



Autosampler Node Troubleshooting (For New & Old Versions)

Learn the steps to find the issue if the autosampler cannot be triggered from the internet.

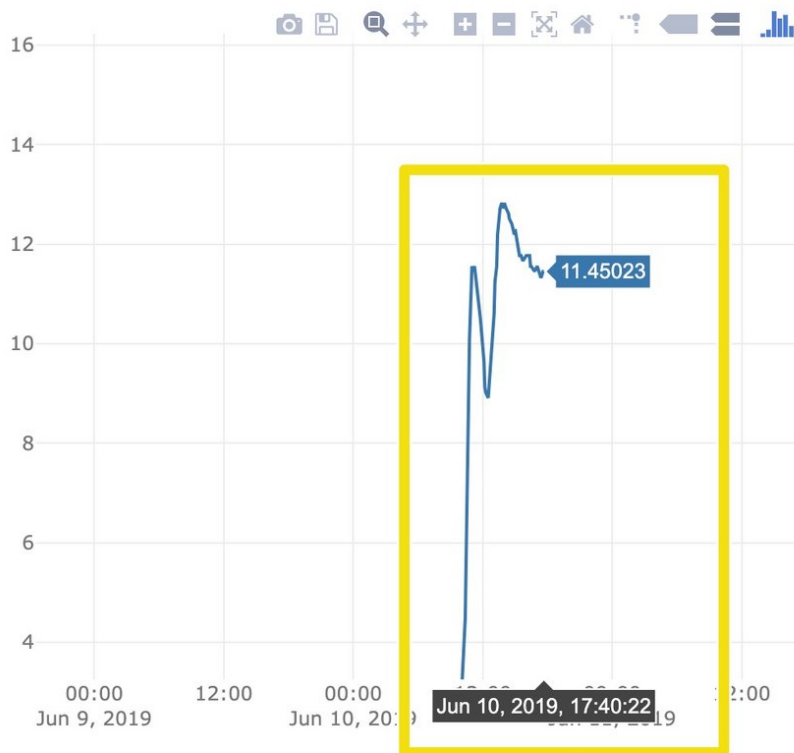
Written By: Brooke Mason



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ARB020

Distance (1338 mm)



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Status

Battery: 3.6953 V

Signal: 62 %

Sampling Frequency: 5.0 mins.

Coordinates: lat, lon

As of: 06/10/2019 13:44 EST

TRIGGER SAMPLE

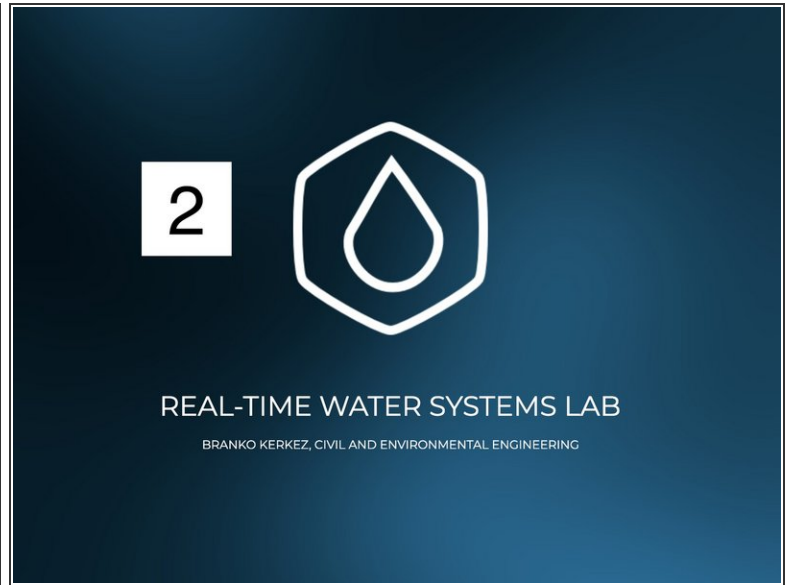
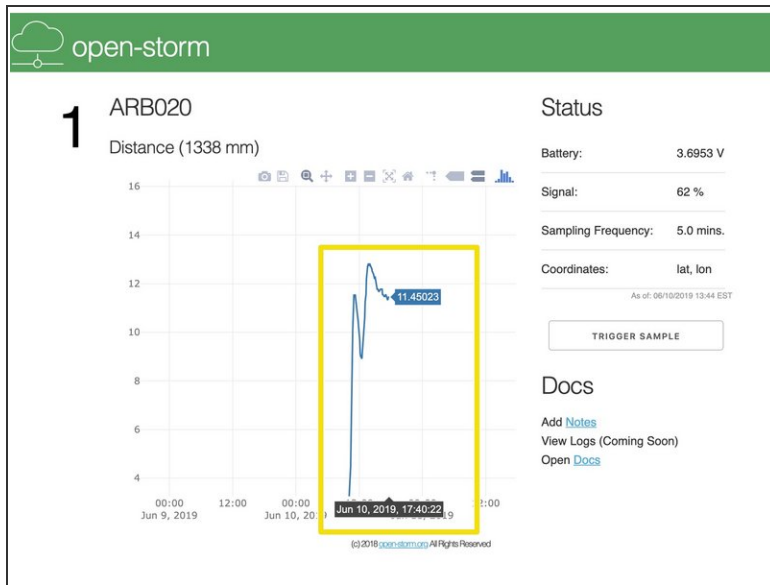
Docs

