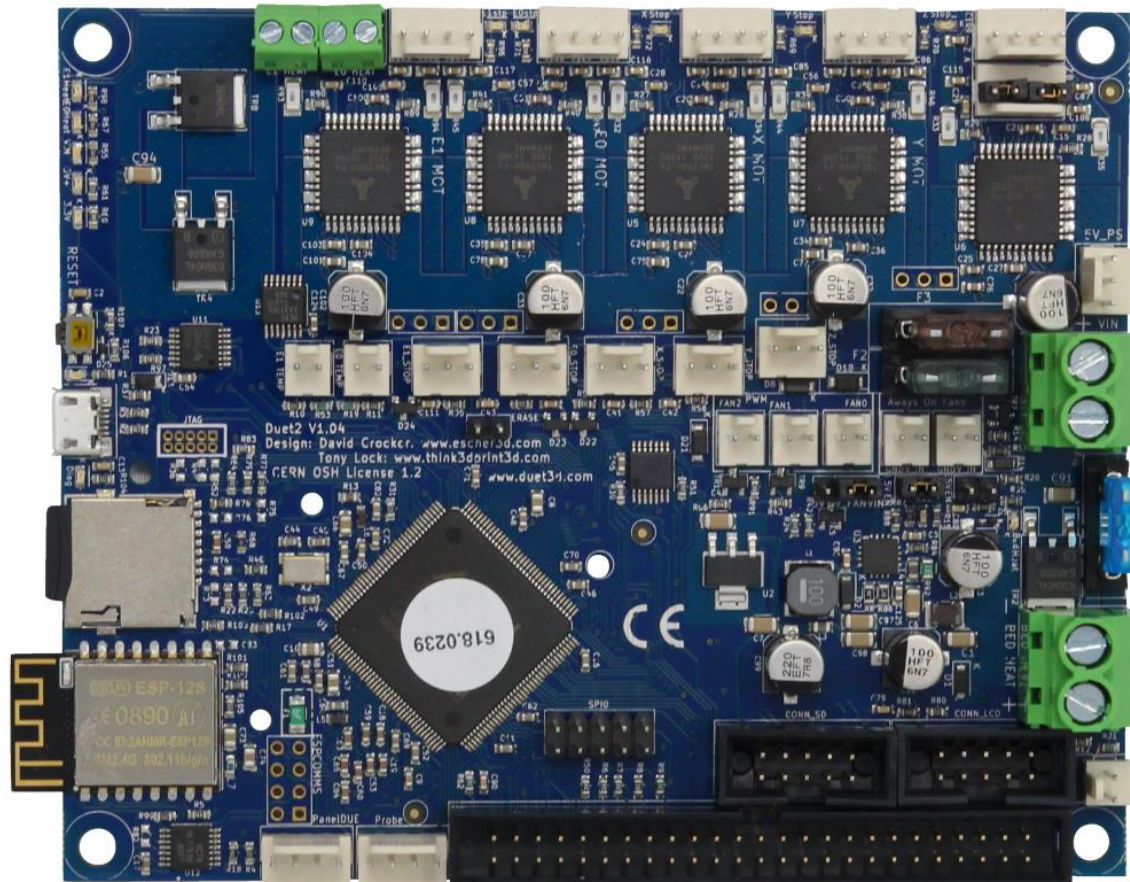


# Duet 2 Wifi motion controller wiring setup for MK3s



# WARNINGS AND PRECAUTIONS

## READ ALL THE MANUFACTURER'S APPLICABLE DOCUMENTATION!

- It is your responsibility to read, understand, and adhere to the applicable documentation for this controller board and any other devices that are to be attached to it.
- Lack of adherence / compliance to the equipment manufacturer's documentation and warnings can result in equipment, personnel, and property damage.
- Any / all authors of this documentation bear no responsibilities to your equipment or any damages that may occur.

