



eVault 18.5 DISASSEMBLY AND CHARGING GUIDE

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1 – INTRODUCTION

This guide will help with the disassembly and trickle-charging of the eVault battery. We will be bypassing the BMS and trickle charging an eVault that is below the “danger zone” of ~46V. This guide is supplemental to the installation manual—please make sure you understand the proper installation before attempting to open and troubleshoot the eVault. **Always read the warning notices on the installation manual** and take all necessary safety precautions when dealing with 48V batteries.

2 – eVault DISASSEMBLY

Please refer to the following steps when disassembling the eVault:

- 1) Remove the sixteen (16) screws that attach the front metal cover (Appendix A-1)
- 2) Slowly slide off the front cover as far as the LCD wires will allow—be careful not to pull too far and strain the LCD wires
- 3) Remove the sixteen (16) screws that attach the back metal cover (Appendix A-2)
- 4) Slide off the back cover, exposing the cell packs
- 5) You should now have access to the battery internals (Appendix B-1)

3 – TRICKLE-CHARGING THE BATTERY

Once the battery covers have been removed, it is now possible to bypass the BMS and charge the cells directly.

3A – CONNECTING THE LEADS AND CHARGING

We will now connect the charger leads.

- 1) The standard color designation is **BLACK for NEGATIVE (--)** and **RED for POSITIVE (+)**
 - a. Failure to keep these consistent can lead to personal injury and/or battery shortage
- 2) Make sure the battery terminals are disconnected
- 3) Make sure the battery charger is OFF
- 4) Make sure the eVault BMS is turned OFF
- 5) Connect the NEGATIVE (BLACK) lead clamp of the charger to the **NEGATIVE** battery lead (Appendix B-2)
- 6) Connect the POSITIVE (RED) lead clamp of the charger to the **POSITIVE** battery lead (Appendix B-3)
- 7) Turn on battery charger and charge at ~10-30A until voltage at the terminal's registers ~47V
- 8) At ~46-48V your charge controller should be able to resume charging

4 – REPLACING THE BMS

Before attempting to replace the BMS, make sure the battery DC breaker is OFF and the battery itself is OFF by checking that the green and red lights below the screen are both OFF. Take care to not short battery internals with metal tools. If possible, use only insulated gloves once inside the compartment.

- 1) Using a Philips-head screwdriver, remove the six (6) screws on the circuit board compartment panel (Appendix C-1)
- 2) Set the top plate aside and inspect interior. The BMS is located on the left side, facing the front of the battery. See Appendix C-2.
- 3) Locate and unplug the BMS power supply. It is a **RED** cable connected directly to the board and covered by silicone sealant. Disconnect this cable and cut the zip-tie. (Appendix C-3).
- 4) Disconnect all the wire harnesses from the BMS. The white silicone sealant can be removed by gently scraping with a razor or flat-head screwdriver, if necessary. Then remove the four Phillips screws on each corner of the BMS (Appendix C-4)
- 5) Once the BMS is removed, follow these steps in reverse with the new BMS. For a list/description of each port, see Appendix C-5.
- 6) Turn on the BMS by pressing and holding the front push-button until the green light turns on and verify there are no errors, then re-commission the battery.

5 – FURTHER HELP

Please contact techsupport@fortresspower.com with any concerns or questions.