Add [Notes](#)

View Logs (Coming Soon)

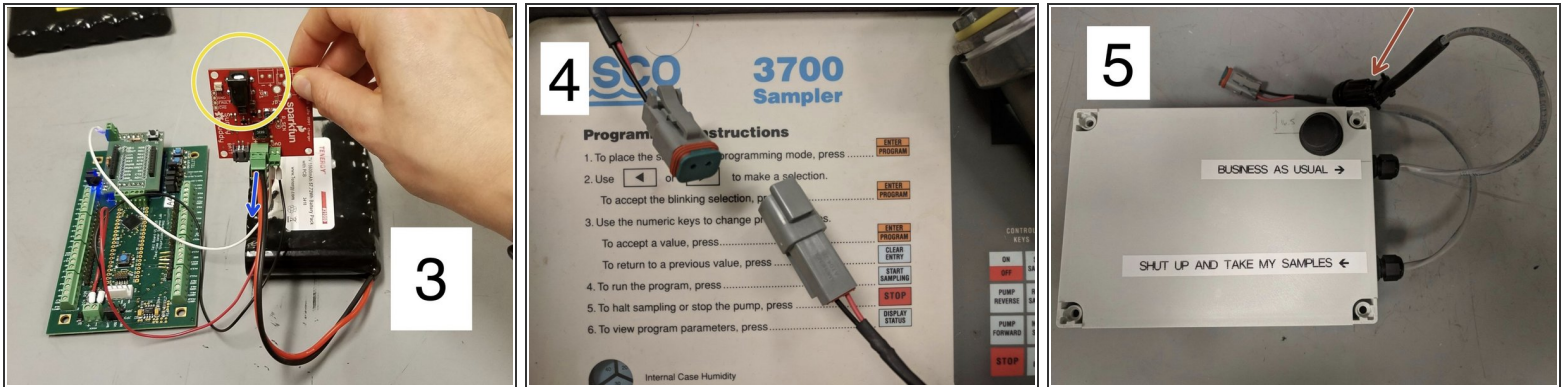
Open [Docs](#)

Step 1 — Confirm node is sending readings.



1. Check the farm-n-storm website for that node to make sure node has sent a reading in the last hour.
2. Contact the Real-Time Water Systems Lab to update the sampling frequency to every 5 minutes to make testing easier.

