

Technical Note No. 059**AQLite Power Conversion****Date:** 29 July 2024**Author:** Austin Bailly**Summary:**

This Tech Note will show how to convert an AQLite from AC/DC to DC/DC, or from DC/DC to AC/DC. Contact techsupport@2BTech.io for questions regarding this procedure.

Tools/Materials Needed:

- 1 x Phillips head screwdriver
- 1 x Small Flathead screwdriver
- 1 x Pair of Tweezers
- 1 x Replacement converter (AC/DC PN: 10-090, DC/DC PN: 11-395)
- 1 x Power supply/ AC power cord
- 1 x new header for power in AQLite

Important Note: If doing a conversion from DC/DC to AC/DC, slightly different hardware (longer screws, plus spacers for the bulkhead) will be needed for mounting the bulkhead so the converter will fit. This is explained in Step 8 of this Tech Note. If converting from DC/DC to AC/DC you will also need the following:

2 x #6-32 x 1- $\frac{3}{8}$ " screws [needed to raise bulkhead mount if converting DC/DC to AC/DC]

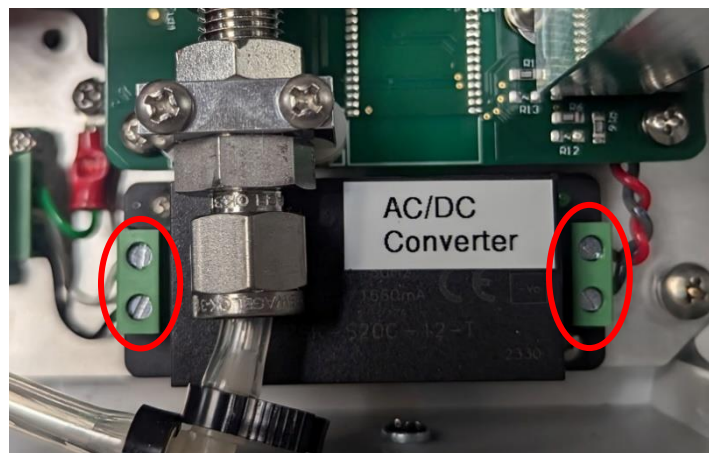
2 x #6 $\frac{3}{8}$ " L spacers, $\frac{1}{4}$ " or $\frac{3}{8}$ " OD [needed to raise bulkhead mount if converting DC/DC to AC/DC]

Procedure:

1. Unplug the AQLite from all power sources.
2. Unscrew the Inlet Bulkhead Mount. This is to give the converter room to move in/out of the instrument.



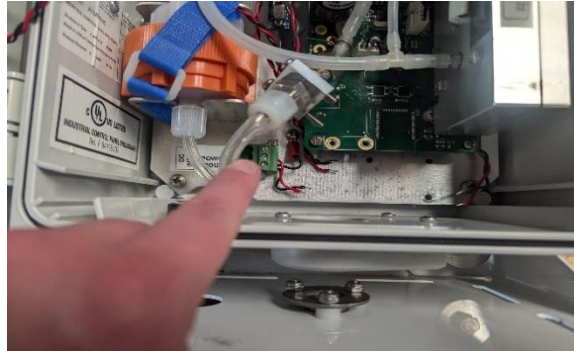
3. Unscrew the four flathead terminals connecting the power to both sides of the converter.



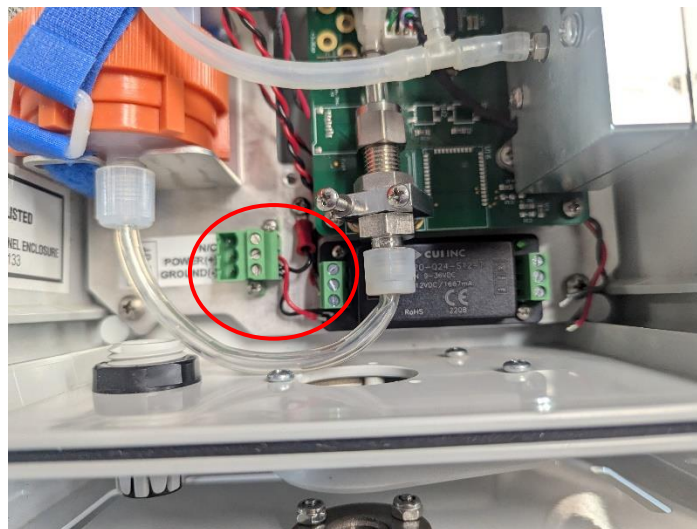
4. Unscrew the two screws holding the converter to the base plate.