APPENDIX

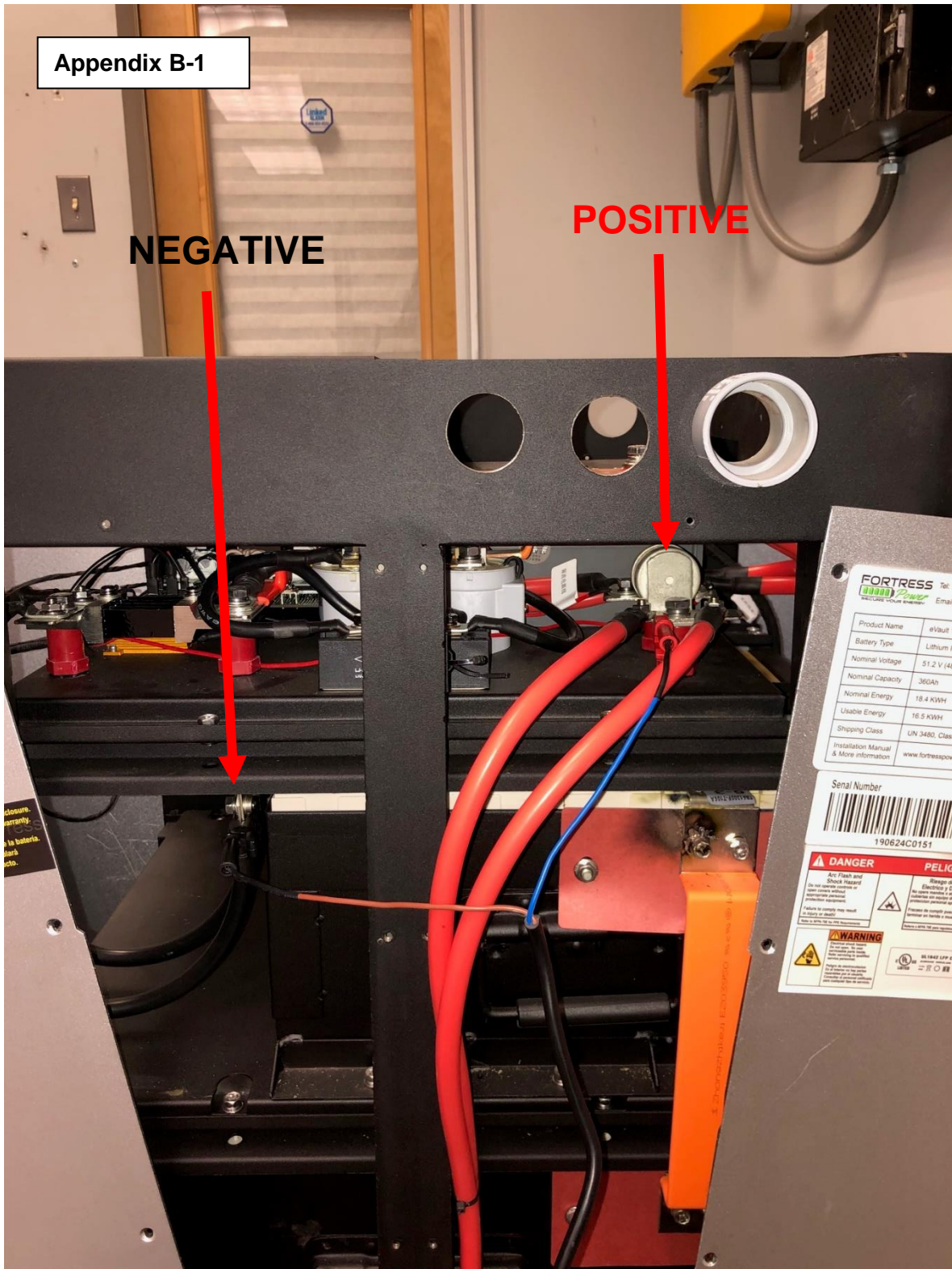
APPENDIX A

