

# TECH NOTES

## FT-31XX and FT-32XX Inline Electromagnetic Flow Meters



### REPLACING THE MAINBOARD

#### OVERVIEW AND GENERAL INFORMATION

The procedure below pertains to a replacement PCB board that ONICON has specifically programmed to correspond with a transmitter's serial number. If you need a mainboard tailored to a particular transmitter, please contact ONICON Tech Support.

#### RECOMMENDED TOOLS

- 4mm Allen Key for FT-32XX (3mm Allen Key for FT-31XX)
- Phillips screwdriver
- Static protection kit (ground wrist strap and mat). If you don't have access to this type of kit, touch a grounded metal object before touching the PCB and avoid walking around with an unprotected PCB.

#### PROCEDURE

This procedure guides you through replacing the mainboard of the FT-31XX or FT-32XX Series transmitter. (Note that the images show a main PCB with optional MODBUS communication. The steps are the same with/without this feature.)

##### IMPORTANT NOTE

***Always turn off and disconnect the FT-3XXX from the power source and any communication cables before attempting any repairs or replacements. We recommend photographing the disassembly process for easier reassembly reference.***

#### TO REPLACE THE MAINBOARD:

1. Loosen the 4 hex screws for the wiring cover (screws remain captive in the cover), then unplug the red power plug and all other terminal blocks that are wired, including coils (11-13), electrodes (1-4), and any other outputs (14-25).



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2. Once the transmitter is disconnected from power, use the 4mm Allen key (3mm if working on a FT-31XX) to loosen the hex screws securing the housing to the cover assembly. (from rear of transmitter; screws remain captive)



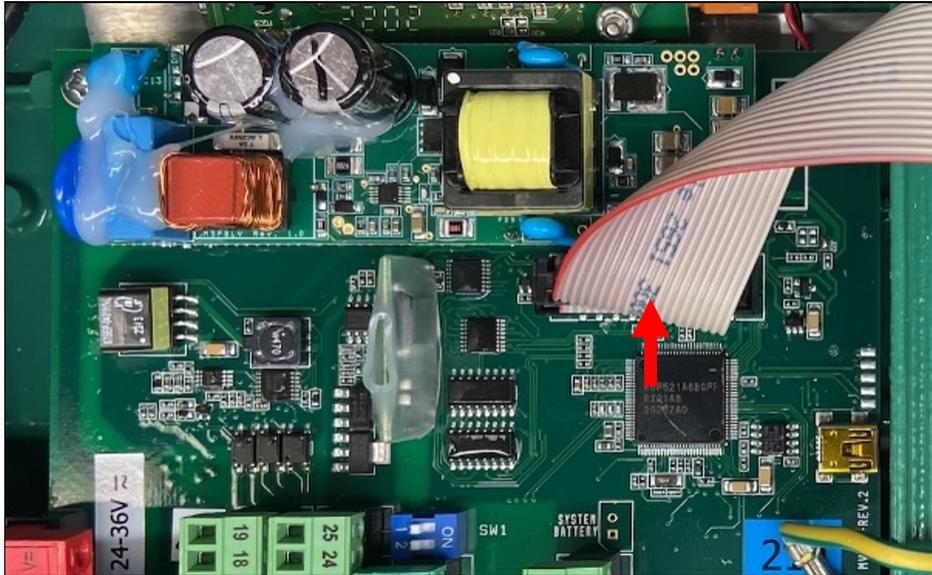
3. Carefully detach the front panel, (note ribbon cable connection).



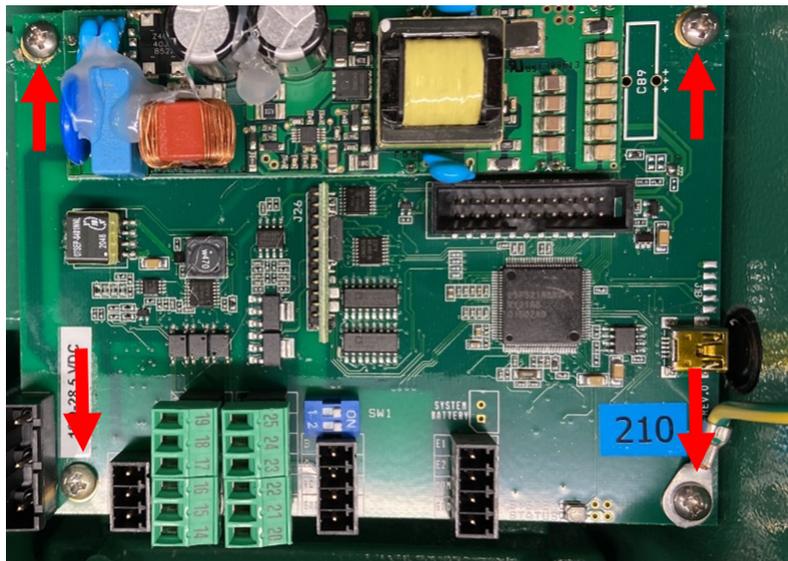
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- Once the mainboard is visible, detach the ribbon cable from the mainboard.



