

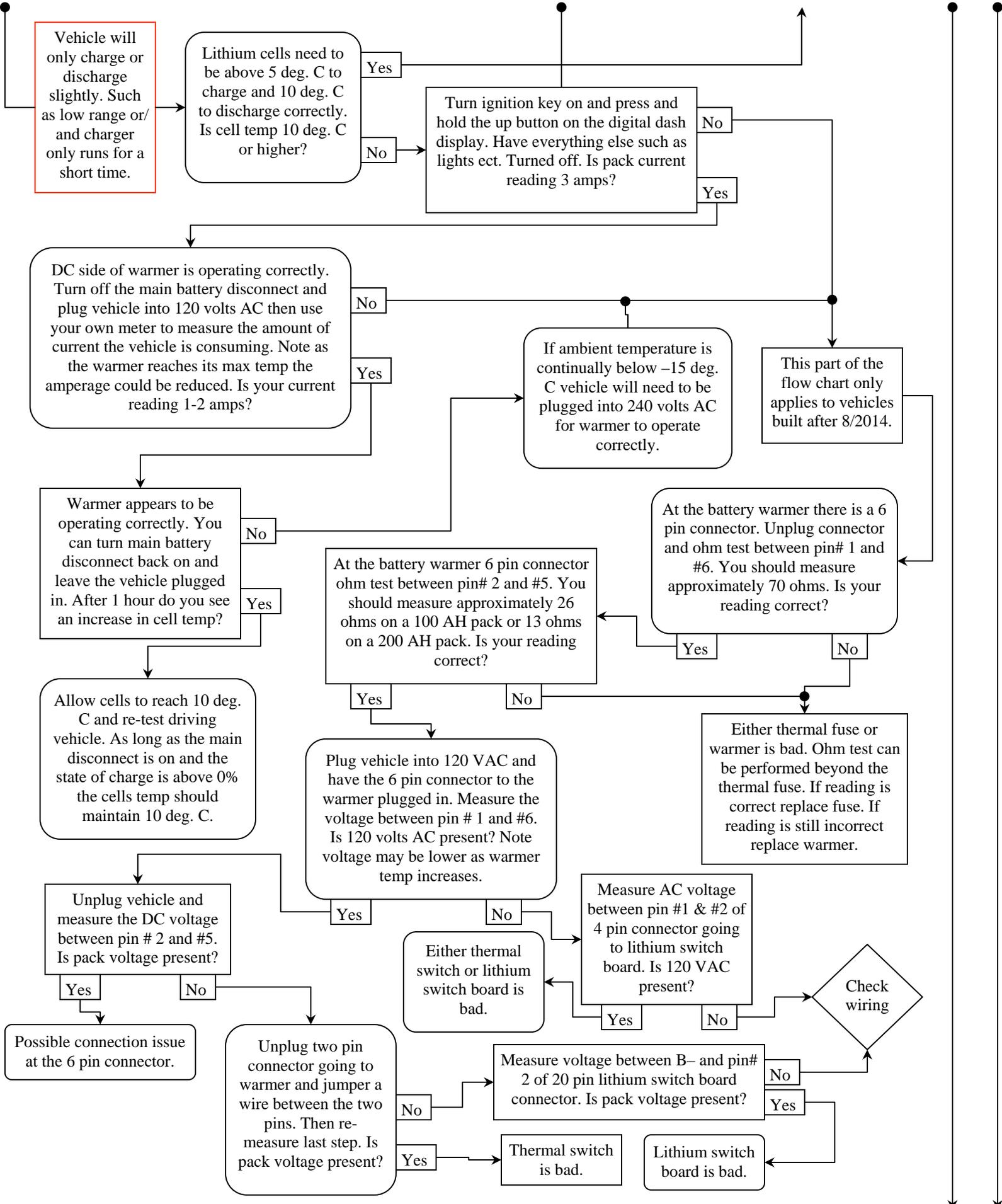
Note that if any cell connections need to be disconnected/tightened/ repaired or modified in anyway the main battery disconnect must be turned off and the lower front 36 pin connector or the BMS must be disconnected! If not done the BMS has a extremely high chance of developing an internal issue.

