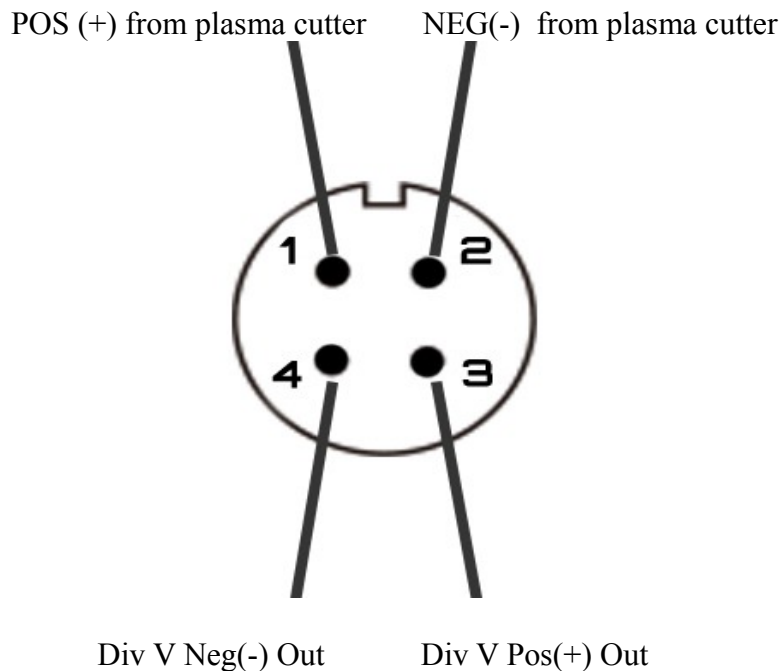


Adjustable Voltage Divider – Wiring and settings to start

To wire the included SP13 connector you will need 2 pairs of wire, 4 wires total. Be careful not to get them mixed up. 22 AWG 300V wire is sufficient and does not need to be shielded. Wire according to diagram below

(Connector pin wiring is for dividers sold from July 2023 and onward)

(View is back of the connector where you will solder your wires)



Pins 1 and 2 can be wired to your CNC port or direct to your positive and negative lugs in your plasma cutter for true Raw voltage. **Note:** Some CNC ports use inline resistors for their “raw voltage.”

The adjustable voltage divider comes preset for just over 50:1 divided voltage. This is a good starting point for most applications.

Measure DC voltage on the Div V out while doing a dry fire of your torch.

1 - If using a **true Raw voltage** source, you should see something in the 2-3V range with your multi-meter. With firmware of May 15 2023 or newer, this may be sufficient. If torch is bobbing excessively or diving into the material I recommend flipping the internal switch down, inside the ArcDroid shown below (fig 2). (Do not exceed DC voltage maximums specified by ArcDroid. 3V is safe, 5V max)

2 - If using an **already divided voltage** (including a CNC port connection with inline resistors on the “raw voltage”), you should see a voltage lower than 2V. You can use the adjustment screw on the divider to raise or lower the this voltage. I'd start at 1 to 1.5V. Or you can Raise the voltage to 2-2.5V and flip the internal switch on the ArcDroid shown in Fig 2 below.

You can now attach your wires to the ArcDroid as per Andrew's instructions and dry fire while watching the TH Value on the ArcDroid screen. The end goal between adjusting the voltage divider and, using or not using, the internal ArcDroid switch, is to have a dry fire TH value in the 70's. Use the adjustment screw on your voltage divider to get a TH value in the 70's if needed.

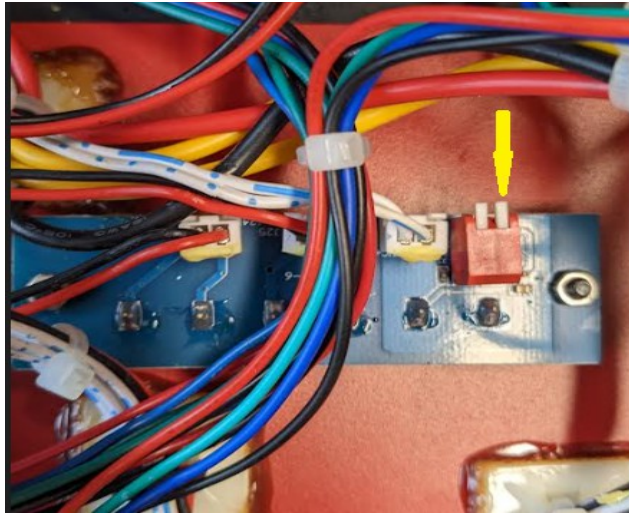


Fig 2. Internal switch. Located on the inside back panel of the ArcDroid.
Press this switch down if Div V is 2V or great.

THC settings to start: Smooth: 6 to 7
Gain: 2 to 3
Delay: 1.7 to 2 sec

Ex. Numbers during cut: I get a TH of 60-63 on 18GA and 68-70 on 1/8". Your values do not need to be exact only around this range.

Cut a straight line 5 or 6 inches, when delay times out the torch should maintain it's height or may move very slightly up or down. If your torch dives into material, your Divided Voltage is too high. From there you can test cut a circle and/or hexagon and adjust your Smooth and gain settings as needed. The THC is far less sensitive on thicker materials. For 11Ga or 1/8" and up you can reduce Smooth and increase Gain. I have tested all of the dividers using Smooth 6, gain on 2.75.