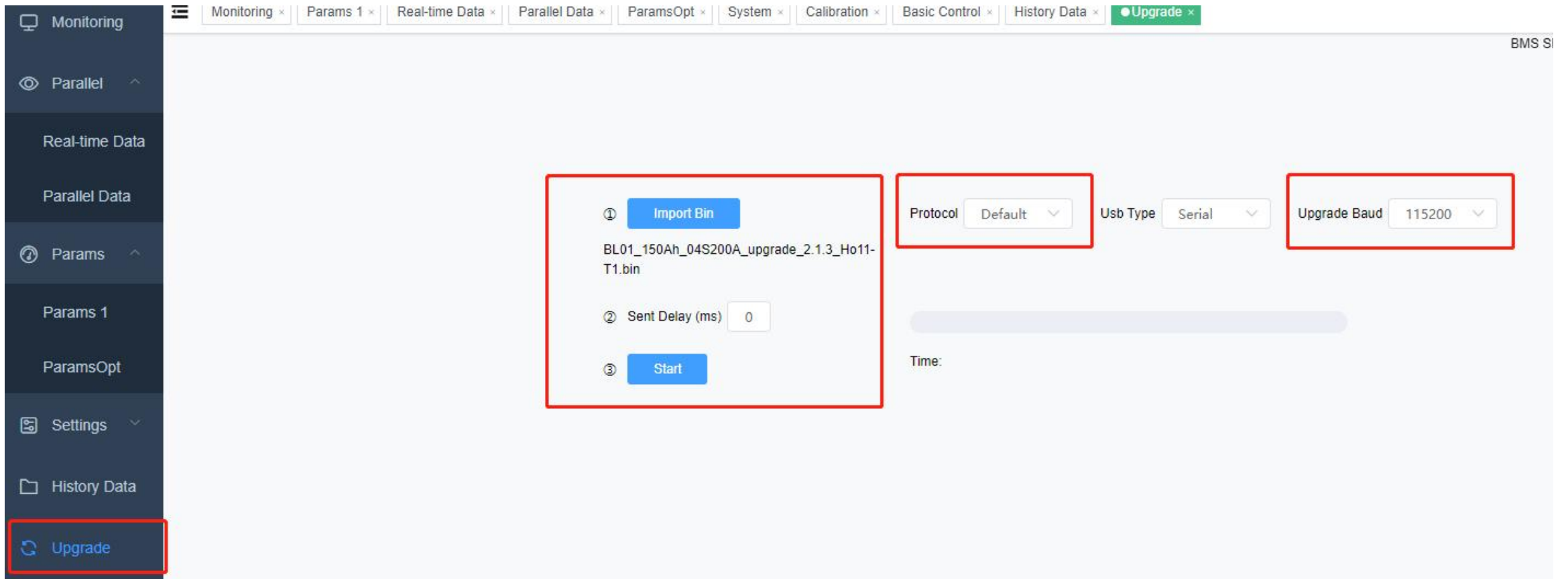
Charge C≤5 (A)CalibrationUndo Simple

Charge C > 5 (A)CalibrationUndo Simple

DISCH C≤5 (A)CalibrationUndo Simple

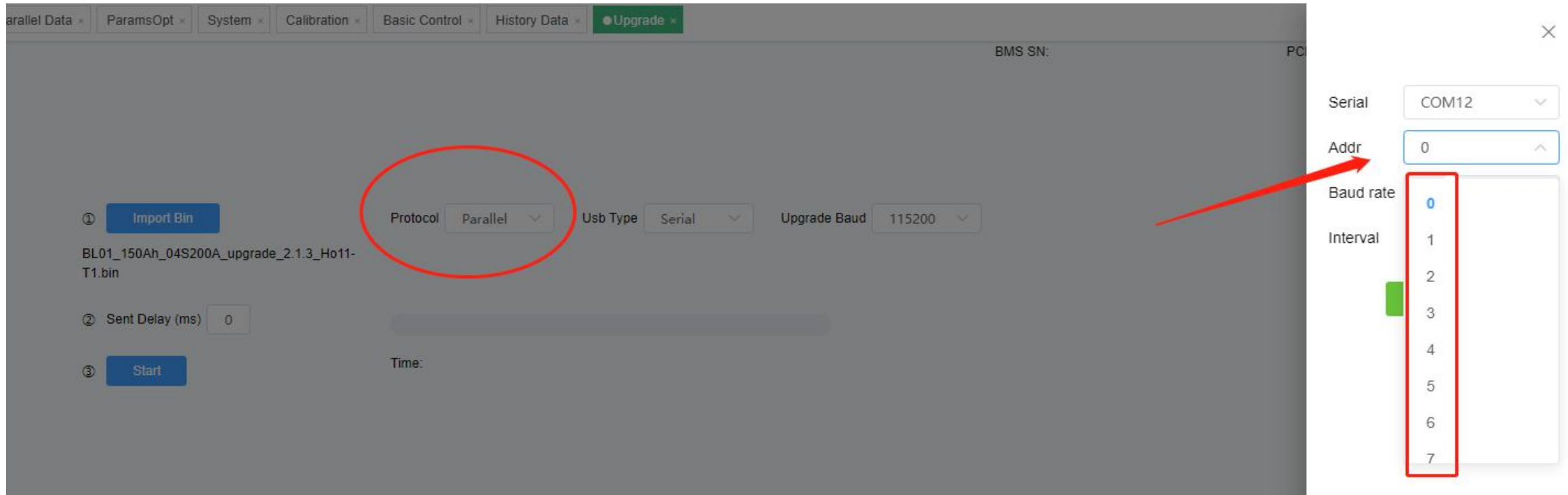
DISCH C > 5 (A)CalibrationUndo Simple

Data calibration: Here is the BMS data parameter calibration content (all calibrated before leaving the factory, private calibration is not recommended)



