



Bluetooth Datalogging Guide

This guide provides information on how to collect data logs from Lithionics NeverDie Advanced series BMS using the Bluetooth wireless data interface.

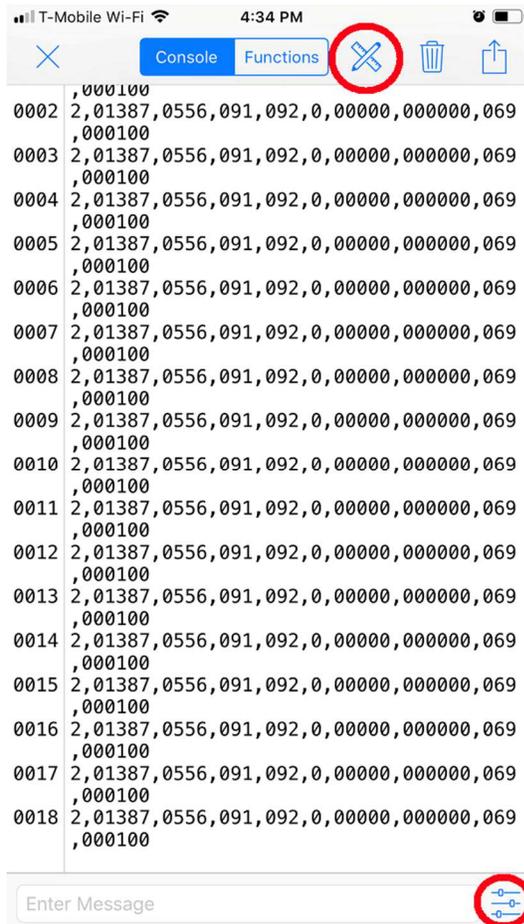
iOS devices such as iPhone or iPad



Open the App Store applet and search for the app called “**HM10 Bluetooth Serial Pro**”. It is a paid app priced at \$3.99. The paid version is required to be able to save the data log and Email it for later analysis. Free version only allows to see the data, but not save it.



Once the app is installed, open it and connect to the BMS. Typical name of the Bluetooth module is **Li3-Battery**.

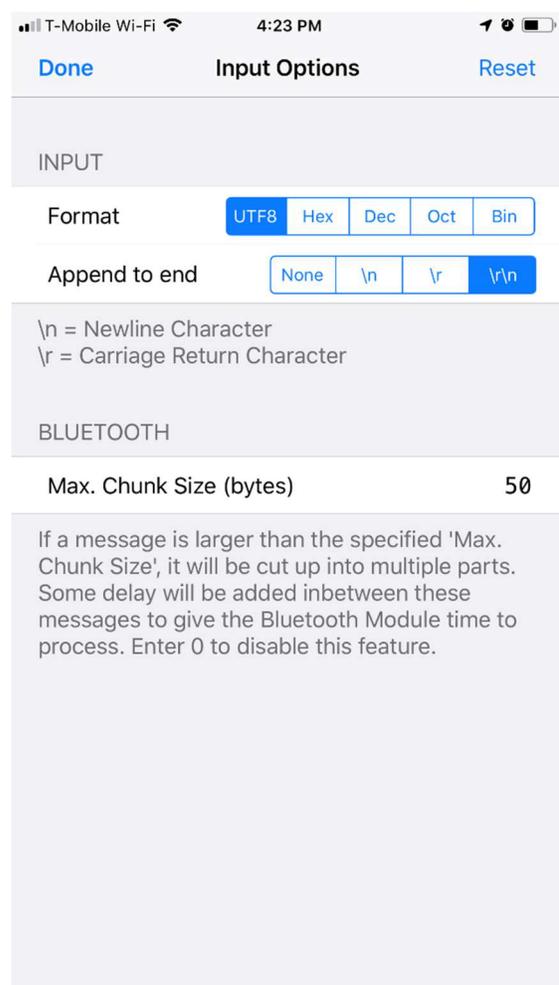
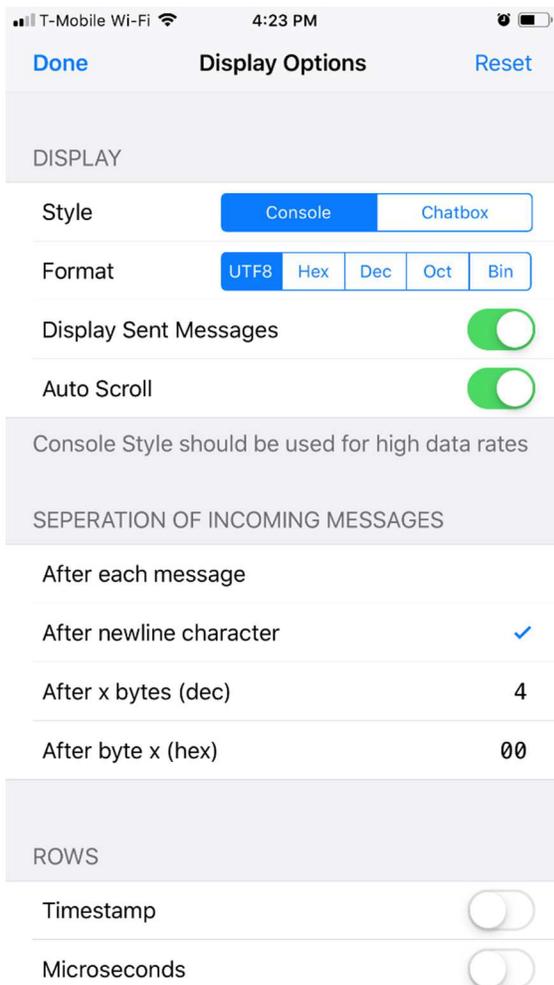


Typical Console screen should look like this, with text data appearing as new line every second.

