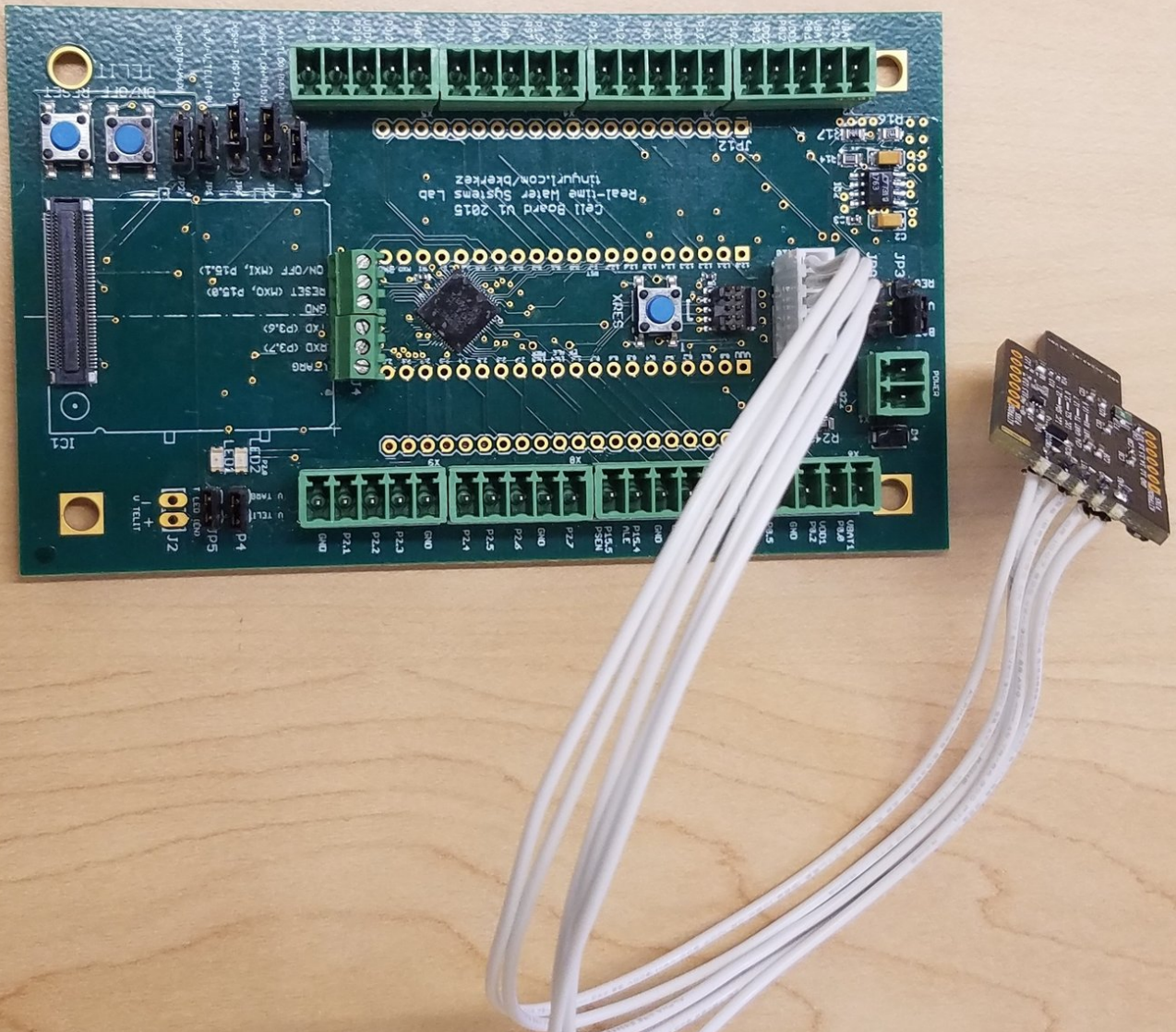




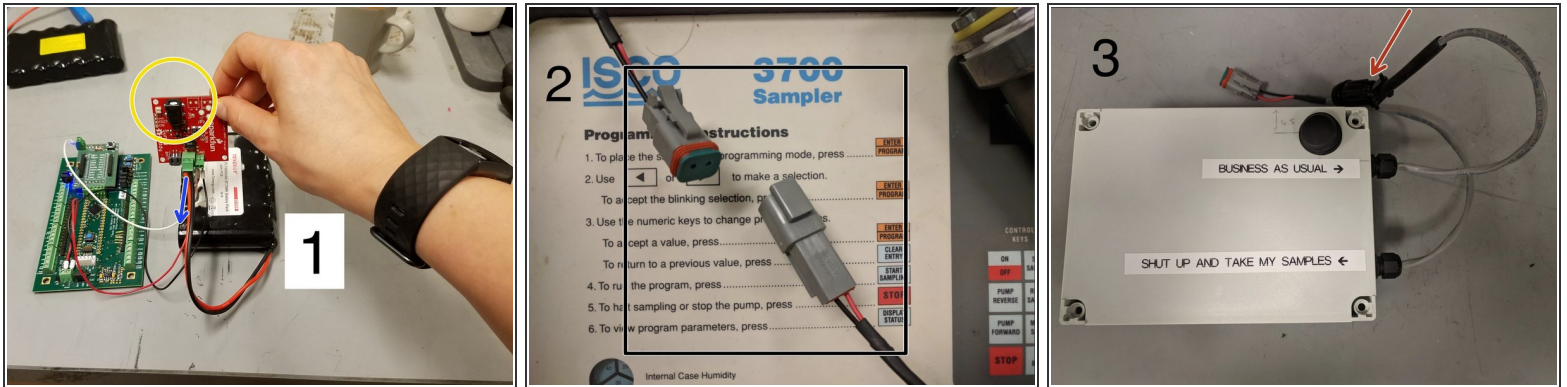
Autosampler Open-Storm Board Reprogramming (For Old & New Versions)

