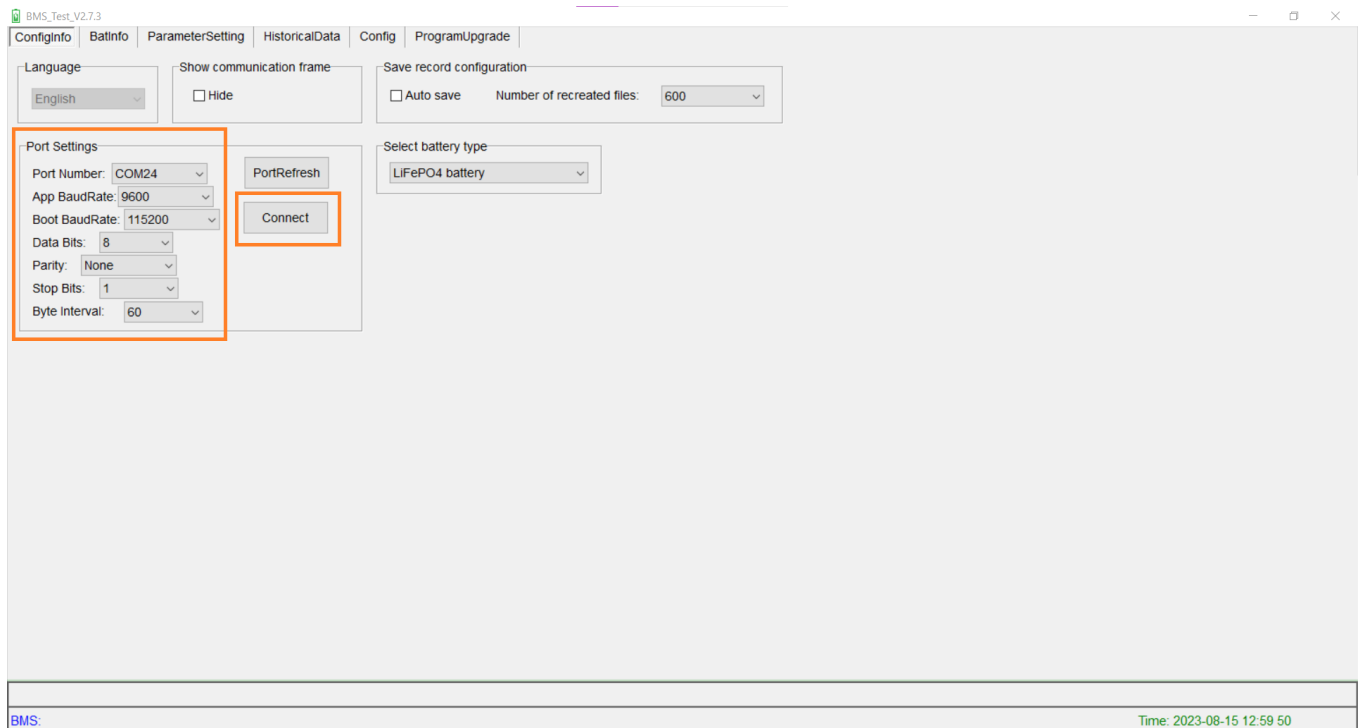




## Historical data log retrieval guide for the EG4 Lifepower4 battery

1. Use an RS-485 cable, RJ45 (Pins 1-B,2-A) to USB-A, to connect one end to the RS-485 port on the battery and the other end to a USB-A port on a Windows computer
2. Set the dip switch to ID:0 and power on the battery. Remove any other CAT patch cables plugged into the battery if in parallel with other batteries.
3. Open the BMS Test application
4. On the Config-info tab, make sure the Port Number is set to the correct Com # that the RS-485 cable is connected to on the computer. Next, press the Connect button in the Port Settings box, after which, "Port Opened Successfully!" will flash at the bottom of the page upon successful completion.