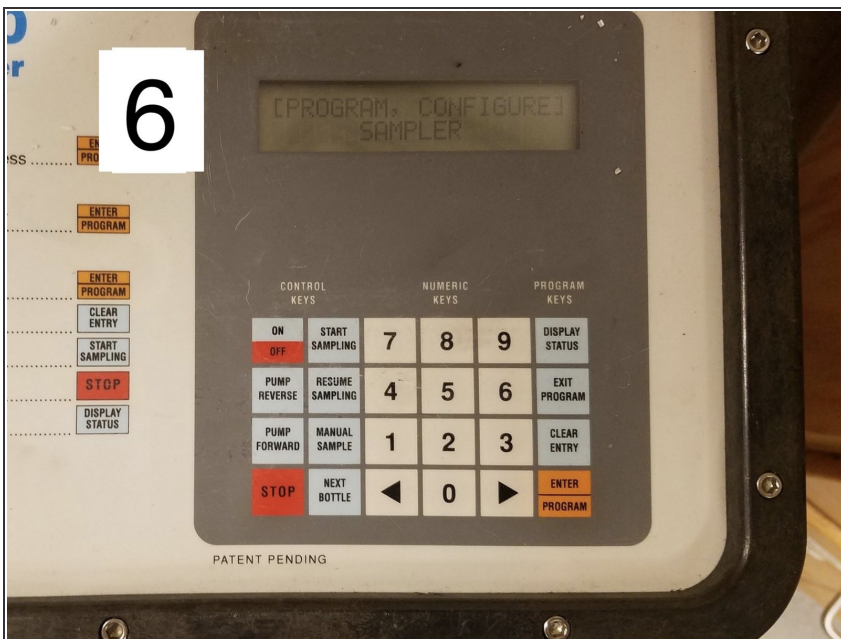
Step 2 — Disconnect batteries completely.



- 3. Disconnect the plug to the solar panel.
- Then, grabbing the green connector, pull the battery connector from the solar charge controller.
- 4. Disconnect the plugs for the autosampler battery.
- 5. Disconnect the connector that plugs into the battery port of the sampler.

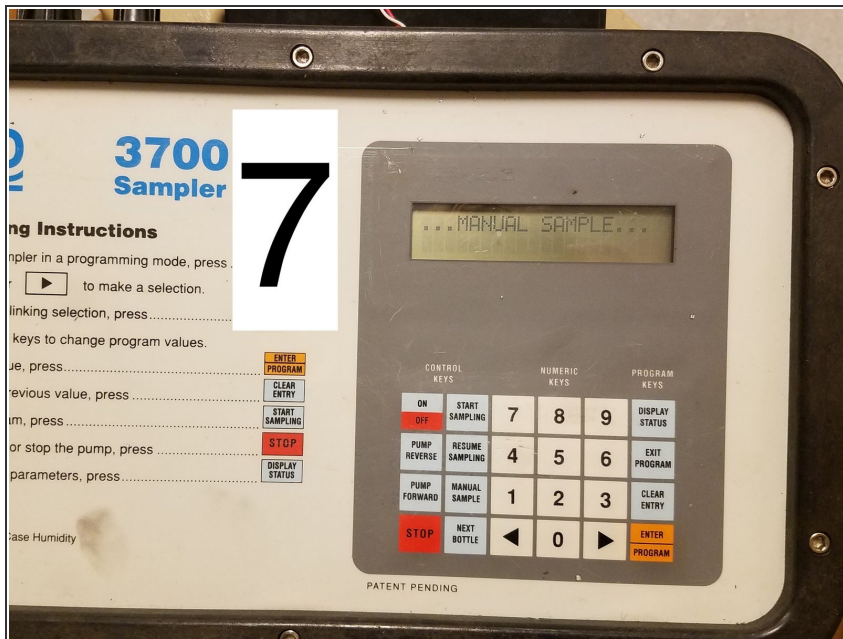
⚠ If disconnect battery before solar panel, this can damage the solar charger!