Follow these steps to reprogram the Open-Storm board for the autosampler.

Written By: Brooke Mason



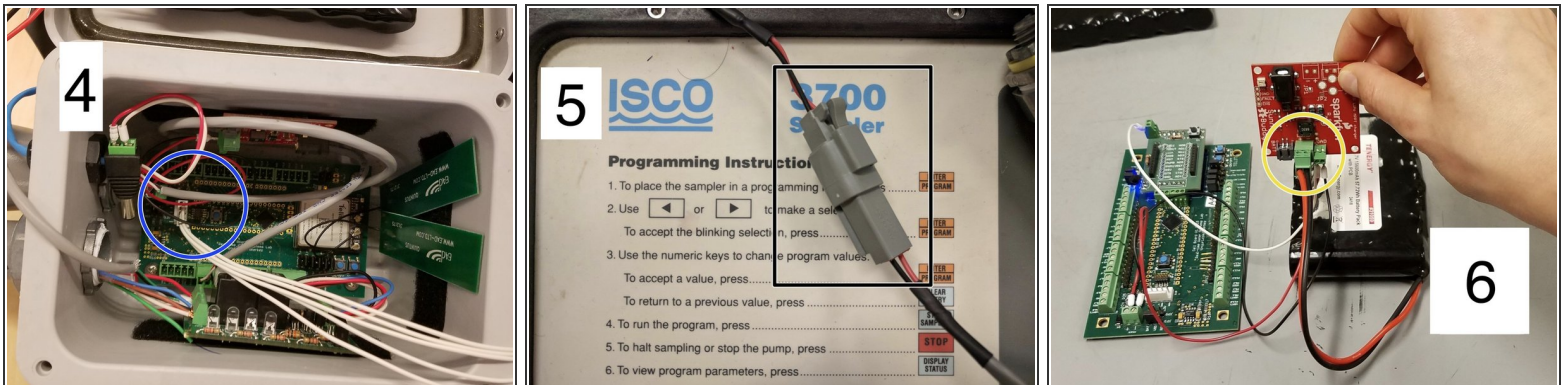
Step 1 — Disconnect the batteries completely.



