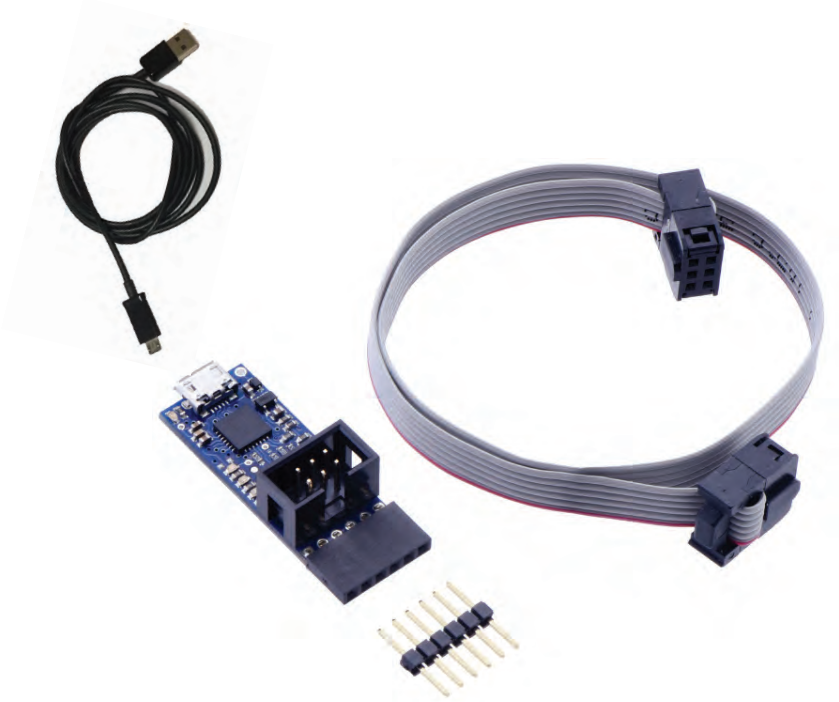
PENTAIR

INTELLICHEM® CONTROLLER FIRMWARE UPGRADE KIT INSTALLATION GUIDE



IMPORTANT SAFETY INSTRUCTIONS
READ AND FOLLOW ALL INSTRUCTIONS
SAVE THESE INSTRUCTIONS

Kit contents

The following items are included in the Kit P/N 521498

- Programmer IntelliChem® Controller - P/N 521469
- Installation Guide (this manual)

System requirements

- Windows® 10, 8 or 7

Technical Support (US)

8 AM to 7.30 PM (US Eastern and Pacific Time)
Phone: (800) 831-7133

Related manuals

IntelliChem Controller Installation and User's Guide (P/N 521363)

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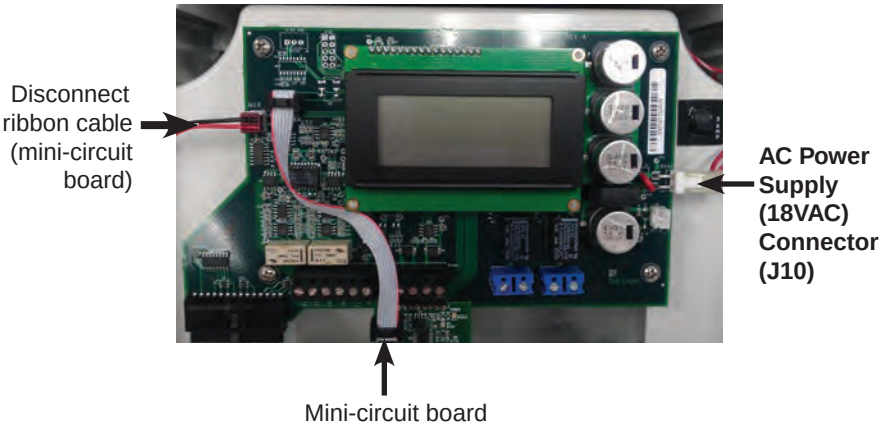
IntelliChem® Controller Firmware Update Instructions

The IntelliChem Controller firmware updates are performed using the update programmer connected to a USB port on a computer running Microsoft® Windows version 10, 8, or 7.

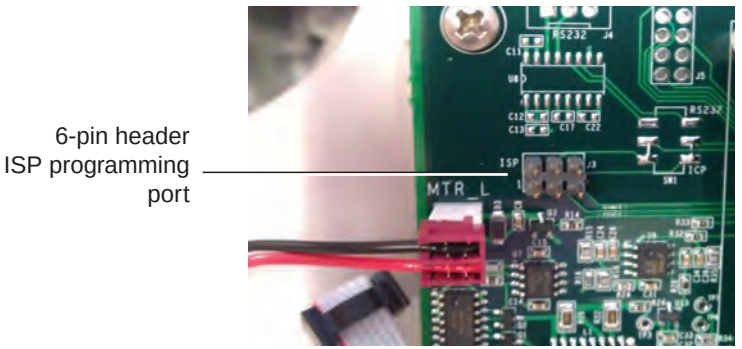
Connect Programmer Cables

1. **Disconnect power to the IntelliChem Controller**. Open the front the cover and disconnect the 18 VAC supply connector J10 on the right side of the IntelliChem Controller circuit board (as shown below).

