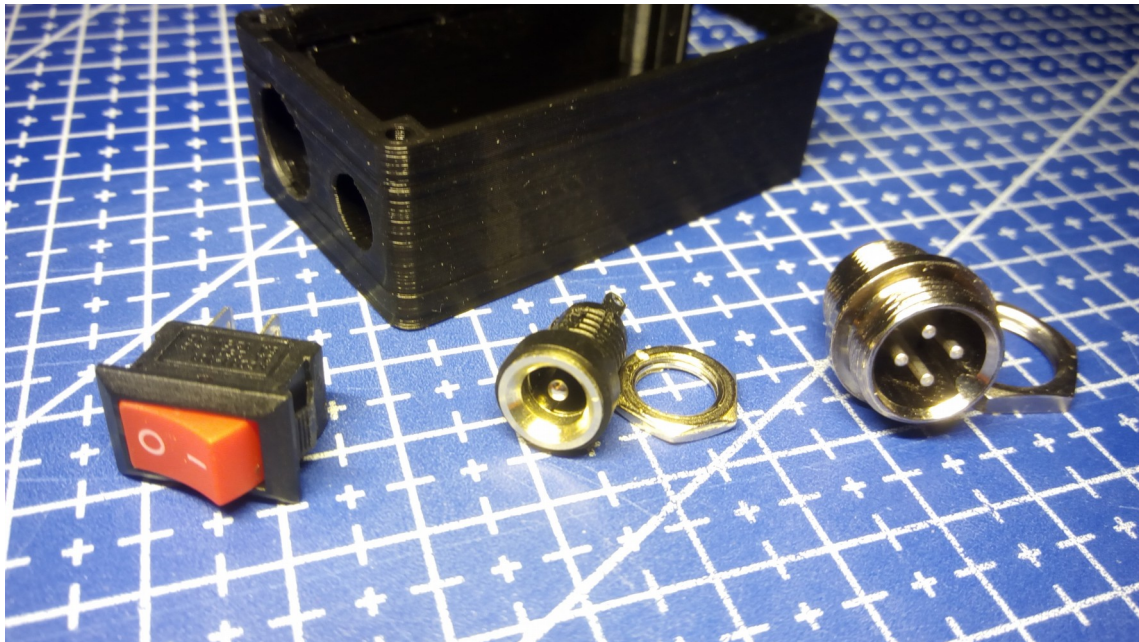


# How to build the Mini T12 SolderingStation v2

## Step 1: Gather all required components

In addition to the components for the PCB you will need the following:

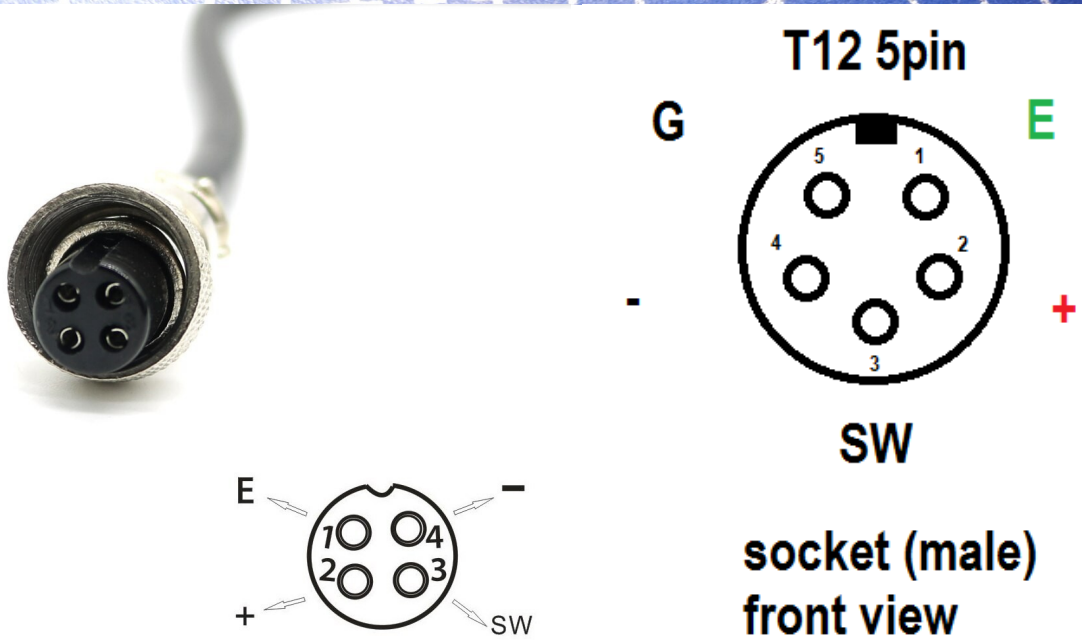
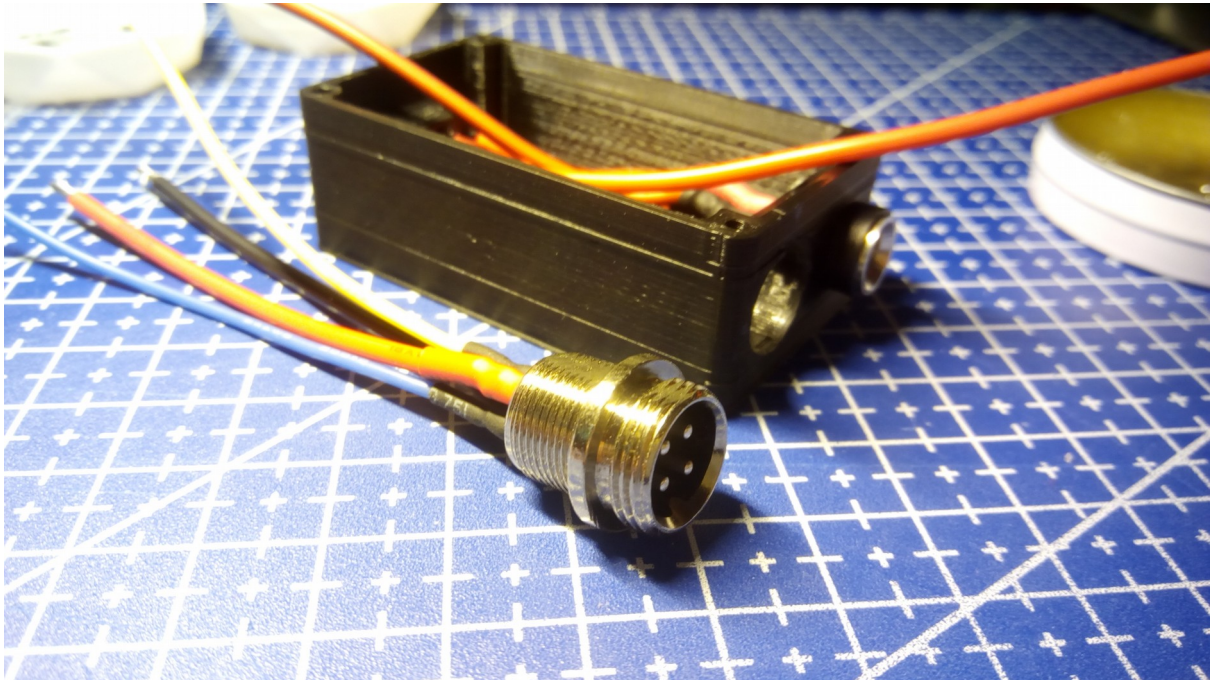
- 3D-printed case
- Aviator Plug (4- or 5-pin depending on your iron handle)
- DC Power Jack (5.5 \* 2.1 mm)
- Rocker Switch (KCD1 15 \* 10 mm)
- Some wires
- 4 Self-tapping screws (2.3 \* 5 mm)



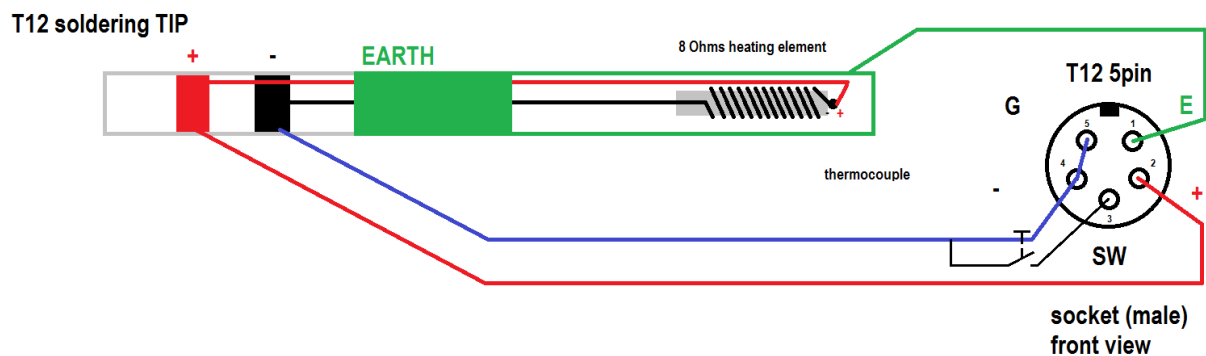
## Step 2: Make sure that all parts fit nicely into the case