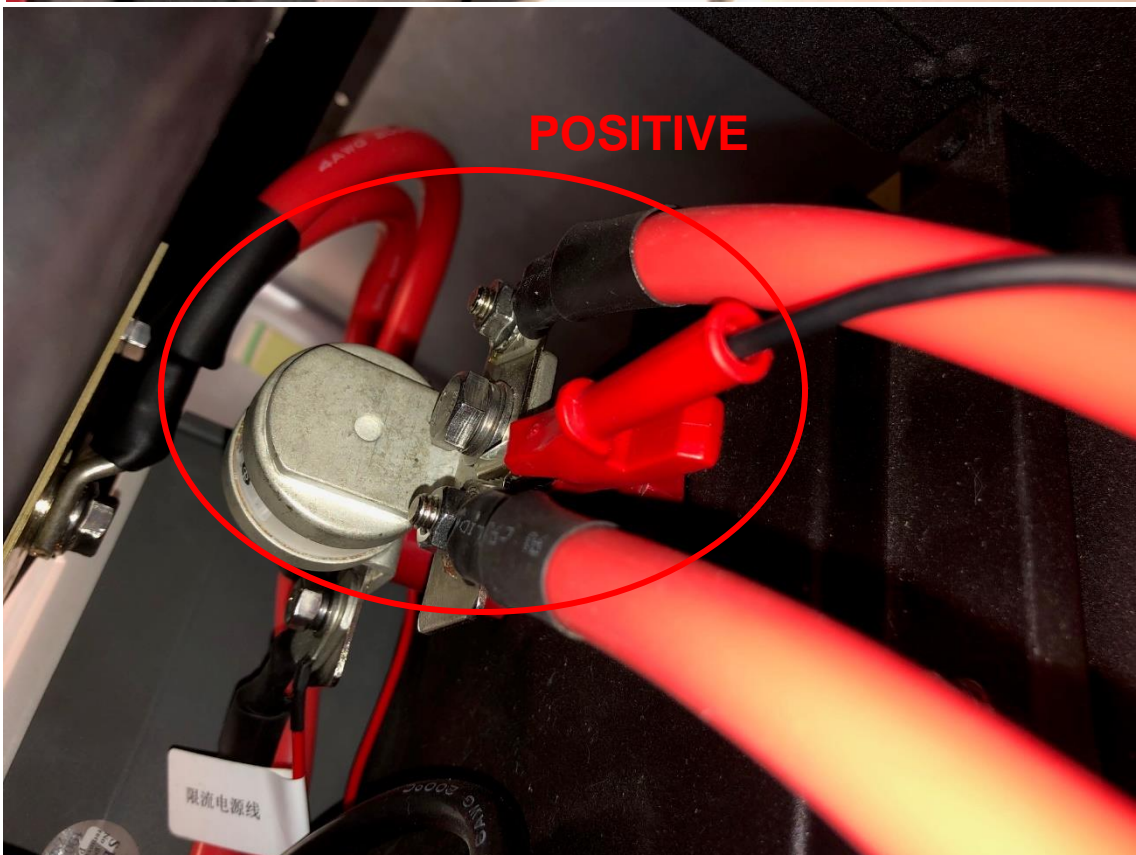
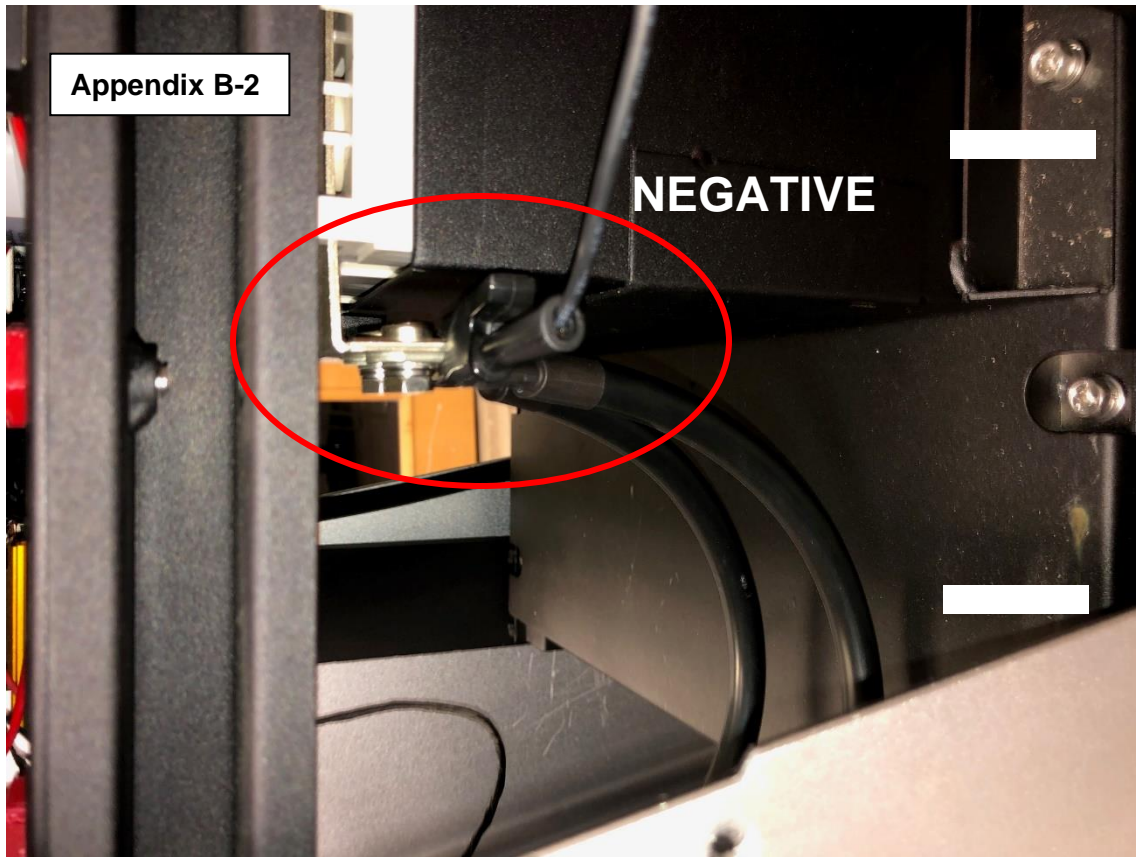