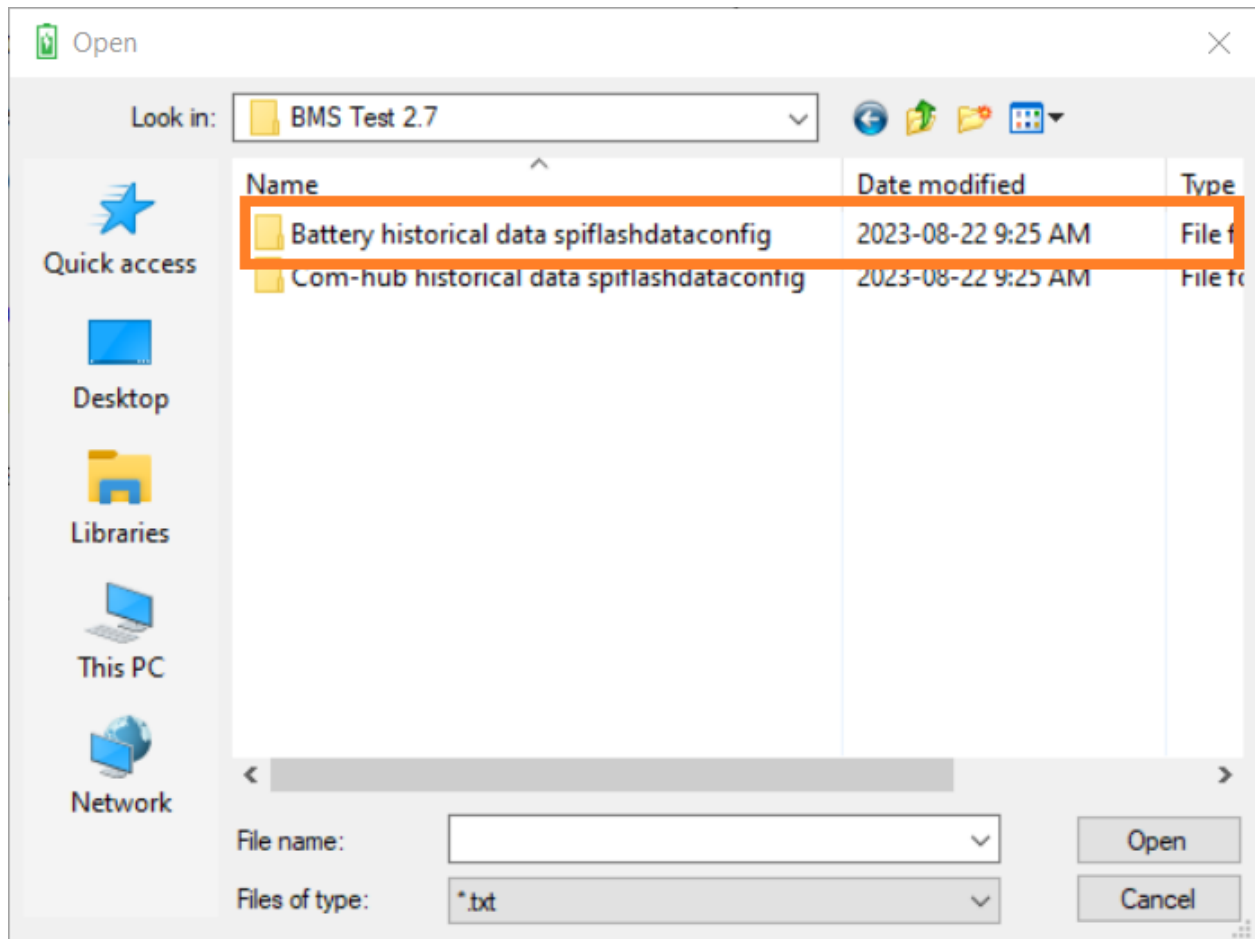
## 5. Click on the HistoricalData tab.

The screenshot shows the BMS\_Test\_V2.7.3 application window. The 'HistoricalData' tab is highlighted with an orange box in the top navigation bar. The interface includes a 'From device' radio button selected, a 'Password' field, and a 'RTDS Communication with address' checkbox. The 'Parameter configuration' section has a 'Configuration file' field and an 'Open' button. The 'Store information' section contains fields for APP ID, App Total quantity, Currently selected App, Storage lock status, Data transmission status, Chip erase status, Number of valid entries, App data length(including parameter), and Maximum number of entries. The 'Read by entry' section includes 'Entries from' and 'to' fields, 'Number of entries currently read', 'Read progress', and a 'Start' button. The 'Manual operation of data transmission' section has an 'Operation command' dropdown set to 'Chip data erasure(App)' and an 'Execute' button. The status bar at the bottom shows 'Status: Port opened successfully! [2023-08-22 09:20:10]' and 'Time: 2023-08-22 09:20:27'.