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

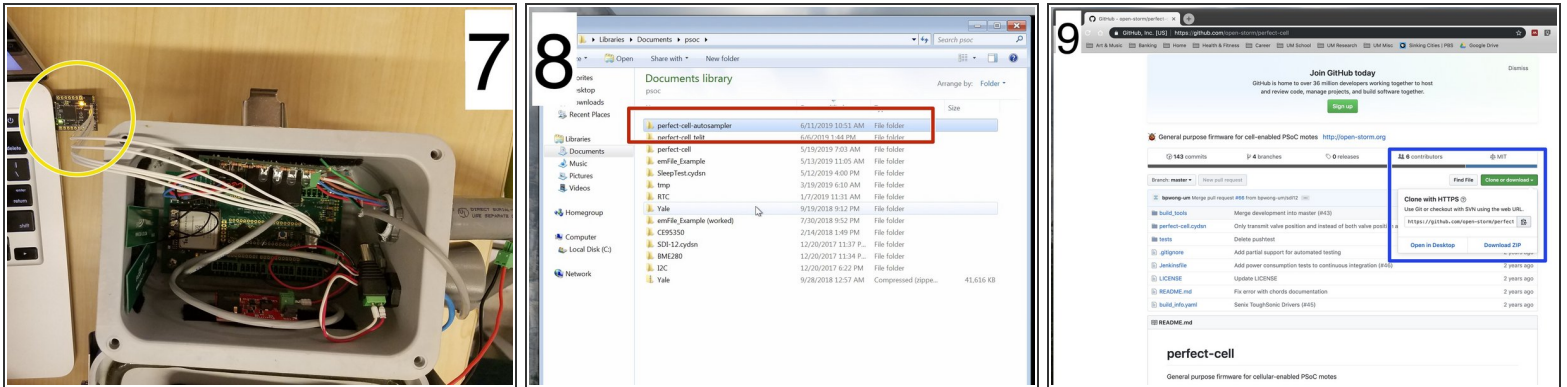
⚠ If disconnect battery before solar panel, this can damage the solar charger!

Step 2 — Plug in USB and reconnect batteries.



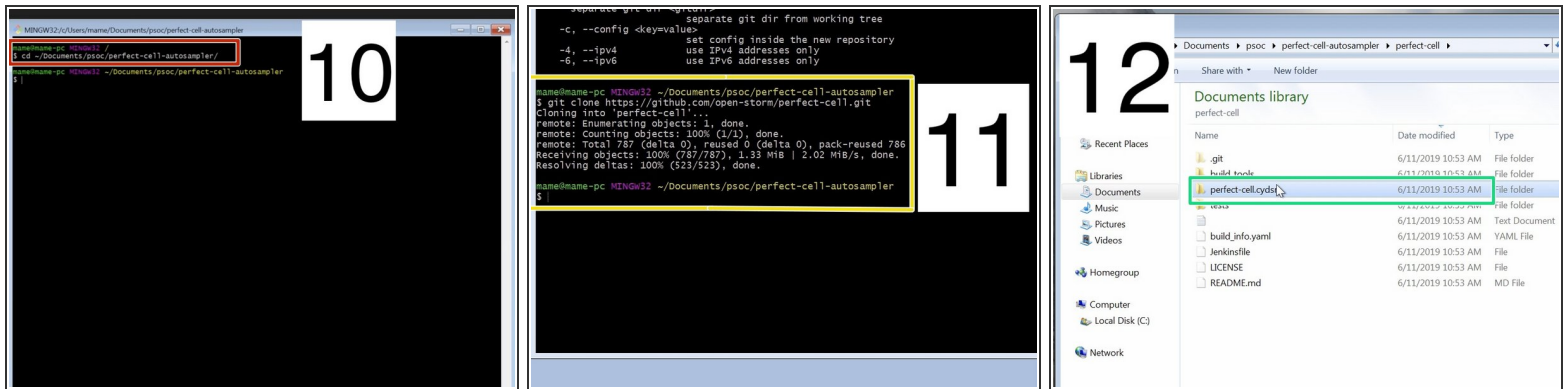
- 4. Plug in the USB programmer into the Open-Storm board.
- 5. Reconnect the node battery.
- 6. Reconnect the autosampler battery.

Step 3 — Connecting to the computer.



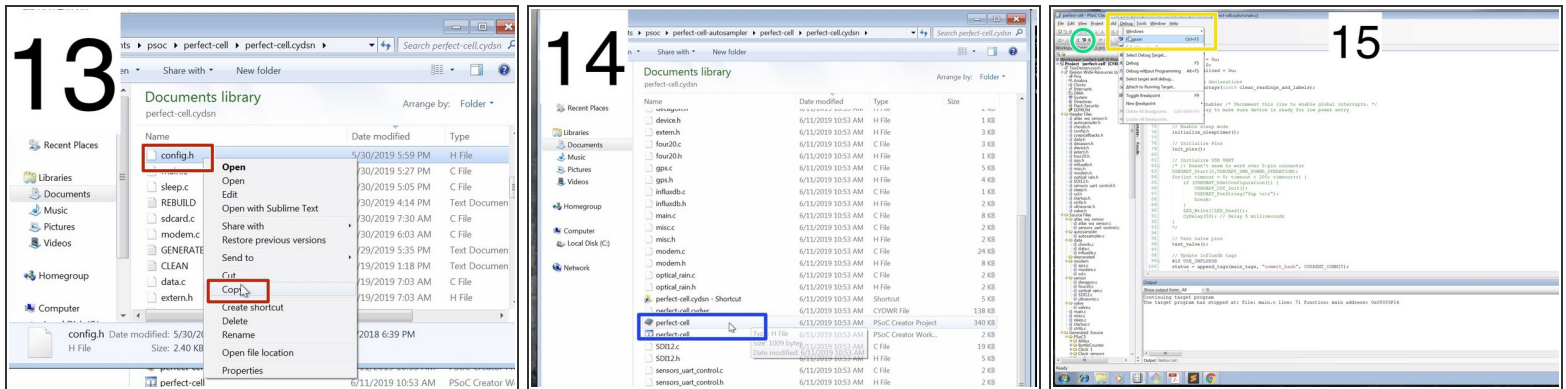
- 7. Connect the USB programmer into the computer.
- 8. Create a folder for the Open-Storm board code to be stored. In this case, it indicates that we are working with an autosampler.
- 9. The code is stored on GitHub [here](https://github.com/perfect-cell/perfect-cell). Click the "Clone or download" button. Copy the address.