Appendix A-2



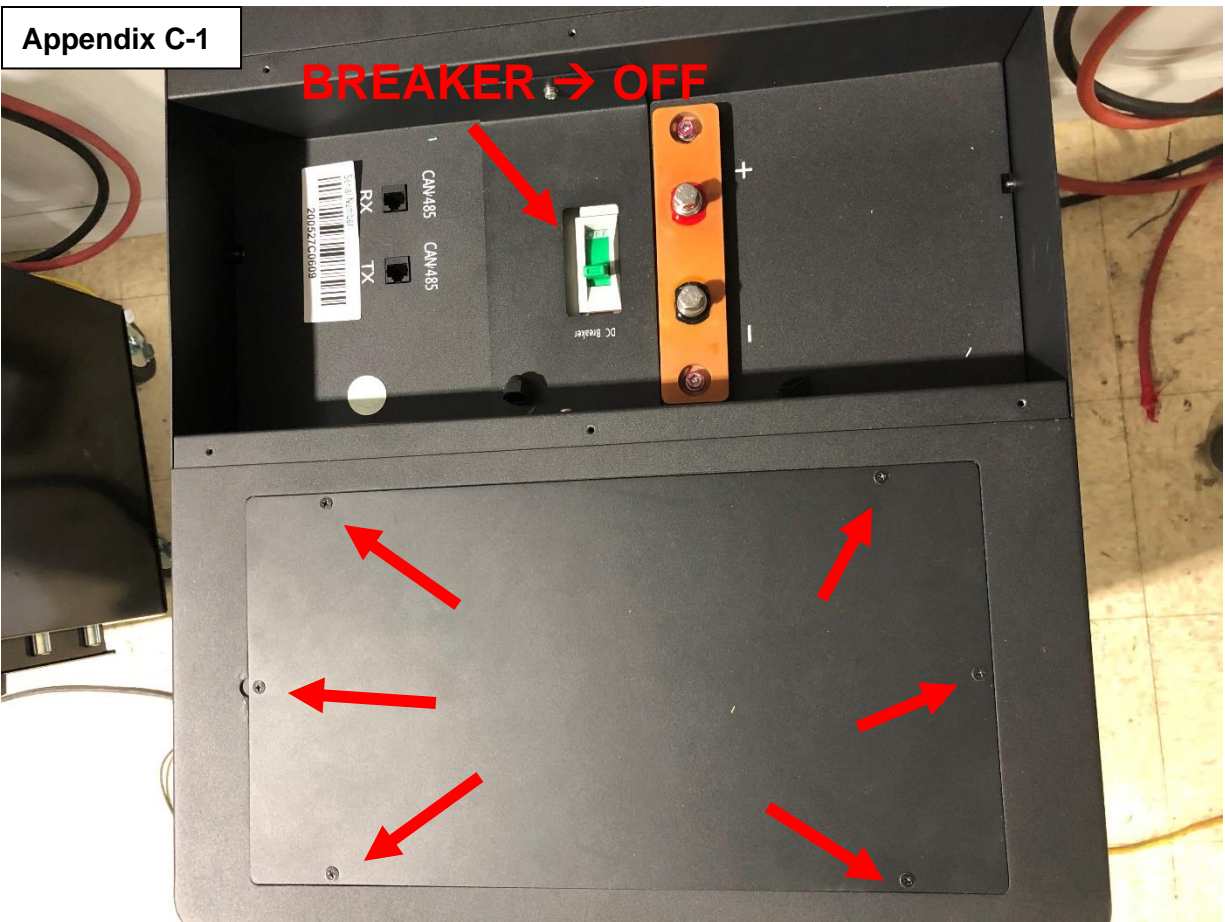