2. ***Note: If there is a mini-circuit board connected to the IntelliChem Controller circuit board, disconnect the ribbon cable from the IntelliChem Controller circuit board.***

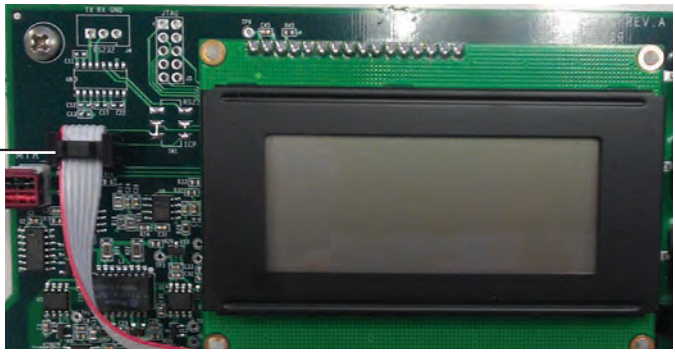


3. Locate the 6-pin header labeled ISP in the upper-left corner of the IntelliChem Controller circuit board (as show below).



4. Connect the 6-pin ribbon cable connector to the ISP (on the System Programming) port with the RED stripe toward the left-side as shown below.

Connect the programmer ribbon cable with RED STRIPE on LEFT SIDE



5. Reconnect the power connector (J10) to the IntelliChem® Controller circuit board (see page 1).
6. **DO NOT connect the micro USB cable to the computer**.

Installing IntelliChem Controller Firmware Upgrade Setup Wizard

1. Download the Pentair software from: **https://www.pentair.com/en/products/pool-spa-equipment/pool-automation/intellichem_waterchemistrycontroller.html**
2. Navigate to **HOMEOWNER AND PRO RESOURCES -> SOFTWARE**
3. Download and unzip file: **IntelliChem Firmware Upgrade v1-080.zip**
4. If it exists on your computer, Delete directory C:\Pentair\IntelliChem\.
5. From folder ICHEM_1060, Unzip file: **IntelliChem_Firmware_Upgrade_v1-060.zip**
6. Install the firmware upgrade setup wizard by double-clicking on the file you just unzipped **IntelliChem_Firmware_Upgrade_v1-060.exe**.

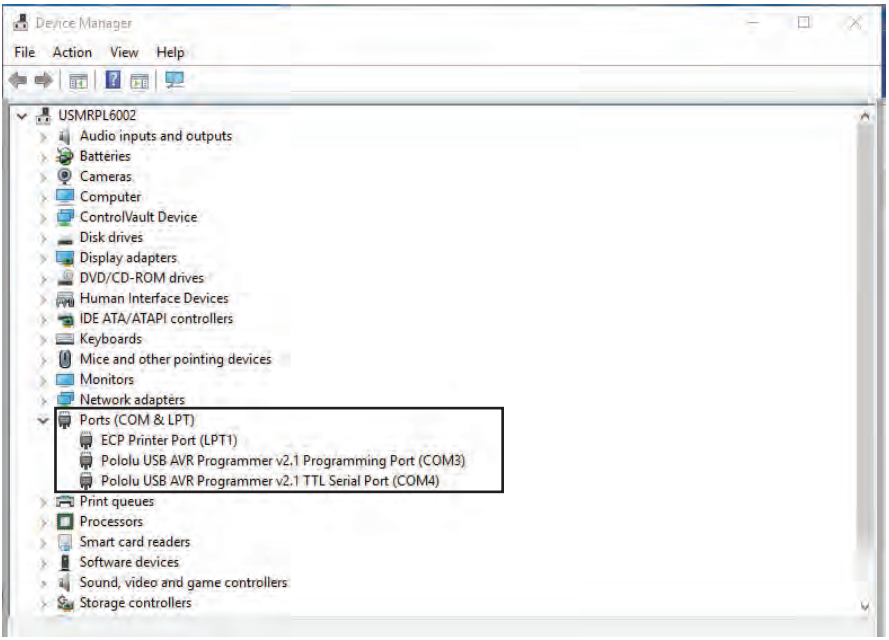
   Follow screen message to complete the installation.

   Note: For Windows 10, the INF configuration file is not compatible with this method of installation. Ignore all error messages. Select "OK" or "CLOSE" to continue and complete the installation. The Avrdude Programming utility and Pololu driver will be installed.
7. Follow screen message to complete installation.
8. Upon completion of software installation, copy the following two files to folder **C:\pentair\IntelliChem\ICHEM_Script_1080.bat and ICHEM_v1.080.a90**
9. Next, generate a NEW iChem icon pointing to IntelliChem version v1.080. Right click on file **ICHEM_Script_1080.bat**, select **Send to**, then select **Desktop (create short cut)**.