Step 3 — Check autosampler



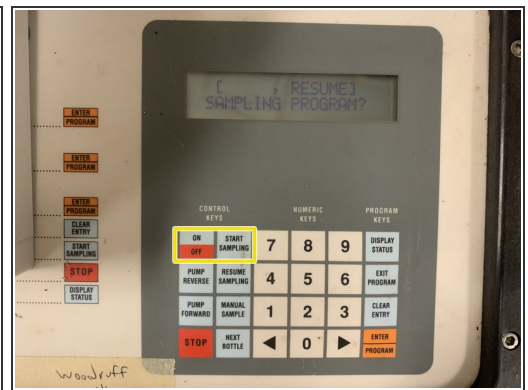
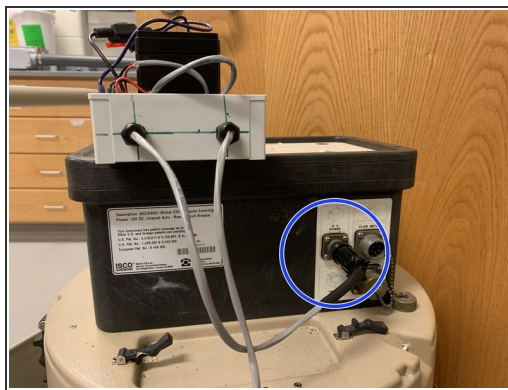
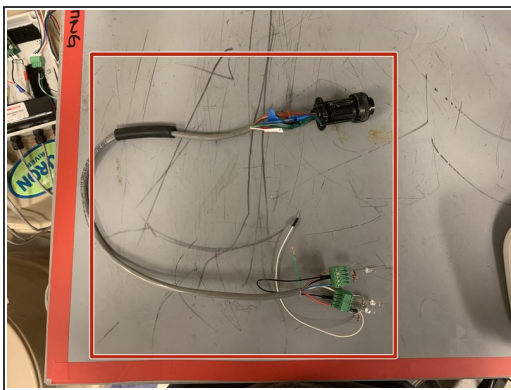
- 6. Confirm the autosampler is configured correctly. See this [tutorial](#) for more details.
- Confirm the autosampler is programming correctly. See this [tutorial](#) for more details.

Step 4 — Check autosampler



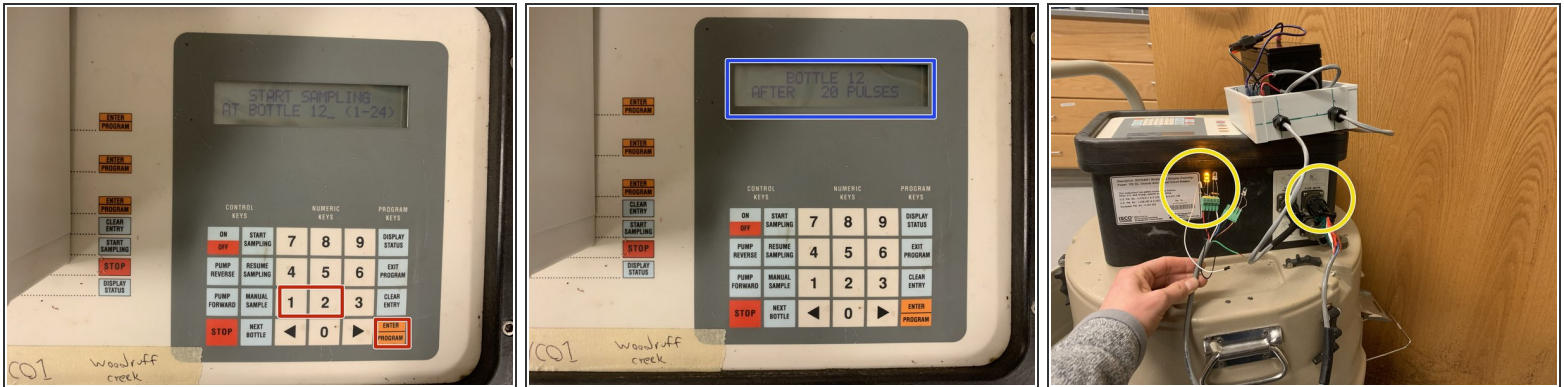
- Now we will trigger a sample from the autosampler to confirm the sampling works.
- 7. Press the "MANUAL SAMPLE" button and then "ENTER/PROGRAM".
- ① Confirm the autosampler starts.