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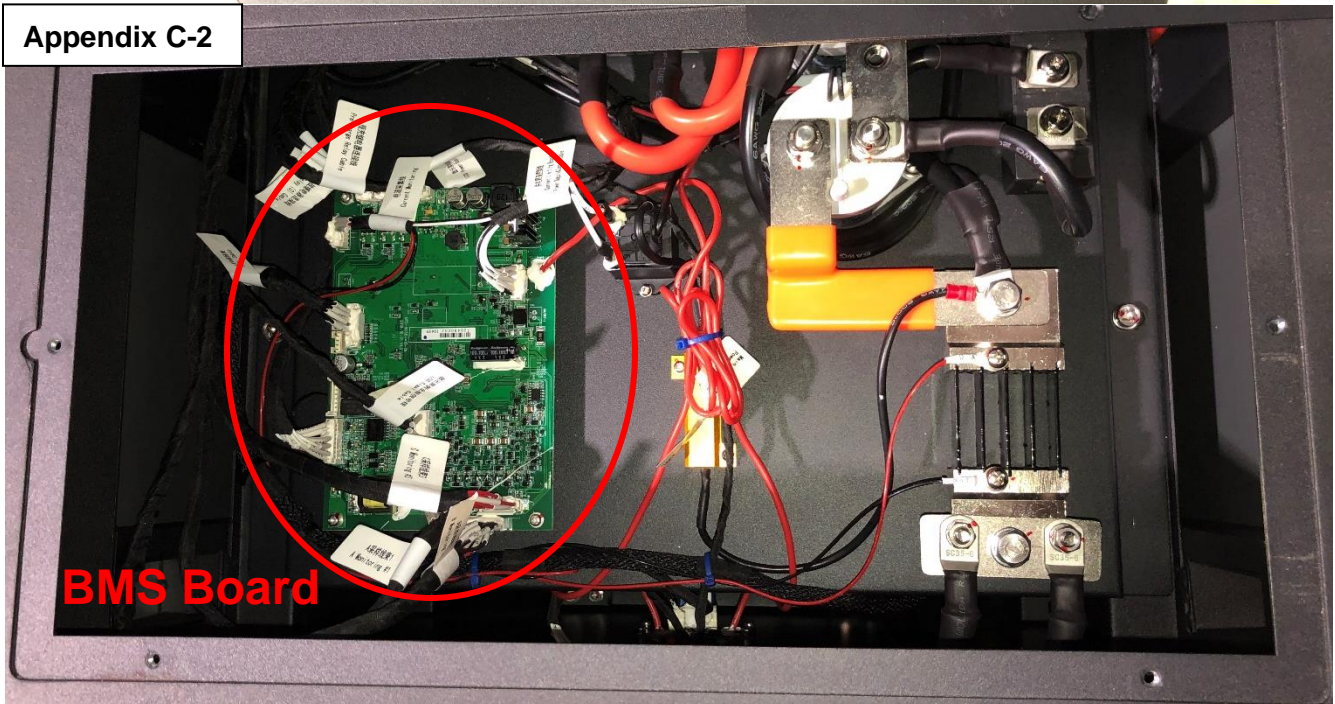