Step 4 — Downloading the code.



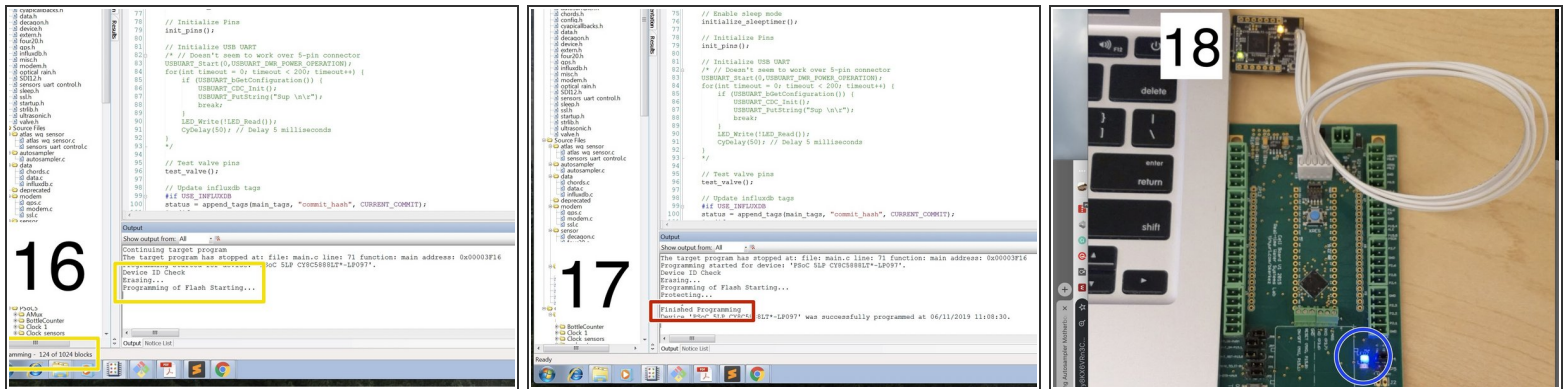
- 10. Open the Git Bash application and type "cd" followed by the address of the folder you created to save the code in. In this case "`~/Documents/psoc/perfect-cell-autosampler`".
- ① You can use the "~" if the folder is located in your home directory.
- ① You will need the free program Git BASH in order to download the code. You can download it [here](#)
- 11. Type "git clone" followed by the address copied from git hub [here](#).
- ① Now the code will download to the desired folder.
- 12. Inside your folder, open the "perfect-cell" folder then open the "perfect-cell.cydsn" folder.


Step 5 — Programming the motherboard.



- 13. Obtain the "config.h" file from an administrator at the Real-Time Water Systems Lab. Then copy the file and paste it in the "perfect-cell.cydsn" file.
- You will need the free program PSoC to program the cell. You can download it [here](#).
- ❗ PSoC only works on Windows.
- 14. Then in the "perfect-cell.cydsn" file, open the "perfect-cell" PSoC file. Once the PSoC Creator program launches, begin by building the cell. Go to: Build>Build perfect-cell. After it's done building you should not see any errors. Warnings are okay.
- 15. Now it is time to program the cell! There are two ways to do this:
 - (1) Press the "Program" button" or;
 - (2) Click "Debug" then select "Program"

Step 6 — Programming the motherboard.



- 16. PSOC will begin flashing the code. You can track the progress by watching the "programming - XX of 1024 blocks".
 - 17. When the board is completely programmed, it will say "Finished Programming".
 - 18. You will also note the board is completely programmed when the board flashes blue.
-  Now you can unplug the USB from the board and the computer.