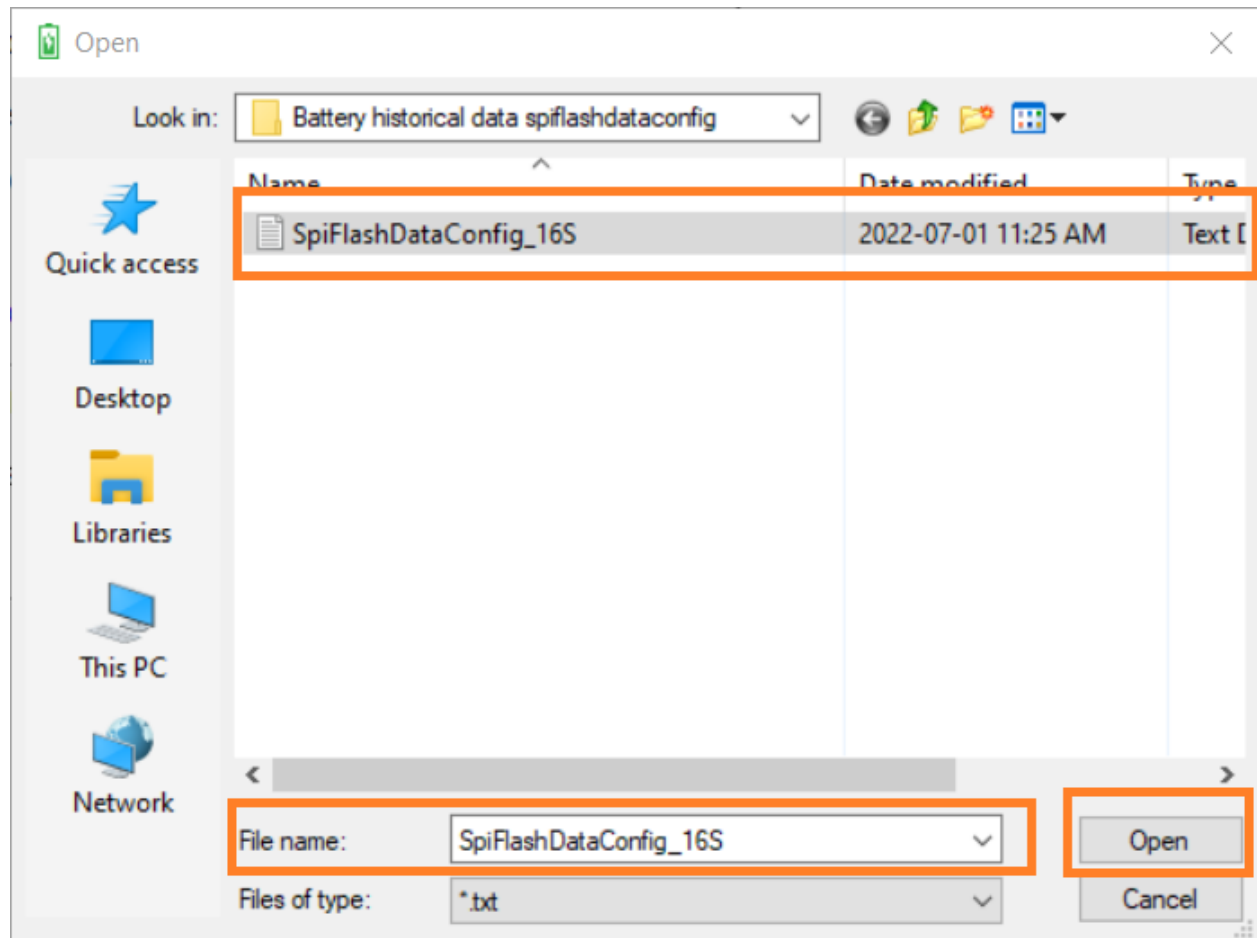
## 6. Under Parameter configuration click Open.

This screenshot is similar to the previous one, but the 'Open' button in the 'Parameter configuration' section is highlighted with an orange box. The 'HistoricalData' tab remains selected. The status bar at the bottom shows 'Status:' and 'Time: 2023-08-22 09:26:17'.

7. File explorer will now open. This guide is for collecting the historical data for an individual EG4 Lifepower4 battery. Open the Battery historical data spiflashdataconfig folder.



8. Now select SpiFlashDataConfig\_16S and click Open.



9. The Store Information box will automatically populate the information needed to read the historical data. In green text, "Successfully read [0-RunTime] storage information status!" will confirm that the file has successfully been uploaded.