Touch Display Options and Input Options icons marked with red circles to match the settings shown in the next 2 screenshots.

It is very important to set correct Display and Input options for proper data formatting and ensure BMS responds to commands.

NOTE: If the entire data line does not fit on your screen, rotate your device to the landscape mode for better readability.



Sending commands to the BMS

The BMS accepts 2 types of commands – runtime commands which do not interrupt normal BMS operations and configuration commands, which cause the BMS to enter the Setup mode. While in the Setup mode, normal BMS functions are suspended. Make sure not to enter the Setup mode while the battery system is being heavily used or being charged. Runtime commands have “\$” prefix, while configuration commands have “AT+” prefix. Commands are not case sensitive.

\$traceon / \$traceoff – these two commands toggle the trace mode, which creates additional data line with internal BMS tracing data, helpful in troubleshooting various battery related issues. After sending the **\$traceon** command, console screen should have 2 data lines created every second, and should look like this:

```
0906 $traceon
0907 2,01387,0556,091,092,0,00000,000000,069,000100
0908 2,0556,0556,072,082,-10,1,0000009,000000,000021,000,0000
0909 2,01387,0556,091,092,0,00000,000000,069,000100
0910 2,0556,0556,072,082,-10,1,0000009,000000,000021,000,0000
0911 2,01387,0556,091,092,0,00000,000000,069,000100
0912 2,0556,0556,072,082,-10,1,0000009,000000,000021,000,0000
```

Collecting and saving the data log



While troubleshooting a battery related issue have the console open with trace mode enabled and collect the data before, during and after the issue is observed, without interrupting or closing the console, to get a continuous stream of data. Once data has been collected, touch the share icon, select Plain Text, then select appropriate method to save or send the data, such as Email it to your own address for later forwarding, or save as a file in the iCloud Drive and then attach the file to the Email when contacting Lithionics Battery support.

Using the Setup mode

To enter the Setup mode, send this command via Console – **AT+SETUP**

If you receive **ERROR** response, check the Input Options and make sure that **Append to end** option is set to **\r\n**, then try to send the command again. When command is received successfully you will get **OK** response and data streaming will stop. The BMS is now in the Setup mode. If there is no command activity for 5 minutes, the BMS will automatically exit the Setup mode back to normal data streaming mode.

To list all BMS configuration options, send this command – **AT+LIST**

Share or save the printout of the BMS config options to help with troubleshooting, to make sure all options are set correctly for your battery system.

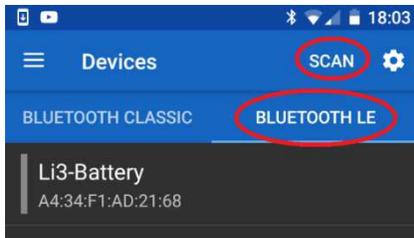
To exit the Setup mode, send this command – **AT+END**

NOTE: DO NOT change any of the configuration options unless instructed by or approved by Lithionics Battery support team!!! Improper BMS settings could lead to battery damage and void your warranty.

Google Android devices

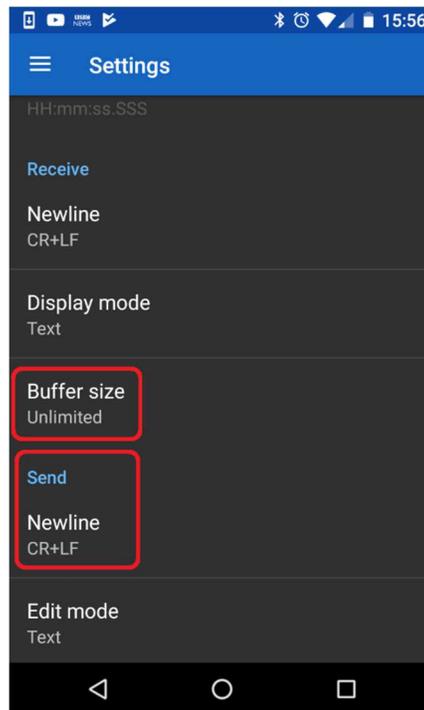
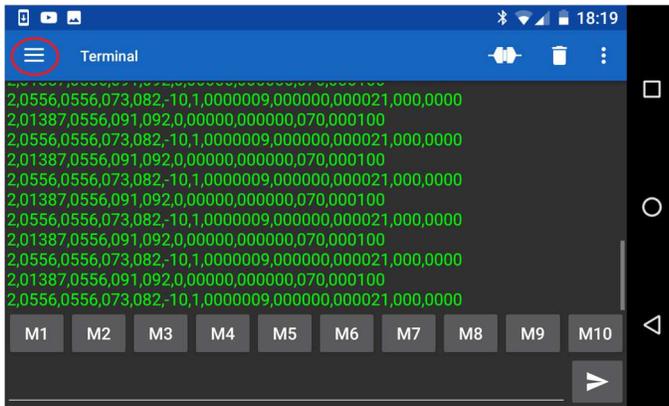


Open Google Play applet and search for **Serial Bluetooth Terminal** app. Install it on your device and open it.



Select Bluetooth LE mode and touch SCAN to scan for BLE modules. Typical name of the Bluetooth module is **Li3-Battery**.

Once connected, go to Settings menu and set **CR+LF** for **Newline** value in Send options and set **Buffer size** to **Unlimited**.



Once the data log is collected, touch  menu and send the data via Email or share as a file attachment.