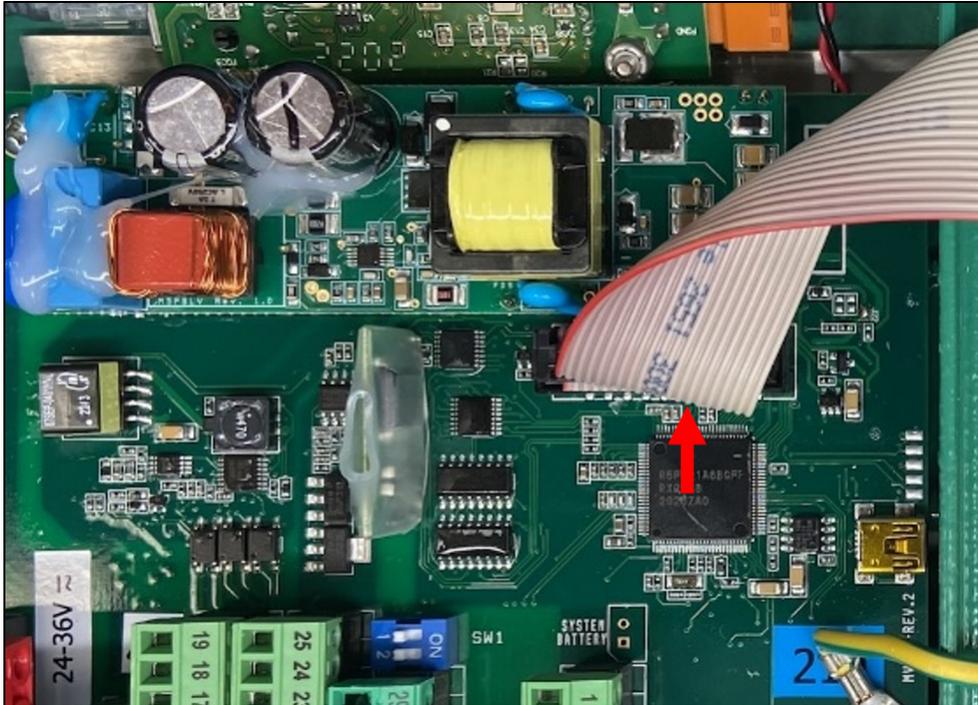
- Once all connections are detached, remove the four Phillips screws (note ground wire on the lower right screw for reassembly).



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6. Remove the old mainboard and reorganize the cables to accommodate the replacement board.
7. Place the new mainboard as the previous one, aligning its screw holes.
8. Attach the new mainboard using the Phillips screwdriver and the screws you removed during step 5 (remember ground wire on the lower right screw).

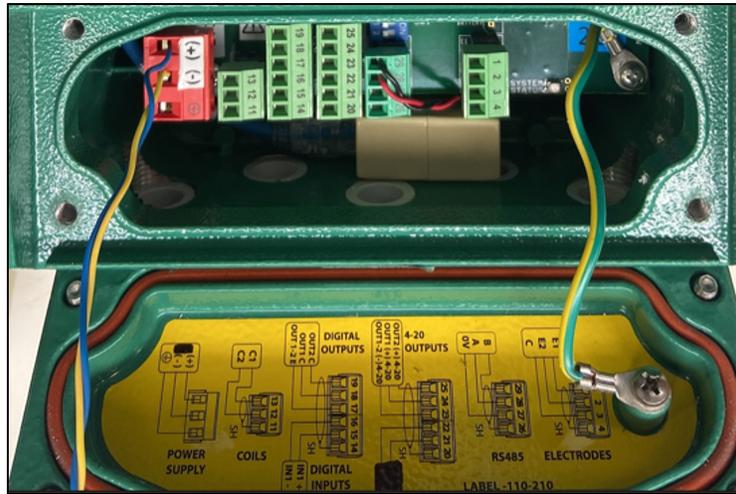


9. Attach ribbon cable to new main board. Reinstall the front cover, making sure to neatly tuck in all wires and cables without pinching them.
10. Fasten the back panel using the 4mm Allen key and the screws from step 2.

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11. Inspect and fasten all wire connectors within the connection panel. Ensure each terminal is properly connected by giving the wires a gentle tug. Once confirmed, reconnect the FT-3XXX to the power source.



Power up the FT-3XXX and test for functionality, then reinstall the wiring cover from step 1. Contact ONICON Tech Support if you need additional assistance.



12. Please return the defective main board to ONICON (using the anti-static bag from the new PCB). If you do not have a CAS # to reference, please contact ONICON.

If you have any questions or need further assistance, please contact ONICON Technical Support at (727) 447-6140 or [techsupport@onicon.com](mailto:techsupport@onicon.com).