BMS\_Test\_V2.7.3

ConfigInfo | BatInfo | ParameterSetting | **HistoricalData** | Config | ProgramUpgrade

☒ From device ☐ From file

RTDS Communication with address

Parameter configuration

Configuration file: C:\Users\CTB0011\Desktop\Bms Test V2.7 website\BMS Test 2.7\Battery historical v... Open

Store information

APP ID: 0-RunTime

App Total quantity: 2

Currently selected App: 0

Storage lock status: Unlocked

Data transmission status: Not transmitted

Chip erase status: Not erased

Number of valid entries: 319

App data length(including parameter): 107

Maximum number of entries: 9728

Read by entry

Entries from: 0 to: 0

Number of entries currently read:

Read progress:

Time consuming: 0.000 s Start

Manual operation of data transmission

Operation command: Chip data erasure(App) Execute

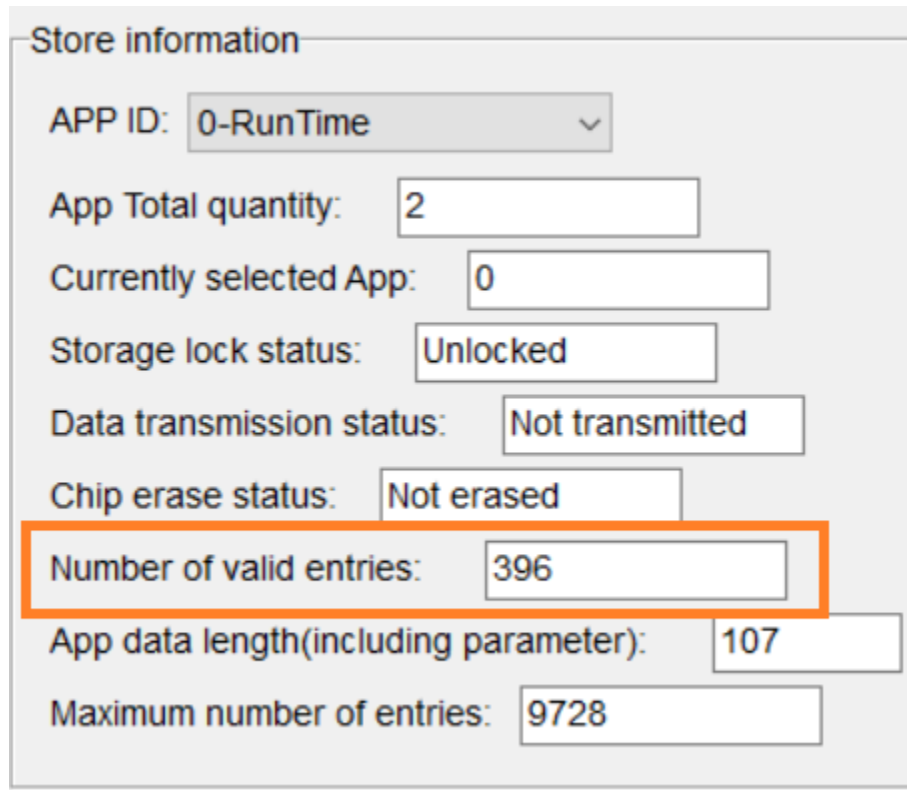
Hint: App Number: 2 Data Number: 84  
Number of APF0 bytes: 100  
Number of APF1 bytes: 100  
The configuration file (EscapeSeq.ini) used for escape does not exist!  
Successfully read [0-RunTime] storage information status!

Status:

BMS:

Time: 2023-08-23 11:47:44

10. In the Store information box, the Number of valid entries: will appear. In order to have a successful reading of the historical data log, lower this number by 1 for use in step 11 (Example: 396, use 395 as your entry in step 11).



