

Lithium Battery Troubleshooting



SWITCH



BUZZER / GAUGE



KEY/CAN/RS485



Battery Pack Voltage Testing



BUZZER/GAUGE

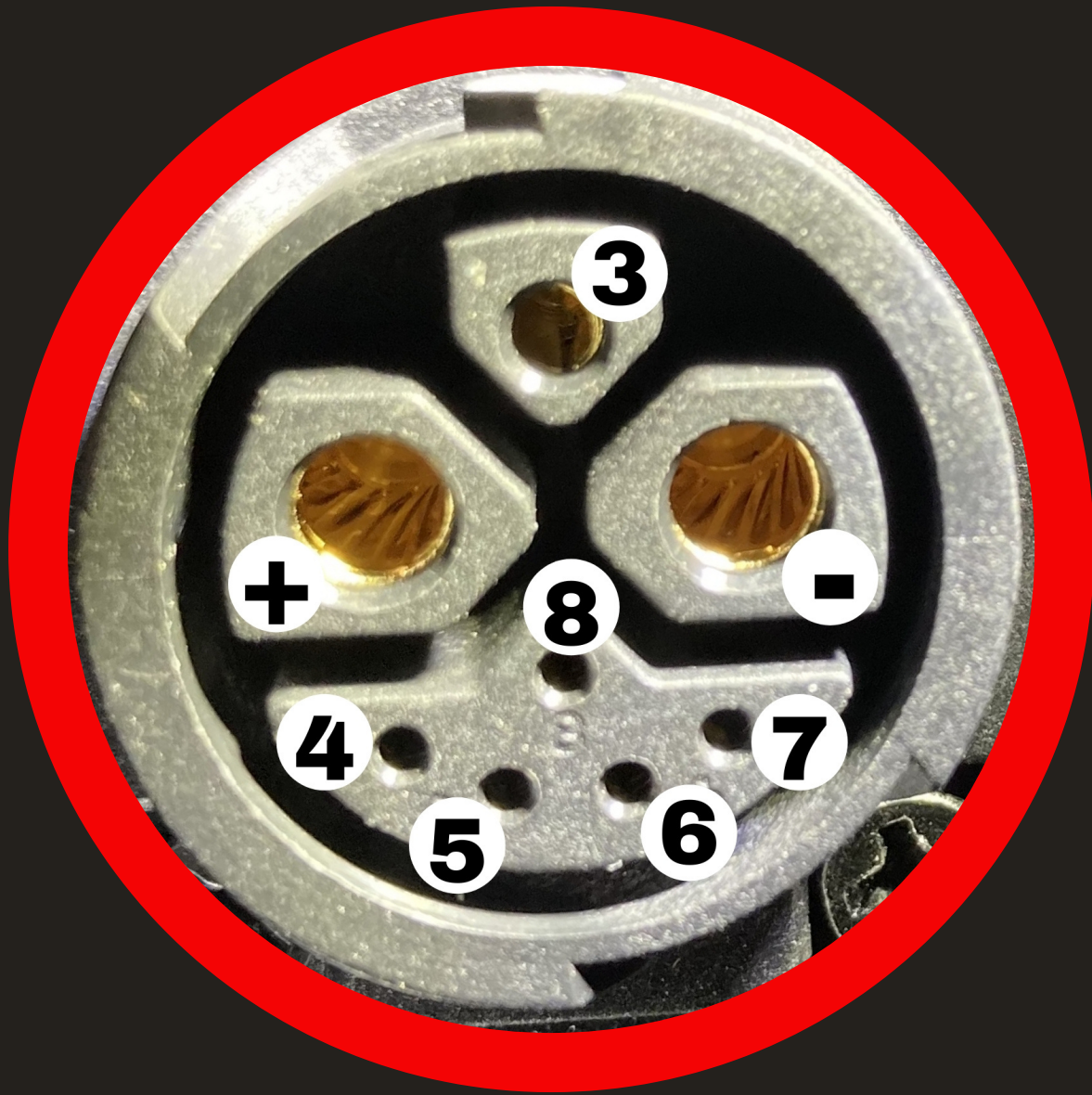
1. With key turned on, test for voltage between battery main positive and battery main negative. Voltage should be at least 37.5 volts. If the battery fails this test, go to next step.
2. With key on, place red voltmeter lead on pin 3, and black lead to pin 6. Voltage should be at least 37.5 volts. If not, battery is overly discharged and must be charged. This can be performed by opening battery case and attaching a 48V trickle charger, or by using the Green Energy external charger (PN: 2CH970).
3. With key still on, if volts are above 37.5, then use DT Smart Battery app to connect to battery using the QR code and Bluetooth ID number on top of the battery case. Use app to check BMS protection information. Verify that the "precharge failed" is not ON.

