

How-To Note

Replacing the FM100 Charge Controller on the FP-Radian 300V System

Tools Required:

- Screwdriver, Phillips
- Digital Multi-Meter (DMM)

Steps:

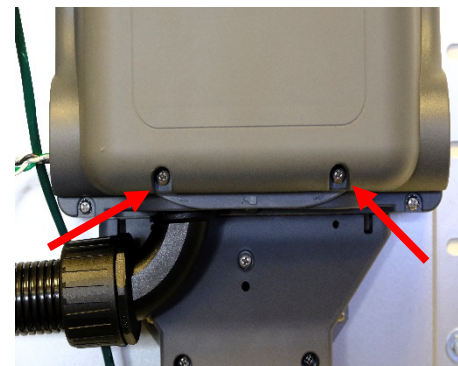
1. If desired, save the configuration file to the SD card using the MATE3s system display (see *MATE3s Programming Guide* page 5)
2. De-energize all system components, including the PV (see *FLEXpower Radian Quick Start Guide, De-energize/Shutdown Procedures*)
3. Using a DMM, verify no voltage is present within the system (including the charge controller and GSLC)



4. If replacing the bottom controller on a FLEXpower Radian system, first remove the MATE3s and associated bracket (see image)

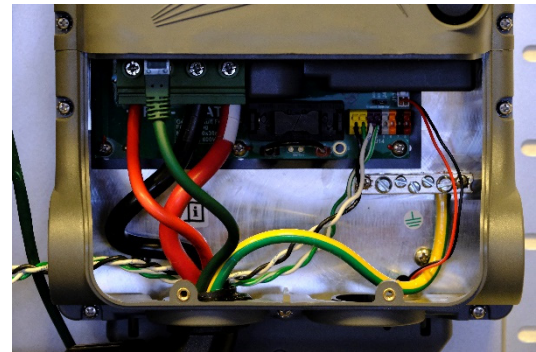


5. Remove the front cover from the FM100
 - a. Remove two Phillips screws from bottom left and right of the front panel (see image)
 - b. Pull front panel down and away from the FM100



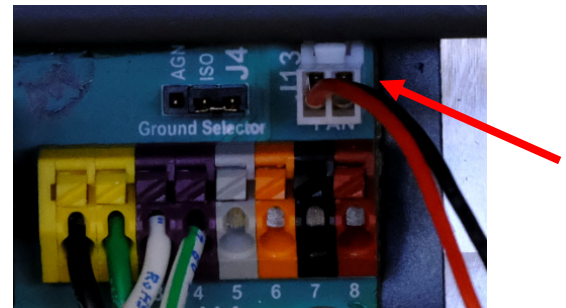
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6. Disconnect the communications cable
7. Disconnect any auxiliary wiring (for example, rapid shutdown communications)
8. Disconnect the ground wire
9. Disconnect the battery positive and negative wires
10. Disconnect the PV positive wire
11. Disengage the conduit from the charge controller

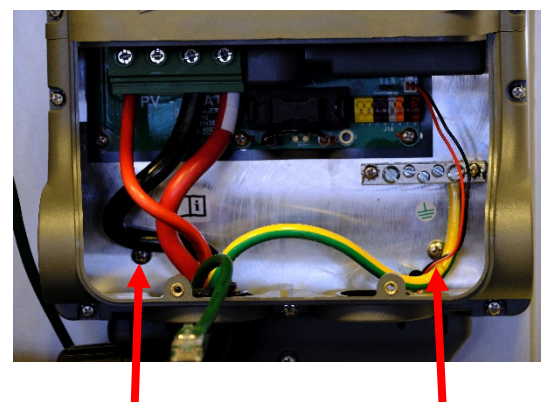


12. Disconnect the fan wires (see image)
13. Remove the fan by gently pulling out and down on the fan housing

NOTE: Ensure the fan wires are not damaged when removing from the charge controller wiring compartment



14. Remove the screws connecting the charge controller to the back plate (see image)



15. Lift the charge controller up and away from the back plate

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16. Replace with the new charge controller



CAUTION:
Equipment Damage

Only one ground fault fuse should be installed in a single system. Remove fuse in replacement unit if necessary.

17. Replace the screws connecting the charge controller to the back plate
18. Insert all wires through the knockouts in the wiring compartment
19. Engage the conduit to the charge controller
20. Connect the PV positive wire
21. Connect the battery positive and negative wires
22. Connect the ground wire
23. Connect any auxiliary wires
24. Connect the communications cable
25. Check all connections for proper polarity and torque settings
26. Replace the FM100 front cover
27. Replace the MATE3s and bracket
28. Re-program and commission the system
 - a. Follow the startup guidelines in the *FP-Radian Quick Start Guide*, *Energize/Startup Procedures*
 - b. If a configuration file was saved in Step 1, load and restore the file using the MATE3s (see *MATE3s Programming Guide* page 5)
29. Ensure the settings are correct and test the system for proper operation



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Notes and Links

The following are links to documents referenced in the procedure.

FP-Radian Quick Start Guide:

<http://www.outbackpower.com/resources/documents/product-documentation/item/flexpower-radian-technical-documentation>

MATE3s Programming Guide:

<http://www.outbackpower.com/resources/documents/product-documentation/item/mate3s-technical-documentation>