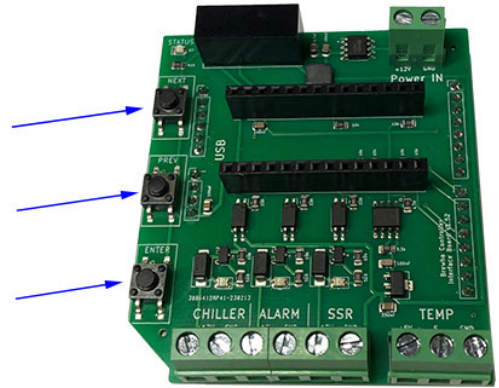


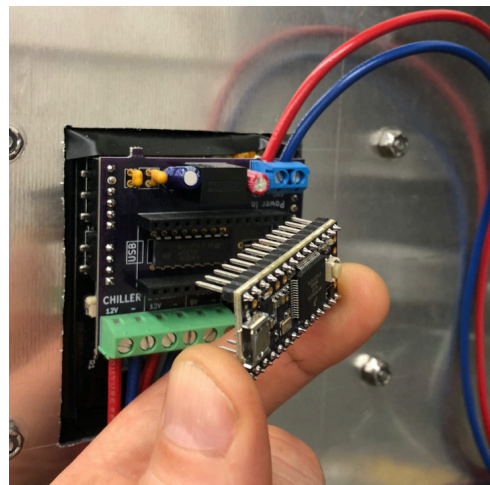
Troubleshooting and how to update the BREWHA touchscreen controller

If your touchscreen is not working properly, the first thing to do is to update the firmware (see instructions below). Once having updated, if your touchscreen is powering up normally, but is not responsive to touch, it is likely that the LCD has died and needs replacing (warranty on these is 12 months under normal operating conditions). It could however, be the interface or in rare occasions, the controller. New generation interfaces (see image to the right) have buttons on the back that allow you to cycle through the menu; if the buttons permit control, then it is just the LCD that needs replacing. If you have an old generation interface, or if the buttons do not provide control, it is best to replace all three components.

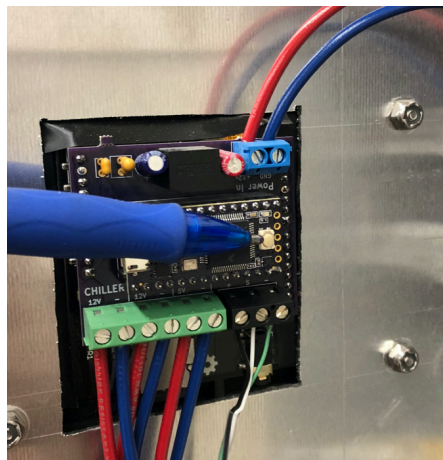


Note: It is safest, before doing any work inside the BREWHA Power Controller, to unplug it (single element box) or turn the main breaker off. Ensure the Box is off when programming the controller.

1. If you don't already have it, download the Teensy Loader Program from this link (there are separate links for Windows or Mac): <https://www.pjrc.com/teensy/loader.html>
2. Install the Disk Image or program you downloaded in step 1.
3. Save the updated .hex program from the BREWHA Power Controller product page on the website to your desktop. It will be called something like "Brewha_controller_T418MAY23.hex" (note the difference between the older generation T3 and newer T4 controllers to ensure you upload the correct program for your controller).
4. In the Teensy program, select File/Open Hex File – and select the BREWHA program from your desktop (the file from step 3.)
5. Connect the touchscreen controller to your computer using a USB to USB 2.0 micro-B cable (Important note: some cables are ONLY for charging devices so ensure your cable is for data transfer as well; if your cable is too short to reach the controller inside the BREWHA control panel, you can unplug the controller from the BREWHA Control Panel by just pulling it straight off.)



6. Press the button on the BREWHA controller (button location pointed at by the blue pen in the following picture).



7. In the Teensy program, select 'Operation/Program'. You should see a small window pop up saying that programming is occurring (if you cannot select 'program' when connected, it is likely that your cable is a power only cable, a cable that can transfer data is required).

8. In the Teensy program, select 'Operation/Reboot'. The program should now say 'Reboot OK'

9. Unplug the cable and if necessary (if you removed it) insert the BREWHA controller back into the main panel/interface; pay attention to the orientation—there is a USB watermark on the interface board that should be matched (and ensure no pins are bent over in the process).



10. Turn the BREWHA Power Controller back on and confirm that the program version in the BREWHA Controller 'Settings/System info' menu has the same date as the program file name.

11. And you should be updated!