Key Switch Wiring Testing

1. With key turned on, pin 1 is connected to pin 2 through the key switch. In the key switch harness, there should be continuity from the red to black wire in the 4-pin connector going to the key switch with the switch turned on.
2. If there is no continuity, you can carefully jump pin 1 to pin 2 shown here, to see if the battery turns on. If it turns on with the jumper, then the issue is in the key switch or it's wiring.



KEY/CAN/RS485



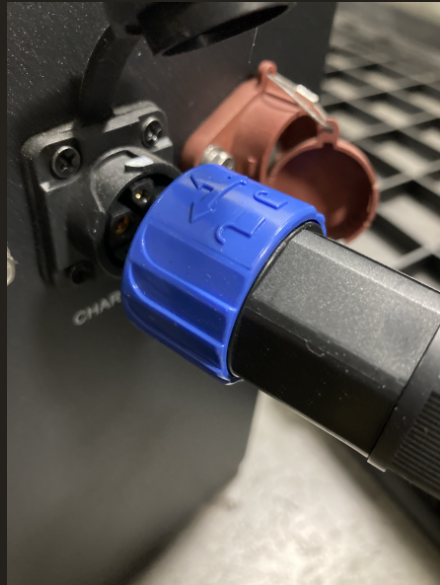
CHARGER PORT

Charger Voltage Supply Testing

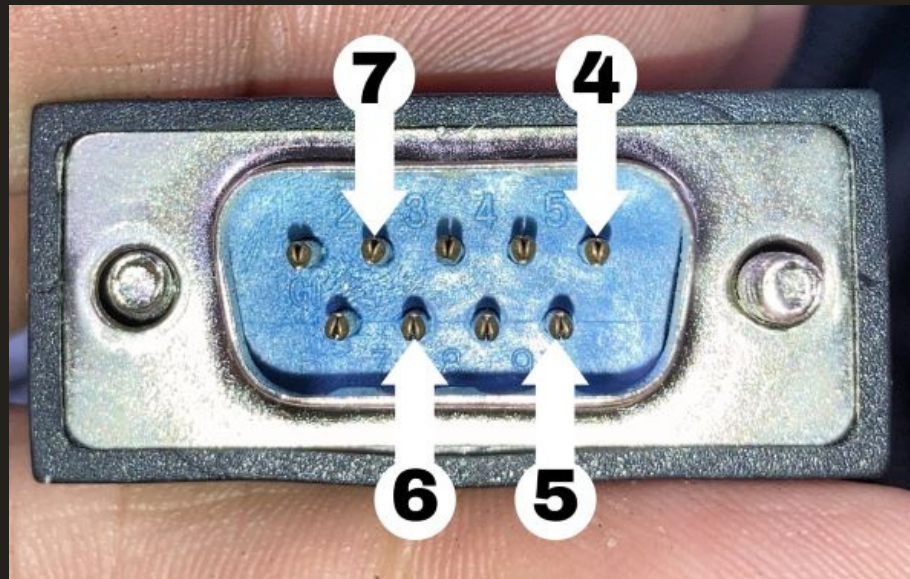
1. Keep key on or pin 1 and pin 2 jumped from previous step.
2. In charger port, place red voltmeter lead in "+" socket and black lead in "-" socket.
3. For 80Ah and 110Ah batteries, volts should be full battery pack voltage.
4. For 210Ah batteries, volts should be 13-15 volts.

Charger Signal Testing

1. Keep key on or pin 1 and pin 2 jumped from previous step.
2. Place red voltmeter lead in pin 4 and black lead in pin 3.
3. For 80Ah and 110Ah batteries, volts should be 13-15 volts with key on or off.
4. For 210Ah batteries, volts should be 3.3 volts.
5. If these voltages are not as specified, suspect the BMS board.