Store information

APP ID: 0-RunTime

App Total quantity: 2

Currently selected App: 0

Storage lock status: Unlocked

Data transmission status: Not transmitted

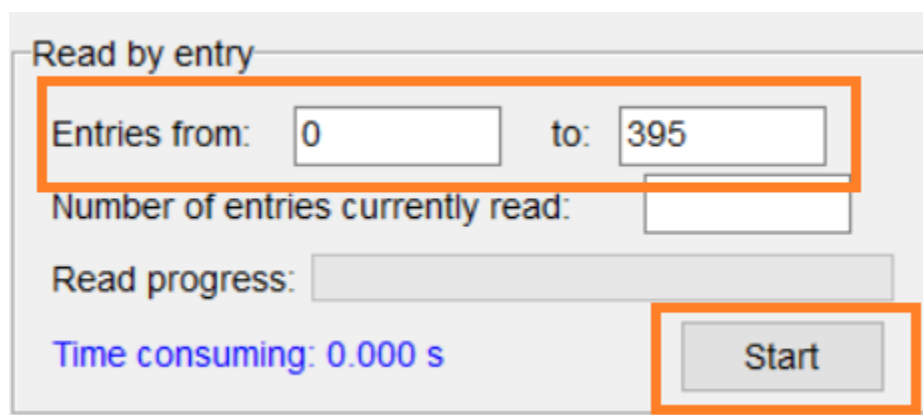
Chip erase status: Not erased

Number of valid entries: 396

App data length(including parameter): 107

Maximum number of entries: 9728

11. In the Read by entry box, the Entries from: will always be 0. The Entries to: will be one number below the Number of valid entries in step 10. (Example: Entries from: 0 to: 395). Now click Start.



Read by entry

Entries from: 0 to: 395

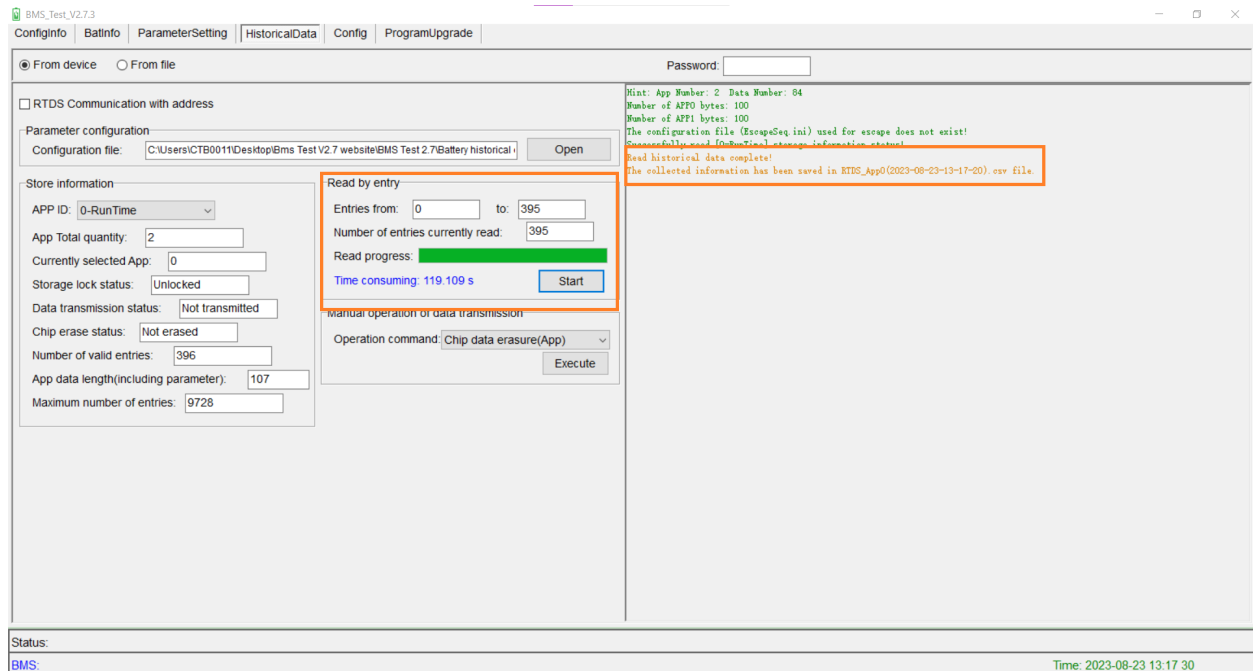
Number of entries currently read:

Read progress:

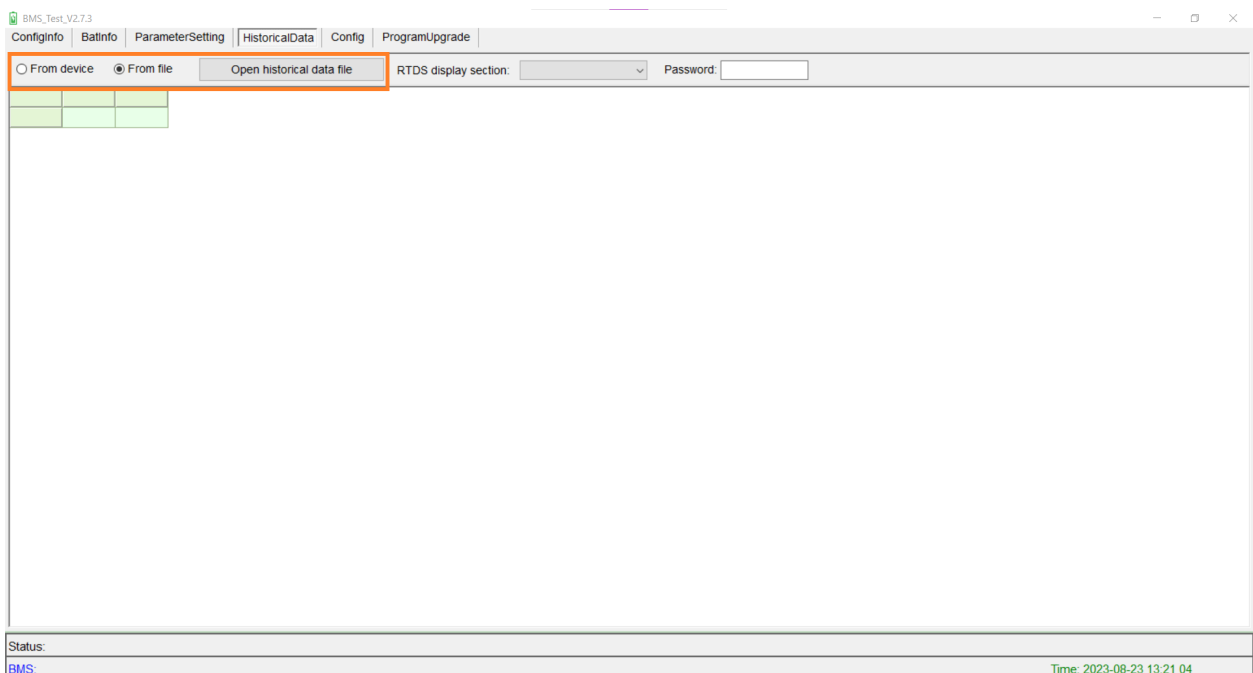
Time consuming: 0.000 s

Start

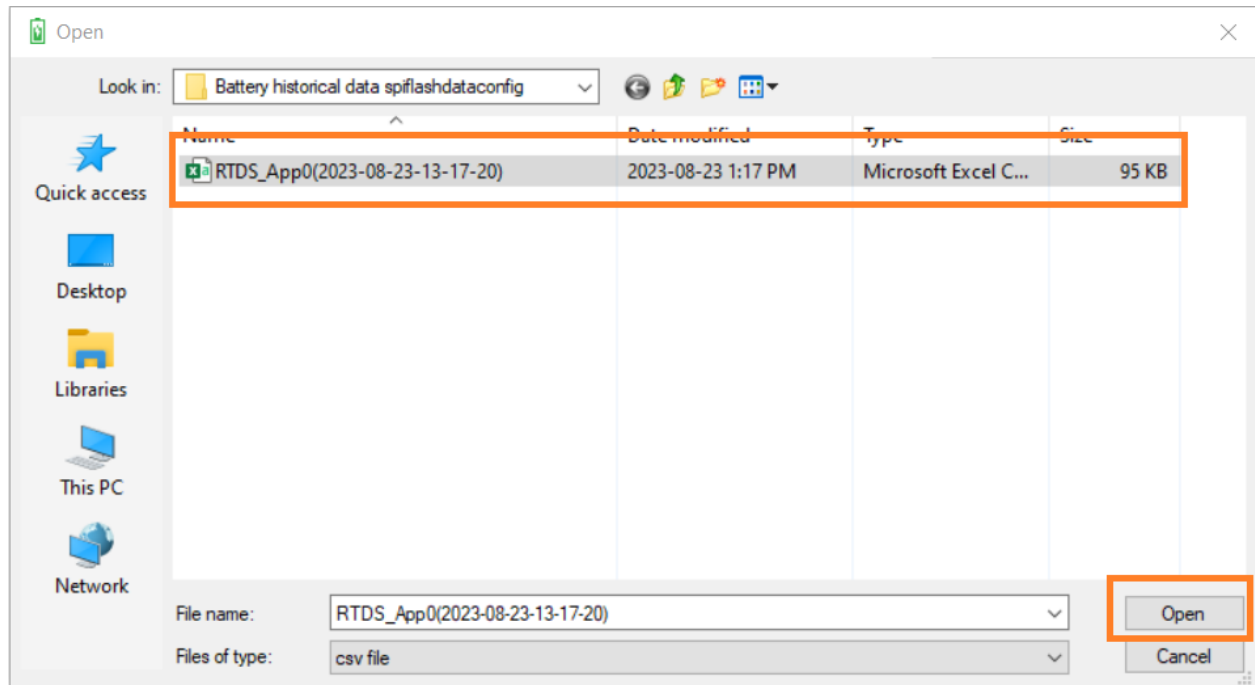
12. The historical data log will have read successfully whenever "Read historical data complete!" appears in orange in the text box on the right side of the screen.