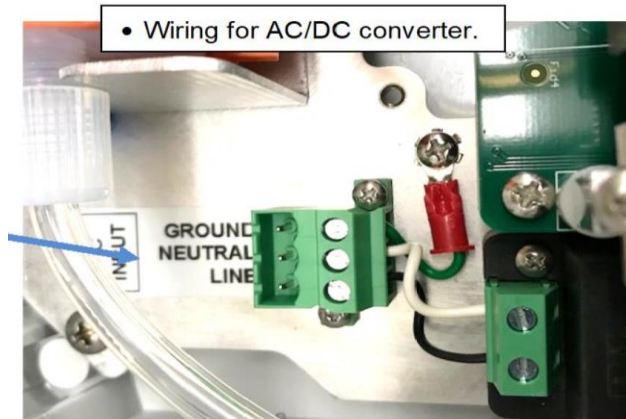
5. The converter should now slide out easily. Once it removed, it should look like this:



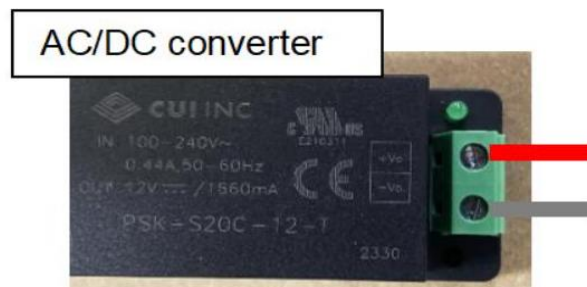
6. Install the new converter into the same space, screwing in the converter into the base plate. Note which side of the converter is Vin and Vout. Vin will always be towards the 3-pin power connector.



7. Connect the terminal in the new correct spaces. Diagrams for both AC/DC and DC/DC are below. **Note: Using a pair of tweezers to fit the wire in is extremely helpful.**
 - a. Pictures below of AC/DC connections. The first picture is Vin side, second picture is Vout.

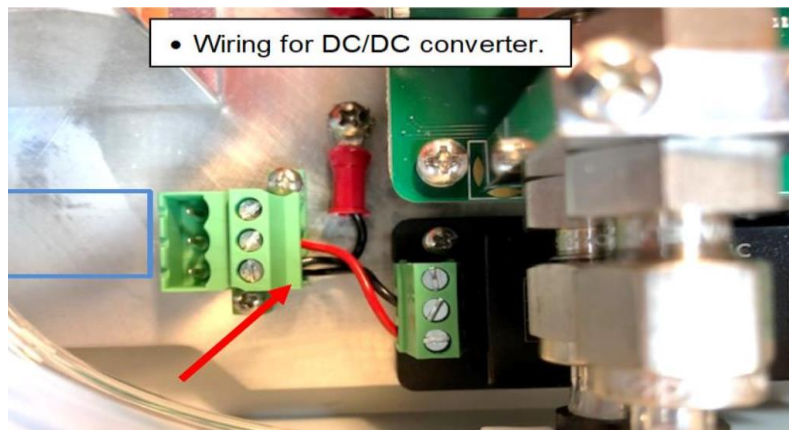


Vin side



Vout side

- b. Pictures below of DC/DC connections. First picture is Vin side, second picture is Vout.