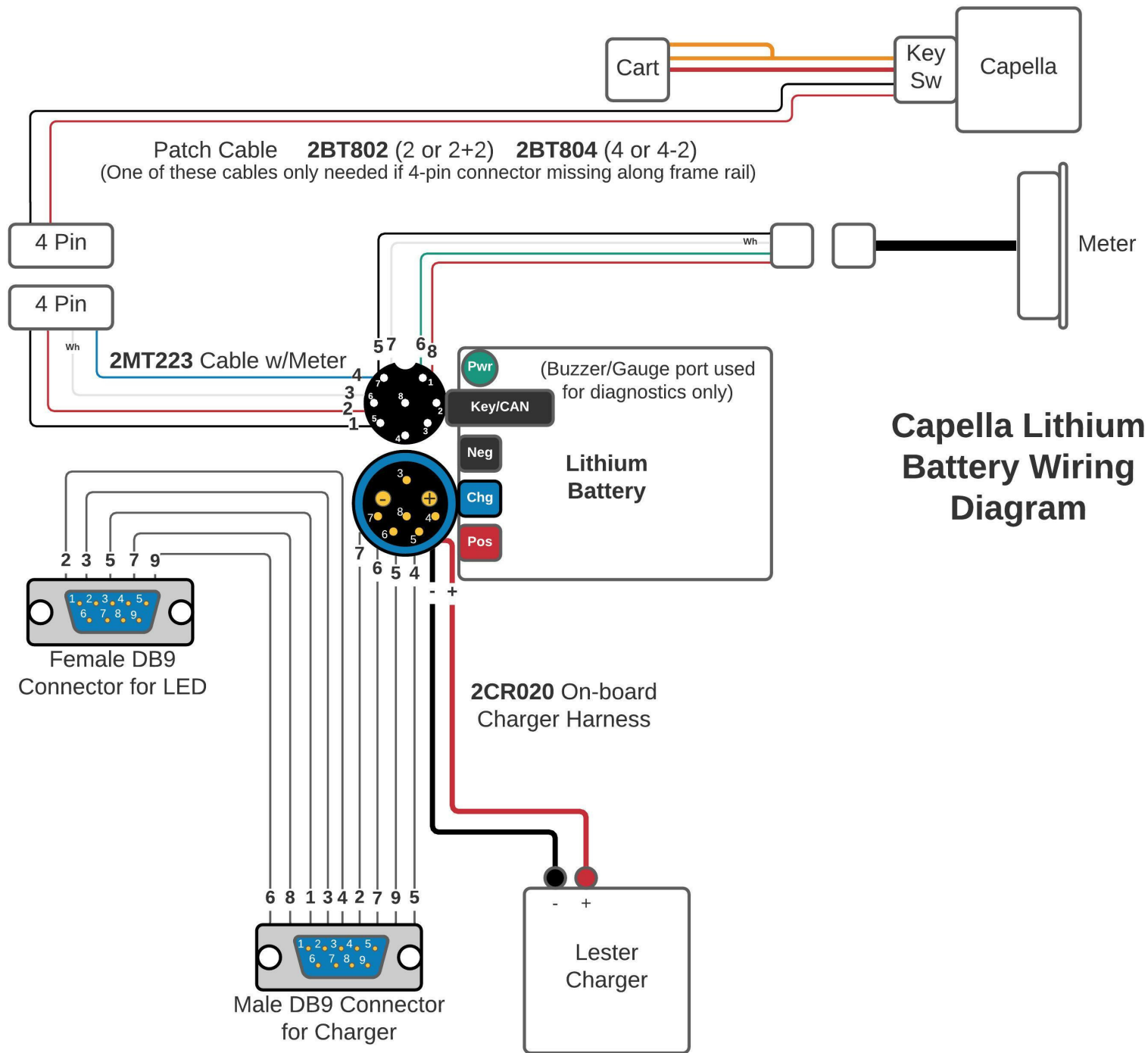
CONNECT BLUE CHARGER LEAD



CHARGER MALE DB9 CONNECTOR

Charger Harness Continuity Testing

1. With key on or pin 1 jumped to pin 2
2. Verify all previous tests have passed.
3. Connect charger cord with blue end, to the battery's charger port.
4. Place red voltmeter lead on pin 4 and the black lead on pin 5 of the DB9 connector shown.
5. Verify 13-15 volts are present for 80Ah or 110Ah batteries or 3.3 volts for 210Ah batteries.
6. If there is no voltage present, there is an open condition in the cord.
7. Verify that DB9 connector is going into the charger straight. This connector cannot be crooked or backed out, or there will not be a good connection. Refer to Star EV TSB# TE11017.00 for further details.