13. To view the historical data file, click From file towards the top left of the page. The page below will now appear, click Open historical data file.



14. File explorer will now open, where you will select the historical data log file and click Open.





15. The data log will be automatically populated into the program. From here you can view 200 data logs in one table. To view the next set of logs, click on the drop down box beside RTDS display section: and select the group of logs to view.

BMS\_Test\_V2.7.3

ConfigInfo BatInfo ParameterSetting HistoricalData Config ProgramUpgrade

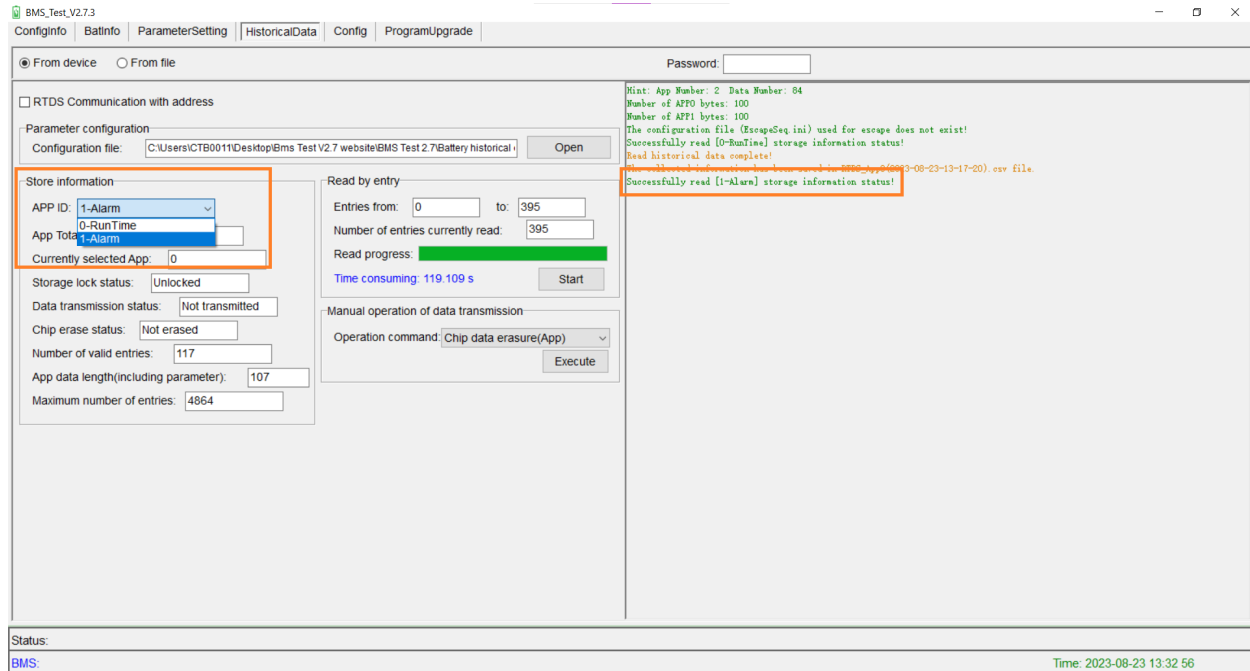
☐ From device
 ☒ From file
 Open historical data file
 RTDS display section: 1j0200
 Password:

Num	1	2	3	5	6	7	8	9
Time	2020-01-01-01-32-52	2020-01-01-01-31-52	2020-01-01-01-30-52	2020-01-01-01-29-52	2020-01-01-01-28-53	2020-01-01-01-27-53	2020-01-01-01-26-53	2020-01-01-01-25-52
sys_mode	0	0	0	0	0	0	0	0
vsoc	47.9	47.9	47.9	47.9	47.9	47.9	47.9	47.9
bat_group_bus_cur	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
bat_group_bus_volt	53.309	53.307	53.309	53.309	53.310	53.310	53.309	53.311
cur_q	47.89	47.89	47.89	47.89	47.89	47.89	47.89	47.89
qmax	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
bat_alarm_code_1	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
bat_alarm_code_2	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
bat_alarm_code_3	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
temp_1	22	22	22	22	22	22	22	22
temp_2	22	22	22	22	22	22	21	21
temp_3	21	21	21	21	21	21	21	21
temp_4	22	22	22	22	22	22	22	22
temp_5	23	23	23	23	23	23	23	23
temp_6	23	23	23	23	23	23	23	23
temp_7	28	28	28	28	28	28	28	28
temp_8	26	26	26	26	26	26	26	26
cell_volt_1	3.332	3.331	3.332	3.332	3.332	3.332	3.332	3.332
cell_volt_2	3.332	3.332	3.332	3.332	3.332	3.332	3.332	3.332
cell_volt_3	3.332	3.332	3.332	3.332	3.332	3.332	3.332	3.332

Status:

BMS: Time: 2023-08-23 13:28:11

16. To view the alarms only data logs, click the APP ID: drop down in the Store information box and choose 1-Alarm. After choosing 1-Alarm, the information will automatically populate in the Store information box. Successfully read [1-Alarm] storage information status! will appear in green in the text box on the right side of the screen.



17. Follow steps 10-15 to successfully view the alarms only data logs.

18. The lifepower4 alarm codes will appear in these 3 rows. Refer to the separate Lifepower4 historical data alarm code legend.txt file to decode the exact alarm meanings.

BMS\_Test\_V2.7.3

ConfigInfo | BatInfo | ParameterSetting | HistoricalData | Config | ProgramUpgrade

☐ From device ☒ From file  RTDS display section: 1j0117 Password:

Num	12	13	14	15	16	17	18	19	20
Time	2020-01-17-02-00-28	2020-01-17-01-59-04	2020-01-17-01-38-50	2020-01-17-01-38-07	2020-01-17-01-37-58	2020-01-15-17-52-58	2020-01-15-17-23-50	2020-01-15-13-15-10	2020-01-15-13-01-37
sys_mode	1	1	1	1	1	0	0	0	2
vsoc	47.9	48.5	51.5	51.6	51.6	100.0	100.0	100.0	100.0
bat_group_bus_cur	-2.303	-20.094	-6.950	-6.622	-8.593	-0.564	-0.705	0.604	3.422
bat_group_bus_volt	52.231	52.229	52.418	52.342	52.266	54.333	55.197	57.602	57.422
cur_q	47.89	48.48	51.45	51.53	51.55	99.90	99.90	99.90	99.90
omax	99.90	99.90	99.90	99.90	99.90	99.90	99.90	99.90	99.90
bat_alarm_code_1	00000104	00000100	00000100	00000100	00000000	00000000	00000000	00000000	00000000
bat_alarm_code_2	04000000	04000000	00000000	04000000	04000000	00000000	00040000	00050000	00040000
bat_alarm_code_3	04000000	00000000	00000000	04000000	00000000	00000000	00000000	00000000	00000000
temp_1	32	31	30	30	30	29	29	32	32
temp_2	29	29	28	28	28	29	29	31	31
temp_3	28	27	27	27	27	28	29	30	30
temp_4	28	28	28	28	28	29	29	31	31
temp_5	91	75	70	78	68	28	29	35	41
temp_6	125	103	88	125	125	28	28	34	42
temp_7	32	31	33	33	33	33	34	40	40
temp_8	32	32	32	32	32	31	31	40	42
cell_volt_1	3.263	3.263	3.274	3.270	3.265	3.393	3.445	3.594	3.594
cell_volt_2	3.265	3.265	3.276	3.271	3.267	3.397	3.452	3.608	3.596
cell_volt_3	3.266	3.266	3.279	3.274	3.269	3.396	3.452	3.601	3.585

Status:

BMS: QT-YS00-16SV100A-V3.26 Time: 2023-08-23 13:49:19