Vin side

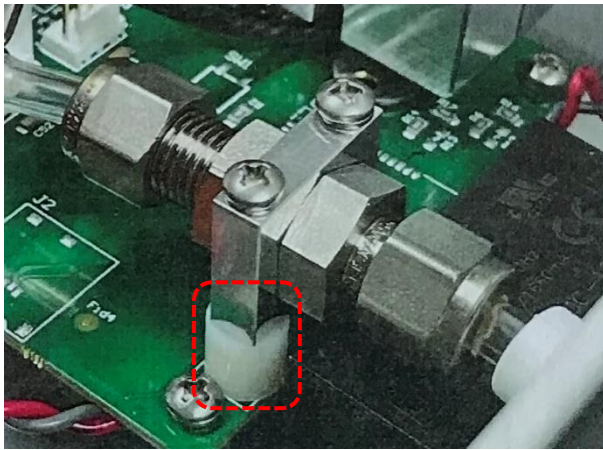


Vout side

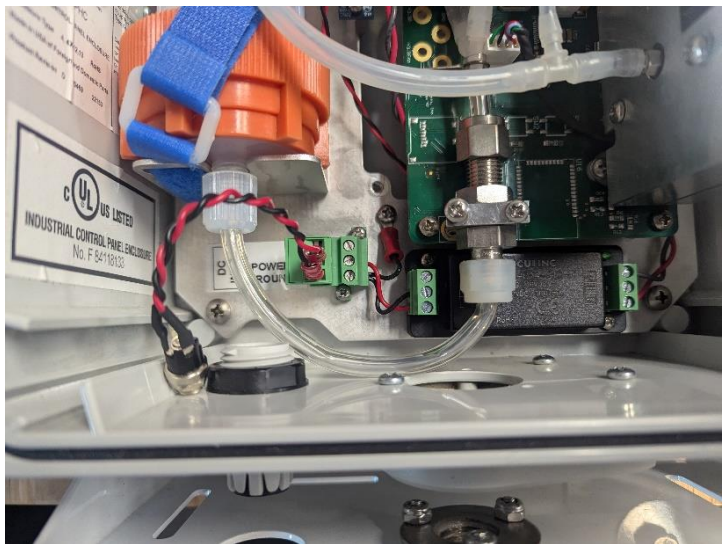
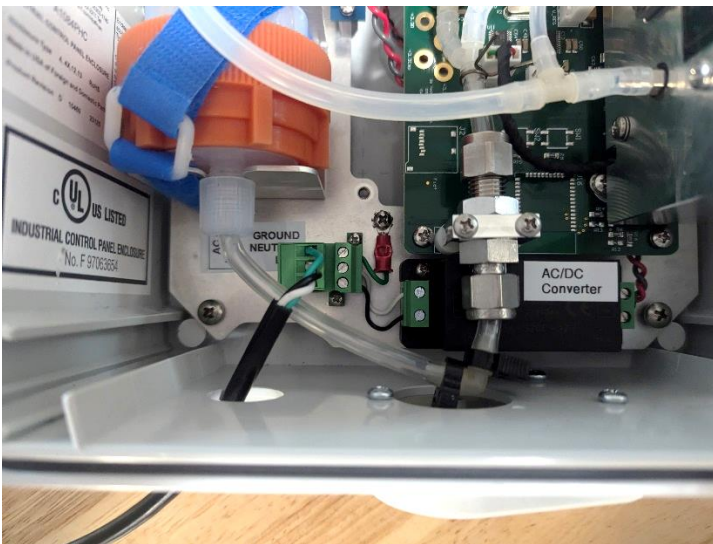
8. Reinstall the Inlet Bulkhead Mount.

Note that if you are going from DC/DC to AC/DC, longer screws and some spacers will be needed to lift the bulkhead higher so the AC/DC converter will fit:

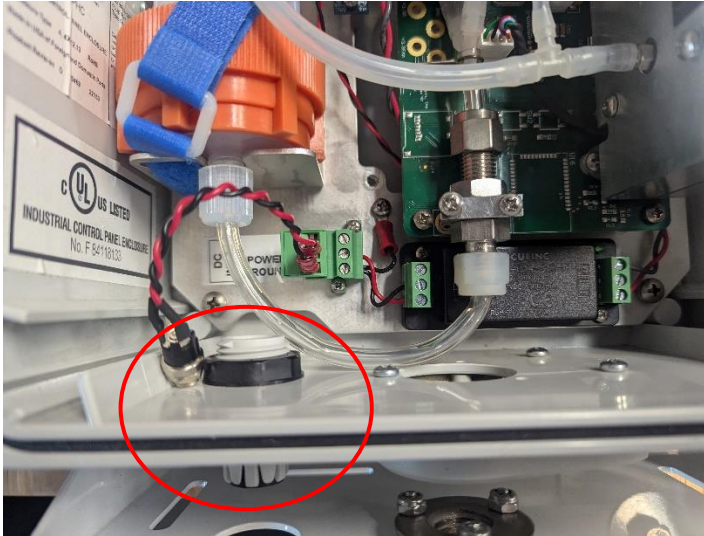
- 2 x #6-32 x 1- $\frac{3}{8}$ " screws
- 2 x #6 spacers of $\frac{3}{8}$ " L and $\frac{1}{4}$ or $\frac{3}{8}$ " OD