The screenshot displays the 'Upgrade' tab in the Docan BMS software. The sidebar on the left contains navigation icons for Monitoring, Parallel, Real-time Data, Parallel Data, Params, Params 1, ParamsOpt, Settings, History Data, and Upgrade. The main interface area shows the upgrade configuration. A red box highlights the 'Import Bin' button and the file path 'BL01_150Ah_04S200A_upgrade_2.1.3_Ho11-T1.bin'. Another red box highlights the 'Protocol' dropdown set to 'Default', the 'Usb Type' dropdown set to 'Serial', and the 'Upgrade Baud' dropdown set to '115200'. A third red box highlights the 'Start' button. Below these, there is a 'Sent Delay (ms)' input field set to '0' and a progress bar labeled 'Time:'.

7. Online Upgrade: Supports online BMS software upgrades. Upgrades are divided into standalone and parallel upgrades. Before upgrading, you must confirm that the BMS and the host computer are communicating normally. For standalone upgrades: First, click Import Bin, select the upgrade file provided by the manufacturer, select Default for Protocol, select Serial Communication for Communication Type, and select 115200 for Baud Rate. Finally, click Start Upgrade. Wait for a while until the upgrade data bar displays 100% and the BMS is booting and working normally, indicating that the upgrade is complete. (Important)



Parallel Upgrade: When upgrading slave 1 , the host computer must select the same dial-up address as the slave's BMS and ensure normal communication. Ensure the slave and host are connected via RS485 . First, click Import Bin, select the manufacturer's upgrade file, select the Parallel protocol, select serial communication for communication type, and select 115200 for the upgrade baud rate . Finally, click Start Upgrade. Wait for a moment until the upgrade data bar displays 100% and the BMS boots and functions normally, indicating the upgrade is complete. (Important)

for slave 2 is the same as the previous step. The host computer selects the same DIP switch address as the slave BMS and ensures that the slave and host are connected via the RS485 communication line. Then, follow the upgrade steps. The same procedure applies to other slaves.

Monitoring
Parallel
Real-time Data
Parallel Data
Params
Params 1
ParamsOpt
Settings
History Data
Upgrade
Help

Monitoring x
Params 1 x
Real-time Data x
Parallel Data x
ParamsOpt x
System x
Calibration x
Basic Control x
History Data x
Upgrade x

Stop Read

Clear Page

Export

Interval(min)

Get

Set

Delete Data

BMS SN:

PCB:

Set field

☐ Auto Scroll

No	PACK	time	EventRecord	Total volt...	Total curr...	SOC(%)	SOH(%)	Full capacit...	Env TEMP(...	MOS TEMP...	Alarm sign bit	PROT the flag bit	Cell N...	V difference...	battery0
1	0	2023-12-20 15:44:20	System run	13.10	0.00	33.00	100.00	166	22.00	18.00			4	3	3.297
2	0	2023-12-20 14:54:04	System run	13.10	0.00	33.00	100.00	166	21.00	18.00			4	3	3.297
3	0	2023-12-20 14:02:42	System run	13.10	0.00	33.00	100.00	166	22.00	18.00			4	3	3.298
4	0	2023-12-20 13:44:14	System run	13.10	0.00	33.00	100.00	166	22.00	18.00			4	3	3.298
5	0	2023-12-20 12:58:27	Time recording	13.10	0.00	32.90	100.00	166	22.00	18.00			4	4	3.298
6	0	2023-12-20 11:58:41	System run	13.10	0.00	33.00	100.00	166	21.00	18.00			4	3	3.298
7	0	2023-12-20 11:10:21	Time recording	13.10	0.00	32.90	100.00	166	21.00	18.00			4	4	3.298
8	0	2023-12-20 10:10:35	Time recording	13.10	0.00	32.90	100.00	166	21.00	18.00			4	3	3.298
9	0	2023-12-20 09:10:49	Time recording	13.10	0.00	33.00	100.00	166	21.00	18.00			4	3	3.298
10	0	2023-12-20 08:11:02	Time recording	13.10	0.00	33.00	100.00	166	20.00	18.00			4	3	3.298
11	0	2023-12-20 07:11:15	Time recording	13.10	0.00	33.00	100.00	166	20.00	18.00			4	3	3.299

8. Historical Data: Click Read Data to obtain real-time BMS basic data history and view basic PACK data information. You can also export data for viewing.

Monitoring

Parallel

Real-time Data

Parallel Data

Params

Params 1

ParamsOpt

Settings

History Data

Upgrade

Help

Monitoring

Params 1

Real-time Data

Parallel Data

ParamsOpt

System

Calibration

Basic Control

History Data

Upgrade

Help

语言 language English

PassWord ***** Verify

Phone

Document Link

Update Config Clear Cache Check All Clear

Phone

间隔选项 (多个间隔请以','分隔) 0.5,1,2

Protocol 1363 pylon1363 BackupPower

1363 Name 1363 pylon1363 Name pylon1363 BackupPower Name BackupPower

SOC precision 2 addr max 64

语言 English

BMS版本显示 完整 简短

系统参数SN显示 显示SN20 显示SN30

9. Help: You can directly switch between Chinese and English interfaces. When you need to update the interface configuration, you must first enter the password (654789) to change the configuration of the page display information and select the communication protocol. After completing the selection, click Update Configuration to complete the operation.