Step 5 — Trigger autosampler with 6-pin connector



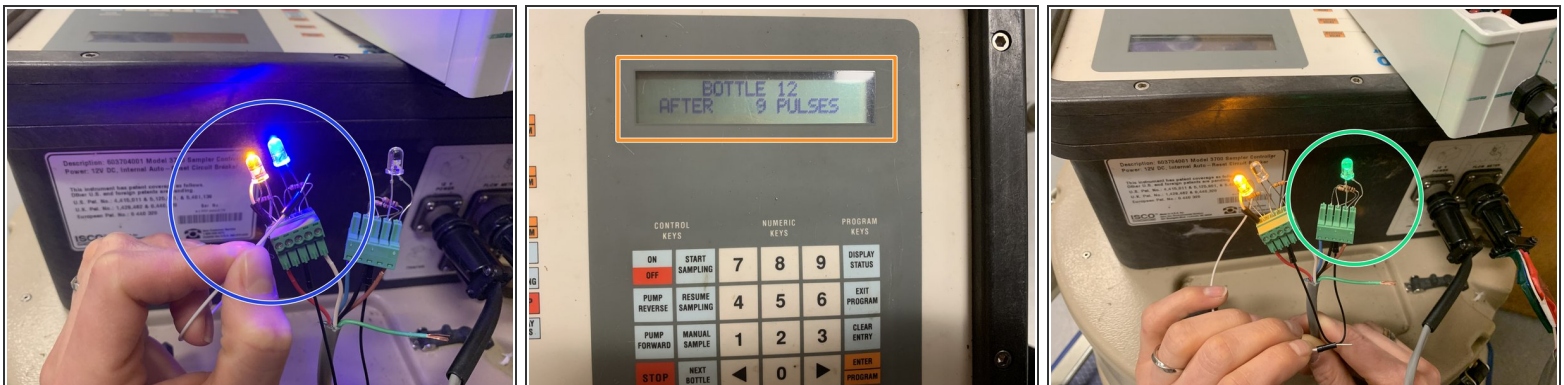
- Get the modified 6-pin connector to test the autosampler
- Connect the 12V battery to the autosampler
- Push the On button and then Start Sampling

Step 6 — Trigger autosampler with 6-pin connector



- Set the sample bottle to 12 for easier verification. And then press Enter.
- Screen should say "Bottle 12 After 20 Pulses"
- Plug in the 6-pin connector to the autosampler. The yellow LED should light up immediately.

Step 7 — Trigger autosampler with 6-pin connector



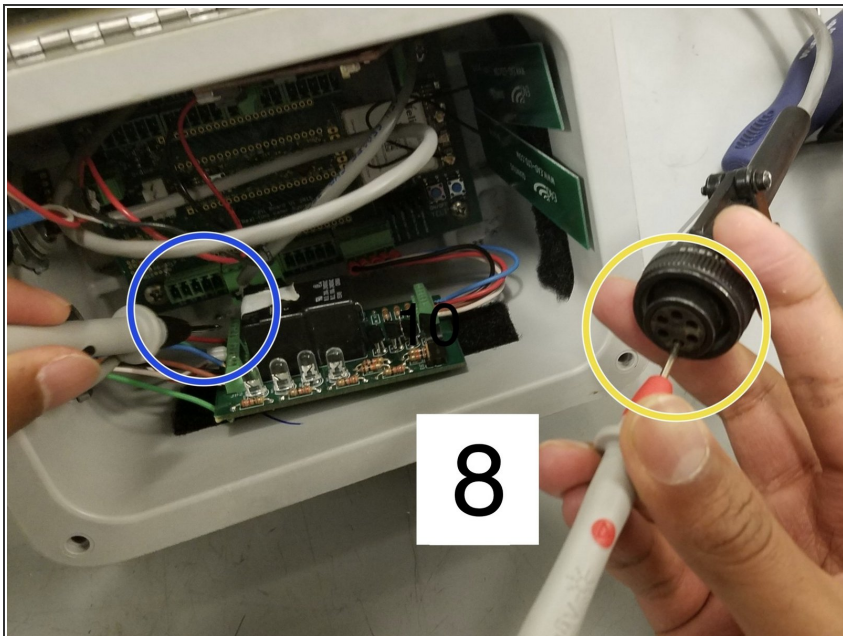
- Touch the jumper wire to the LED attached to the white wire 20 times. This wire is for sending pulses to the autosampler.
- You will see the pulse count decreasing on the LCD screen.
- You will hear the autosampler making noises as it moves to bottle 12. You will then see the green LED flash 12 times to indicate the 12th bottle.