9. Connect the new power supply for the AQLite. (Picture at left for the AC/DC; picture at right for the DC/DC).

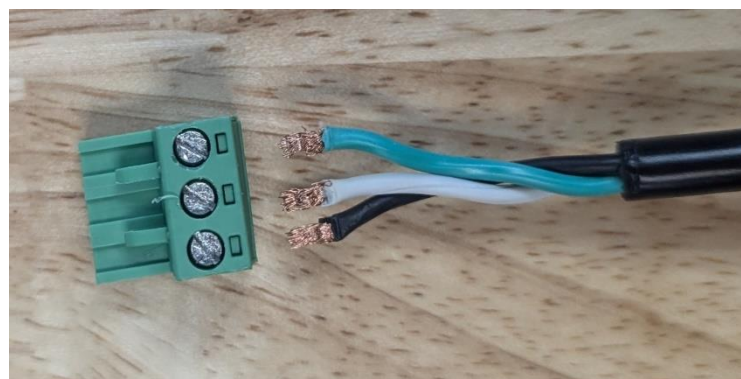
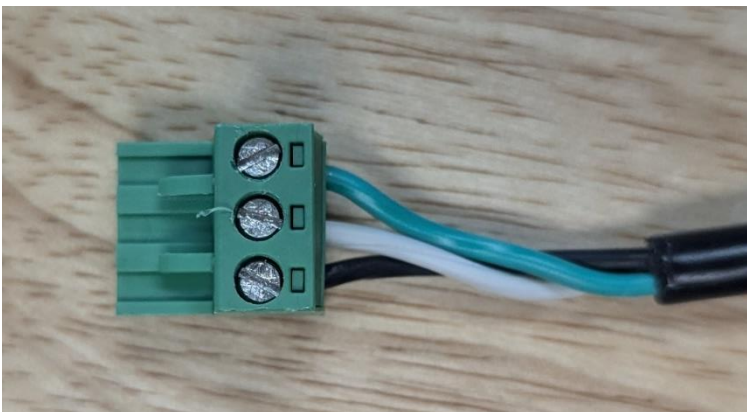


10. Note the opening for a power cord. When using DC/DC, the barrel jack will fit through the opening and no extra steps are needed. When going to AC/DC, continue to step 11.

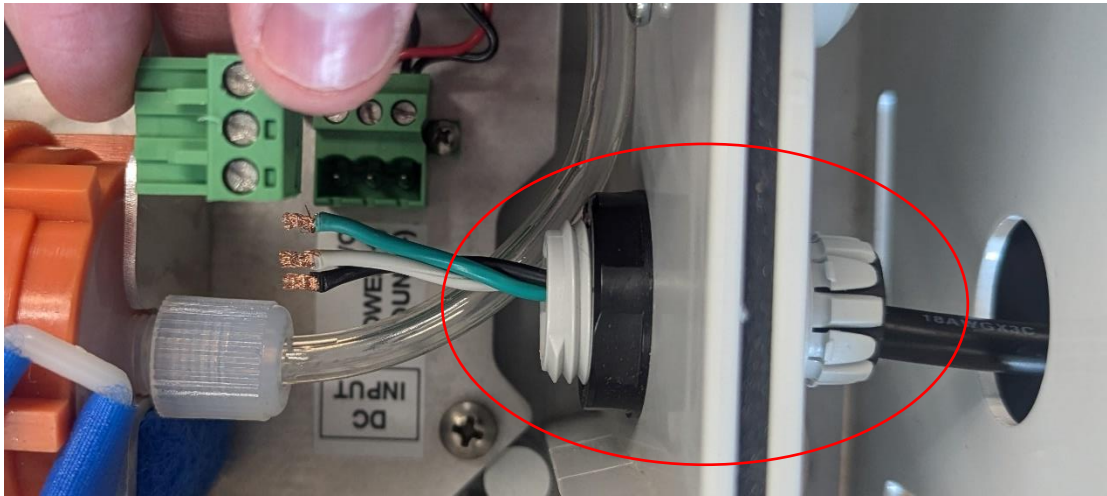


11. When going to AC/DC:

- a) Take the power cord provided by 2B and unscrew the three wires. Note the orientation of them.



- b) Pull the cord through the opening. Then re-attach the wires to the connector.



- c) Connect the power cord to the 3-pin connector. **Make sure the orientation of wires is the same as picture below before plugging in.**