**Step 3: Solder the wires and protect them with heat shrinks**

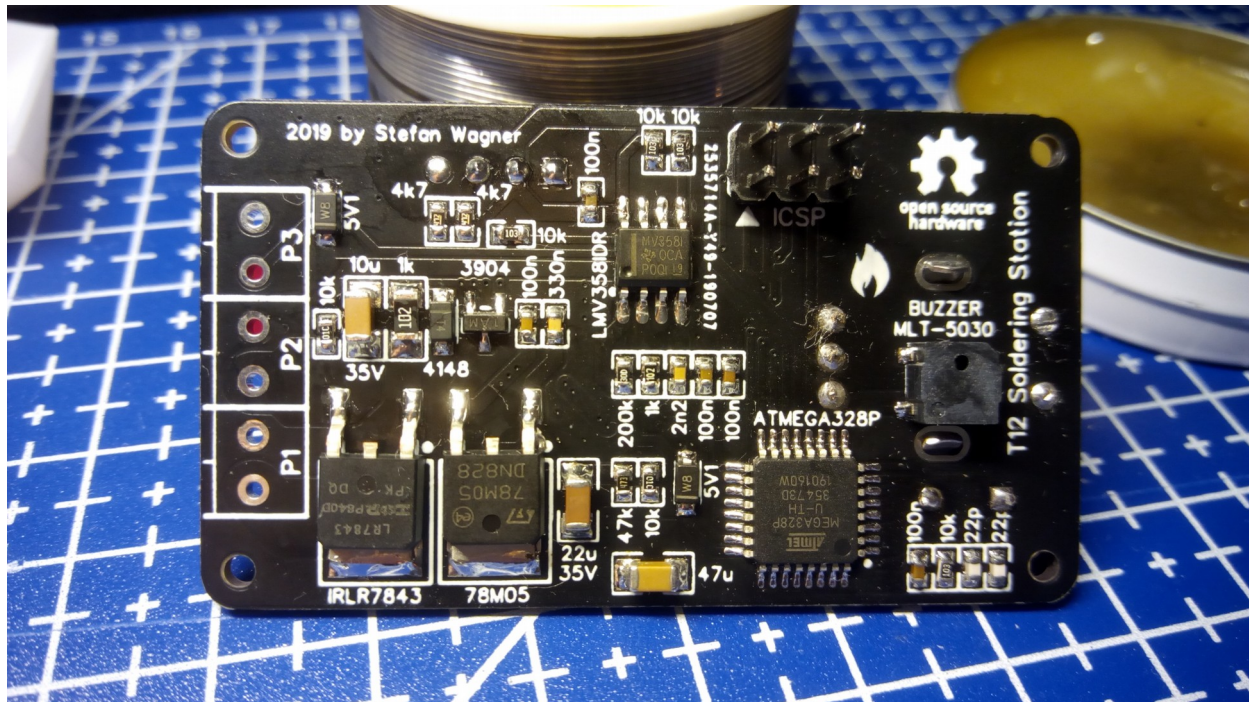


For 5-pin aviator plug connect (G) and (-) together.





**Step 4: Solder all components to the PCB except the screw terminals**



Upload the firmware and solder the wires directly to the pads.

**Step 5: Screw the PCB on top of the case**



You can purchase all parts as well as T12 handles and tips cheaply at aliexpress.

Use a well stabilized power supply that meets the following specs:

T12 Power Supply Specification Requirements		
Output V	Min. A	Max. W
12V	1.50	18
13V	1.63	21
14V	1.75	25
15V	1.88	28
16V	2.00	32
17V	2.13	36
18V	2.25	41
19V	2.38	45
20V	2.50	50
21V	2.63	55
22V	2.75	61
23V	2.88	66
24V ( Max )	3.00	72 ( Max )
PS: Watts of T12 soldering iron is decided by the output voltage of power supply , if your power's output voltage is 19V, output current must be 2.38A or larger.		
<b>P=UU/R    R= 8Ω</b> (T12 Heater resistance)		

I recommend using at least 16V. A 19V supply works best in terms of both, speed and stable temperature readings. Heat-up time to 320°C will be around 12 seconds with a 19V, 8 seconds with a 24V power supply.