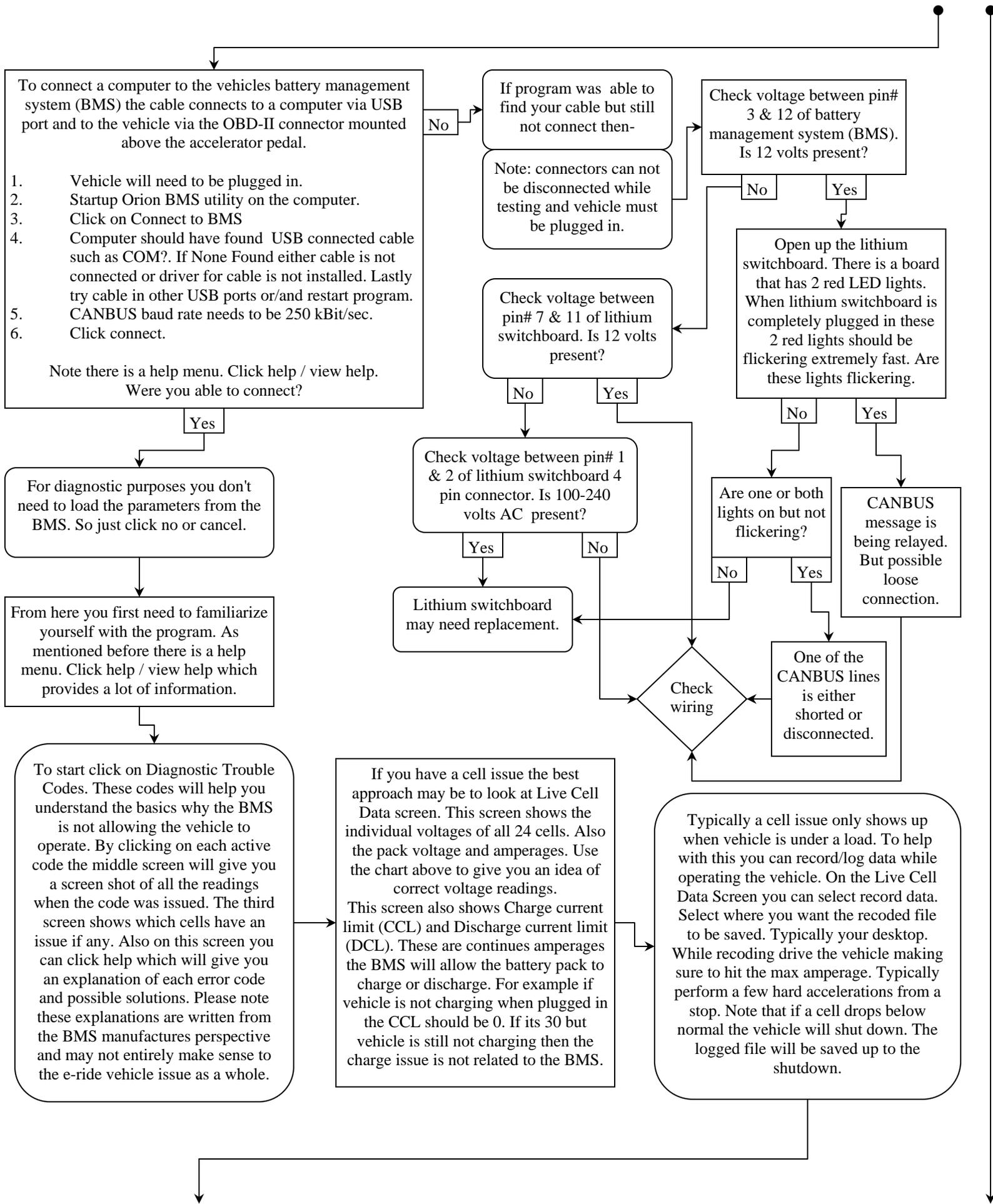
BMS has shut down the vehicle. It works best to have the diagnostic cable at this point. The most you could do with out it is test the voltage of the battery pack and each of the individual lithium cells.

Pack voltage readings unloaded
 Note cell voltage overrides pack voltage.
 Above 89 (BMS shuts down charging)
 81-89(Charging or just off charge).
 72-81 (Normal)
 67-72 (Below 20% SOC)
 67 (0% SOC)
 Below 67 (BMS shuts down discharging)

Cell voltage readings unloaded
 Above 3.8 (BMS shuts down charging)
 3.4-3.8(Charging or just off charge).
 3.0-3.4 (Normal)
 2.8-3.0 (Below 20% SOC)
 2.8 (0% SOC)
 Below 2.8 (BMS shuts down discharging)

Under .5 (BMS thinks its disconnected from the cell. Both discharge and charge will be shut down. In this case and any cell this low needs to be charged)





After logging data click stop recording. Then at the top of the screen is Data Logging. Click on Data Logging then Chart Recorded Logfile. A Import Data Log screen will popup. Use the screen to find your saved recorded file and click Import. The logfile will load. Speed of computer and size of file will affect time to load. A Log Viewer screen will popup. On the left of the screen you can select what was logged individually. For this instance you will want to check Cell Voltage 1 then hit shift key and check Cell Voltage 24. This will check all cells 1 thru 24. The viewer will graph all selected cells. From this data you should see that all cells are close to each other. Meaning the pack is balanced. If you see one or multiple cells drifting away from the rest of the cells this might indicate an issue.

Also note you can e-mail this saved file to info@e-ride.com if needed help deciphering if there is an issue.

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For example if a cell was in question. Some of the issues that could be causing this is:

Loose connection at cell with bus bar or BMS wire connection.

Bad wire or connection between cell and BMS.

Uneven balancing of cell/s

Bad/weak cell

Open up to the battery pack, locate the cell in question. Use a separate volt meter to measure the voltage right at the cell and compare this reading to what the BMS is showing it to be. Typically the issue will only show up when the vehicle is under a load. So you may need to re-log data while measuring the voltage with your meter to compare accurate comparison data. If voltage readings are different than its likely a connection issue. If voltage readings are the same then likely have either a balancing issue or a bad/weak cell.