APPENDIX C

Appendix C-1



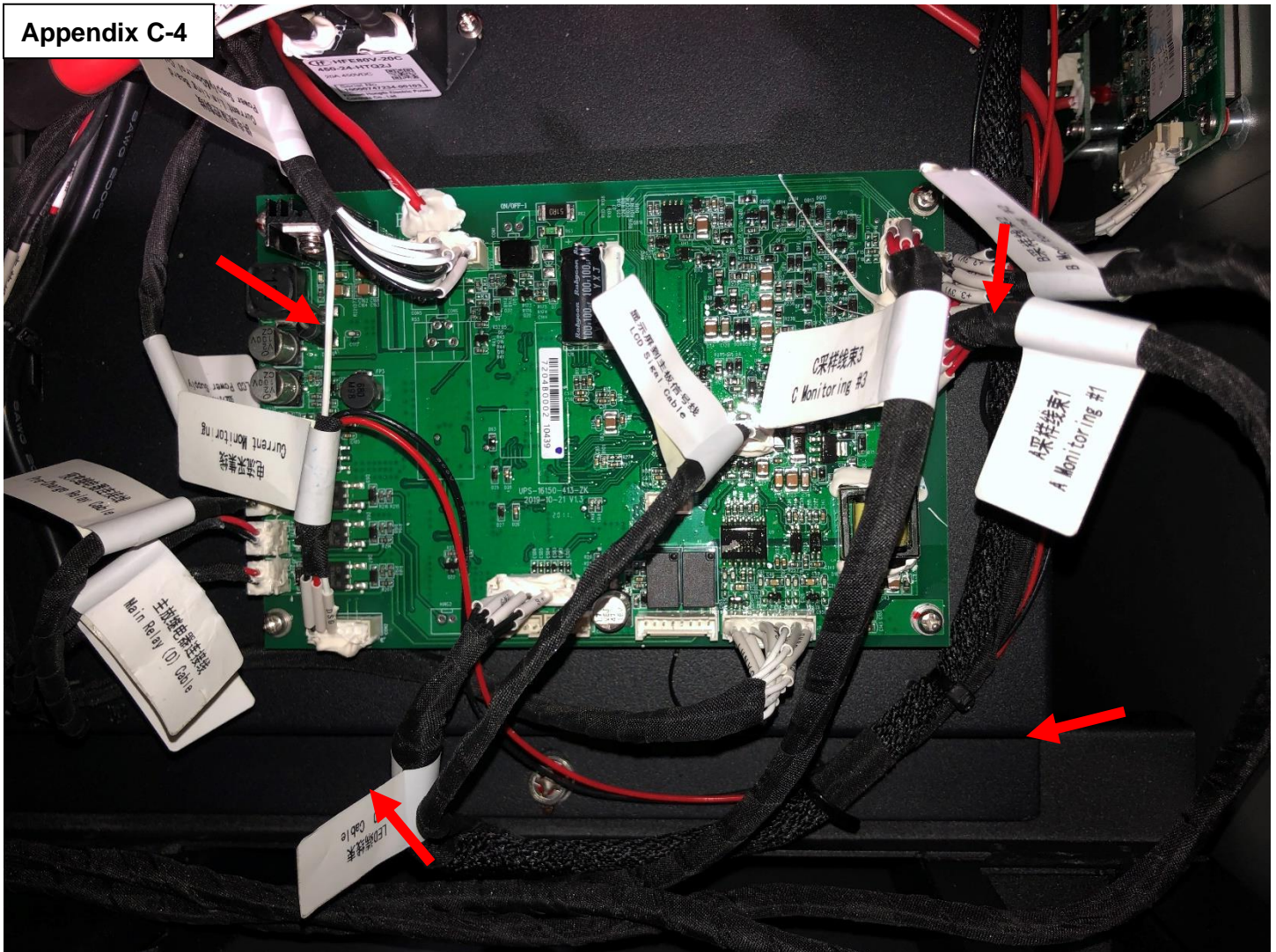
Appendix C-2



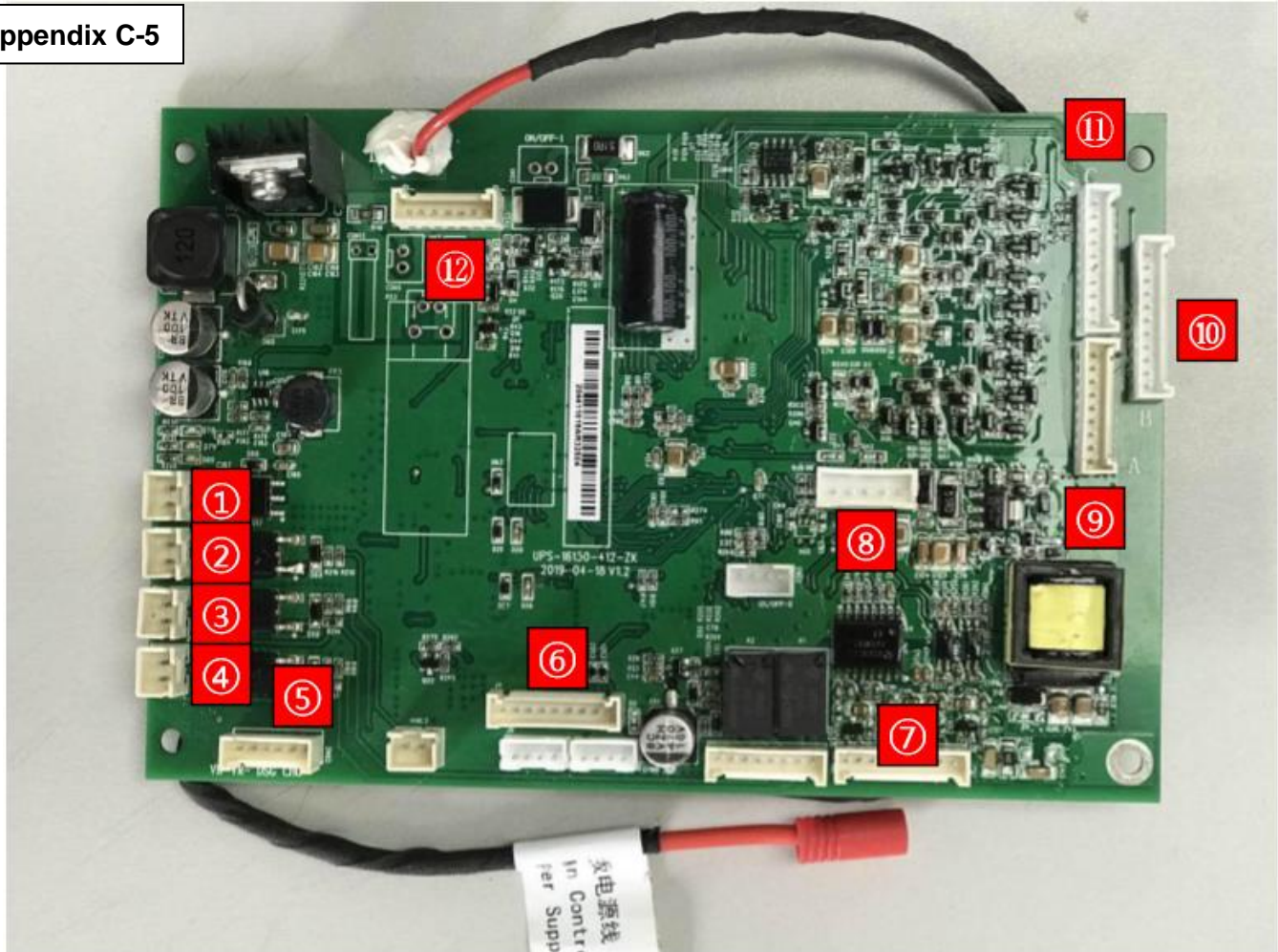
Appendix C-3



Appendix C-4



Appendix C-5



Number	Connector Name
1	LCD Power Supply Cable
2	Pre-Charge Relay Cable
3	Main Relay (D) Cable
4	Main Relay (C) Cable
5	Current Monitoring
6	Main Control Cable
7	RS485/CAN Com Cable
8	LCD Signal Cable
9	A Cell Monitoring
10	B Cell Monitoring
11	C Cell Monitoring
12	Current Limiting Board Power Supply&Control Cable