Step 8 — Trigger autosampler with 6-pin connector



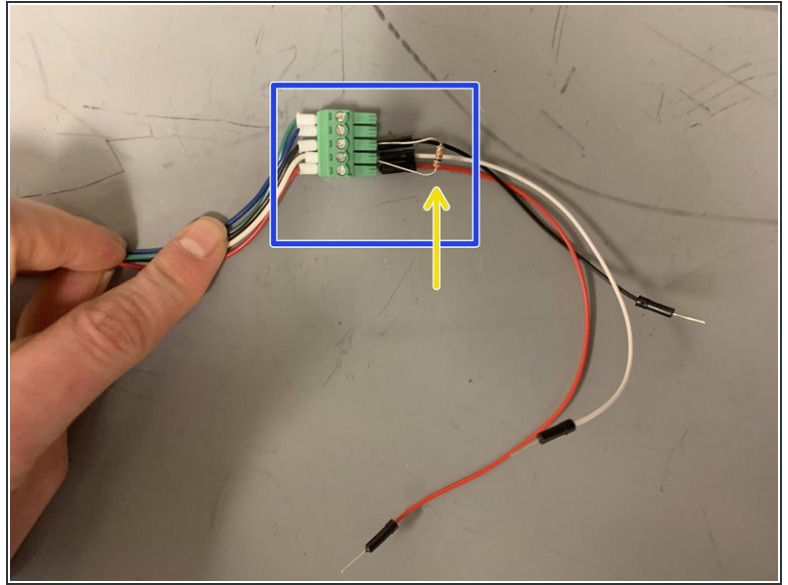
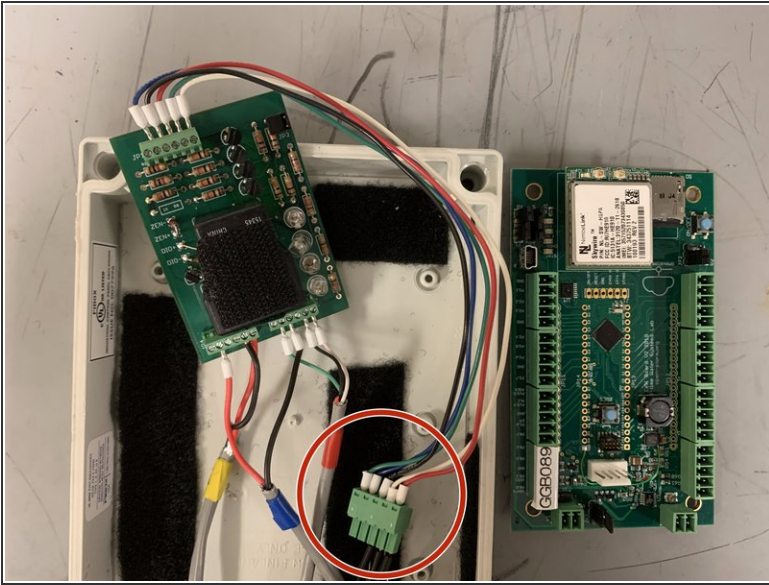
- You will see the LCD start indicating the sampling steps. Press Stop.
- ❗ If these steps work as outlined, you have successfully tested the autosampler with the 6-pin connector and the autosampler is working correctly.
- ❗ If the LEDs did not work or the sampler does not start the sampling process, something may be wrong with the autosampler wiring.