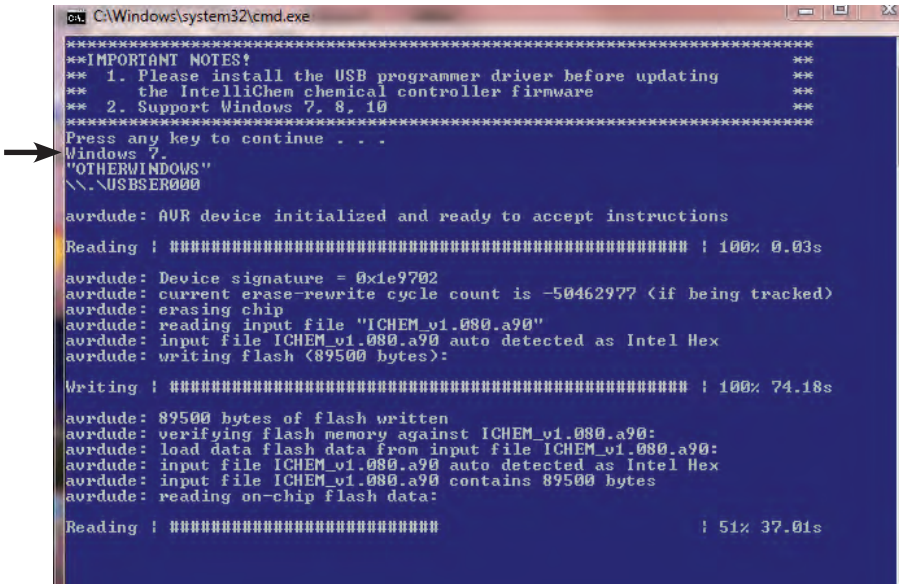
Programming IntelliChem Controller Firmware

10. Apply power to the IntelliChem Controller unit and connect the Pololu ribbon cable to IntelliChem Controller ISP programming **port ISP J3.**
11. Connect a micro USB cable from the Pololu programmer board to the computer USB port.

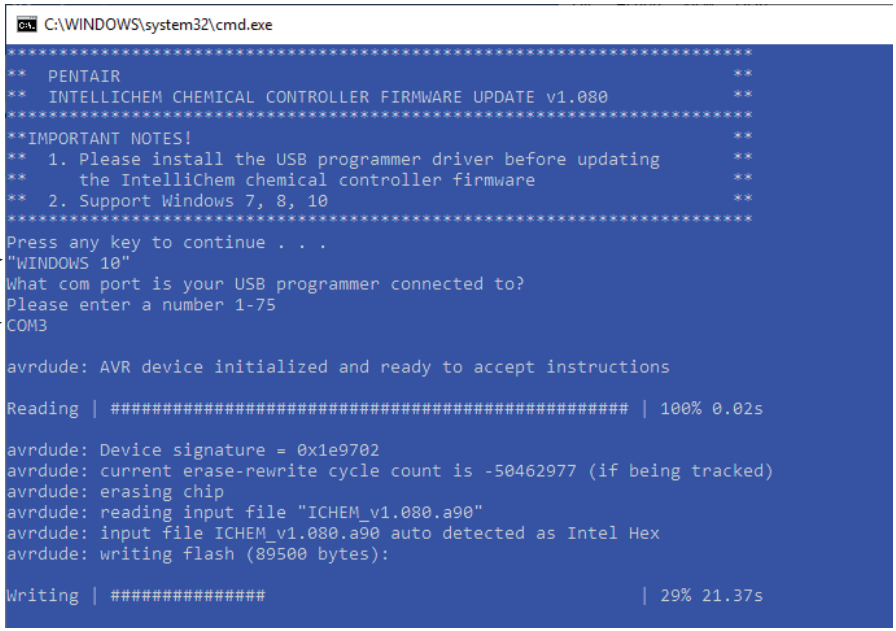
12. To verify if the Polulu device driver is installed correctly, Windows Device Manager should display as shown below.



13. **For Windows 7, 8 users:** Double-click on the desktop icon “IChem_ Script_1080” to begin programming IntelliChem® Controller firmware version 1.080. Wait for programming to complete.



14. **For Windows 10 users:**
    - Double-click on the desktop icon IChem_Script_1080
    - Enter the Pololu USB Programming COM port number ONLY from the Device Manager (i.e… 3)



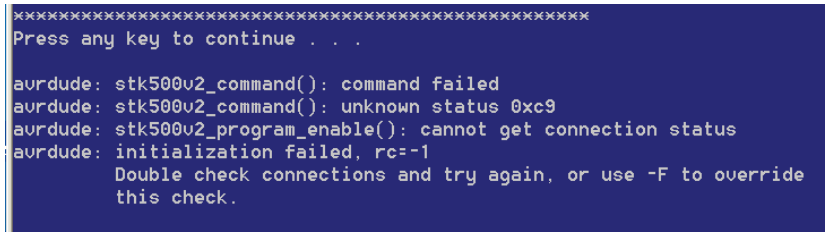
Troubleshooting

If the programmer exits without showing a progress bar, there was an error in the setup or installation. Check the following:

a) The programmer is installed correctly
b) IntelliChem® Controller unit is powered on
c) Driver is properly installed



No communication with Pololu Programmer, check USB connection.



No communication with IntelliChem Controller, check connection to ISP on the IntelliChem Controller board.



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