Capella Lithium Battery Wiring Diagram

Capella Lithium Wiring Diagram

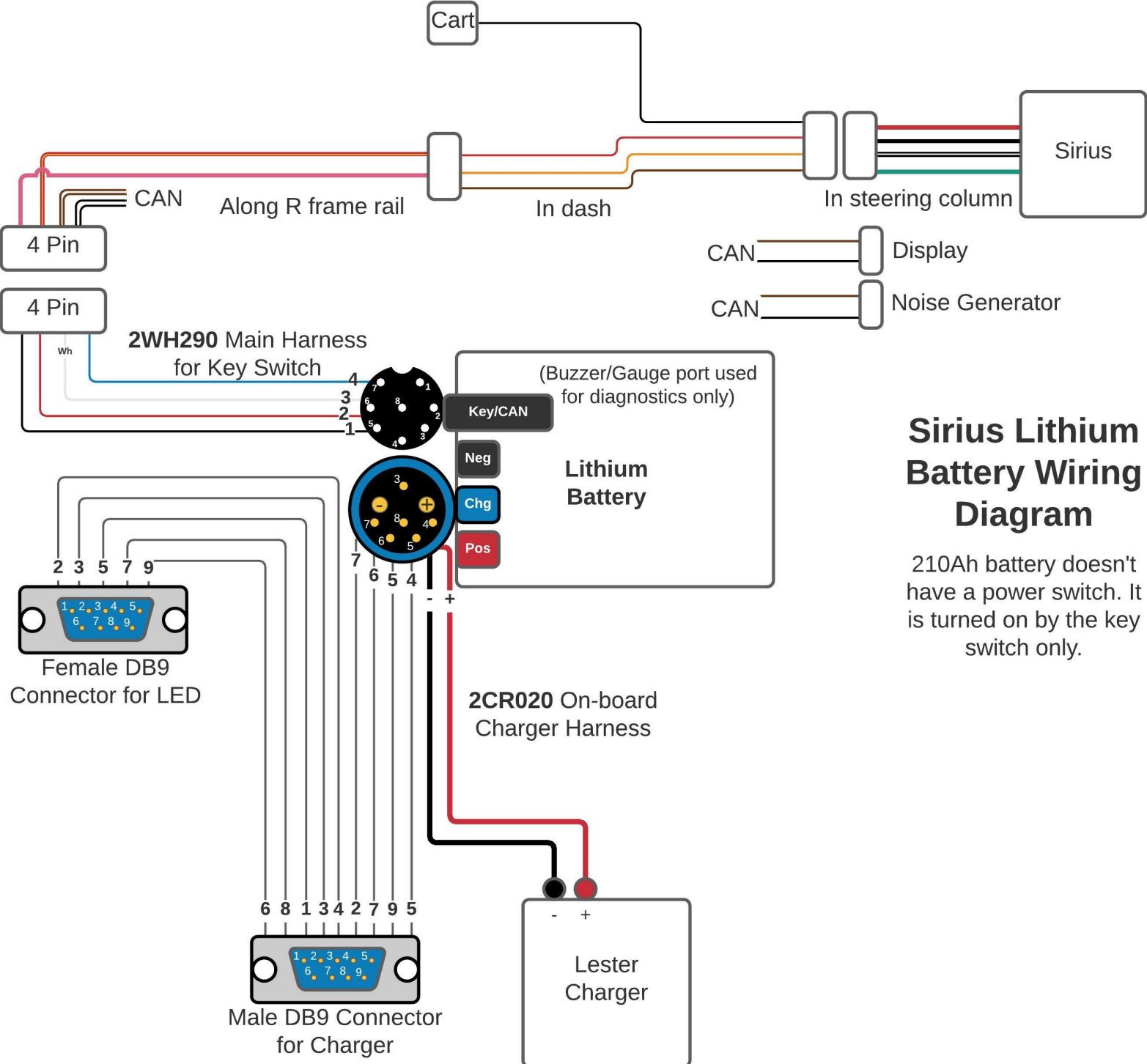
The wiring harnesses needed to connect the lithium battery, into a Capella vehicle are:

1. 1-2MT223 Cable w/Meter
2. 1-2CR020 On-board Charger Harness
3. 1-2BT802 for 2 or 2+2 patch cable (only needed if 4-pin connector is missing along frame rail)
4. 1-2BT804 for 4 or 4+2 patch cable (only needed if 4-pin connector is missing along frame rail)

Sirius Lithium Wiring Diagram

The wiring harnesses needed to connect the lithium battery, into a Sirius vehicle are:

- 1. 1-2WH290 Key Switch Connector
- 2. 1-2CR020 On-board Charger Harness



Sirius Lithium Battery Wiring Diagram

210Ah battery doesn't have a power switch. It is turned on by the key switch only.