Step 9 — Check wiring



- 8. Confirm there are no breaks in the wiring between the interface board the autosampler. See this [tutorial](#) for more details.

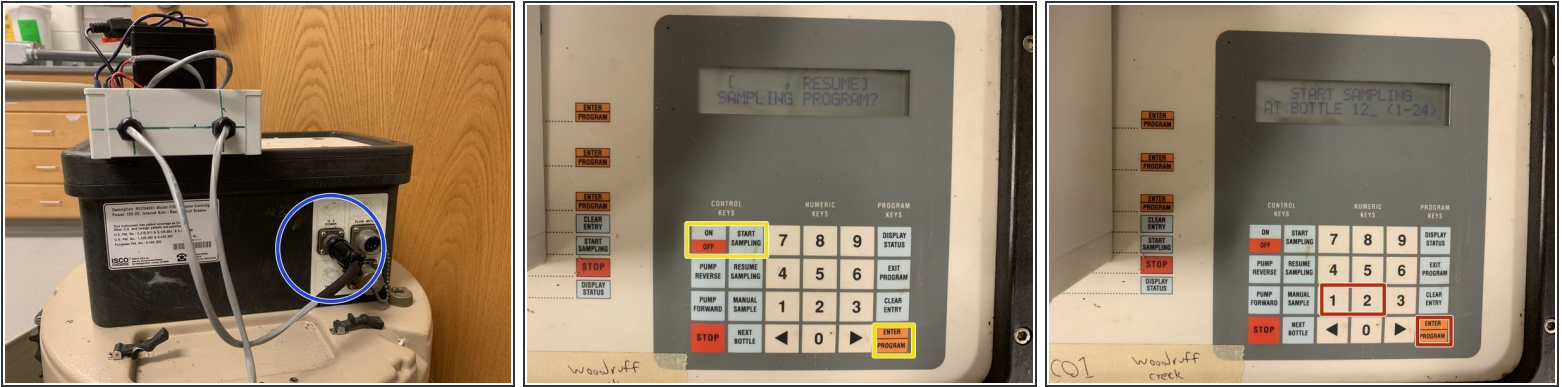
Step 10 — Trigger autosampler with node battery.



⚠ Click here to watch a video of how to trigger the autosampler with the node battery.

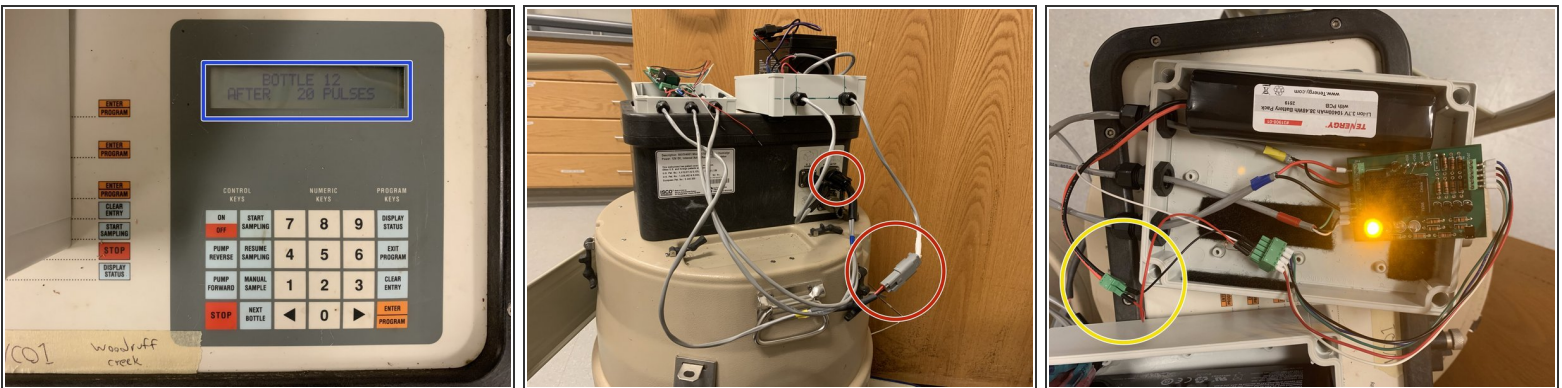
- Disconnect the relay board from the Open-Storm board.
- Connect a red, black, and white jumper wire into the pluggable header (that was attached the board).
- Connect a XX resistor in the same holes as the black and white wires. Resistors are blind to the polarity in a circuit. So you don't have to worry about installing them backwards.

Step 11 — Trigger autosampler with node battery.



- Plug in the battery box into the autosampler.
- Switch the battery box switch to "Manual Mode". Press the On button, then the Start Sampling button, then the Enter button.
- Set the sample bottle to 12 for easier verification. And then press Enter.

Step 12 — Triggering autosampler through relay board



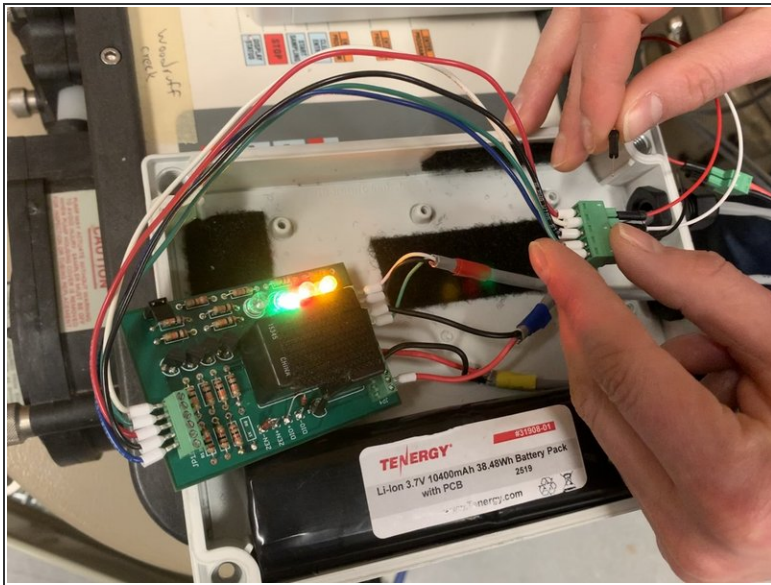
- Screen should say "Bottle 12 After 20 Pulses".
- Plug in the 6-pin connector, and connect the battery box to the node box.
- Plug in the red and black jumper wire into the correct terminals of the 3.7V node battery. The yellow LED should turn on immediately.

Step 13 — Triggering autosampler through relay board



- Touch the white jumper wire to the red jumper wire 20 times. This wire is for sending pulses to the autosampler. You will see the blue LED blink with each touch.
- You will see the pulse count decreasing on the LCD screen.
- You will hear the autosampler making noises as it moves to bottle 12. You will see the red LED light go on, telling us the autosampler is busy taking a sample.

Step 14 — Triggering autosampler with node battery



- You will then see the green LED flash 12 times to indicate the 12th bottle.
- You will see the LCD start indicating the sampling steps. Press Stop.
- ① If these steps work as outlined, you have successfully tested the autosampler with the relay board and the relay board is working correctly.
- ① If the LEDs did not work or the sampler does not start the sampling process, something may be wrong with the relay board.

Step 15 — Contact the Real-Time Water Systems Lab



i If everything else works, then there is an issue with the code/node. Contact the Real-Time Water Systems Lab for further instructions.