**!!** Before proceeding further with the wiring, you should have already completed the duet3d guide, Step 1, located here:

[https://duet3d.dozuki.com/Guide/1.\)+Getting+Connected+to+your+Duet/7?lang=en](https://duet3d.dozuki.com/Guide/1.)+Getting+Connected+to+your+Duet/7?lang=en)

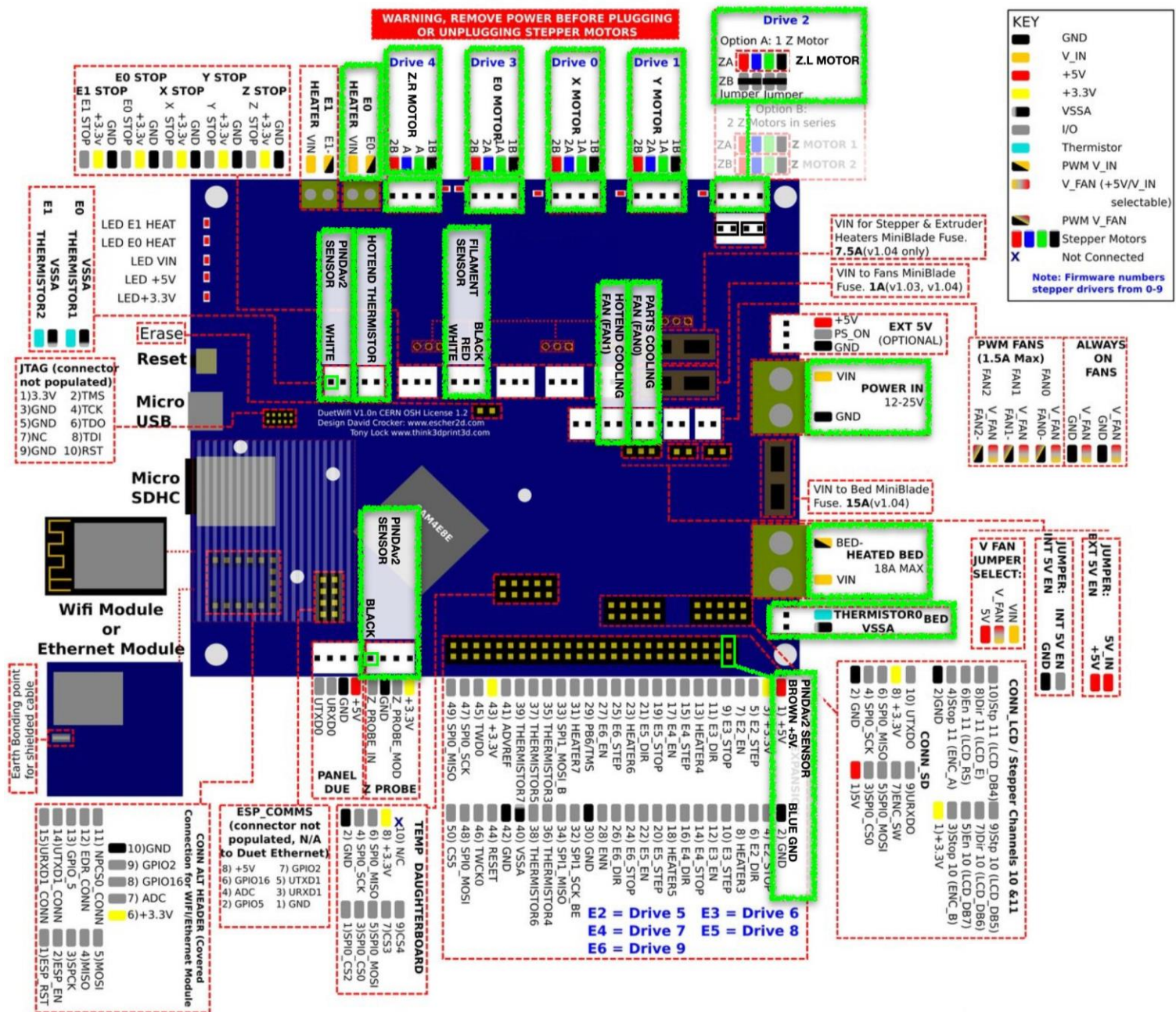
**!!** After completion of Step 1, you should have completed the wifi configuration and software update to the duet board. Proceed to <https://github.com/Argolein/RRF-machine-config-files/tree/master/Prusa%20MK3s> and copy the config files from the repository to the duet sd-card. Huge thanks to Ben Argolein for his work on this!

**!!** Before wiring up the MK3s, please proceed to the duet3d guide, Step 2, just to familiarize yourself with the overall wiring diagram, cautions, and warnings.

[https://duet3d.dozuki.com/Guide/2.\)+Wiring+your+Duet+2+WiFi-Ethernet/9?lang=en](https://duet3d.dozuki.com/Guide/2.)+Wiring+your+Duet+2+WiFi-Ethernet/9?lang=en)

**??** When in need of assistance, the Duet3d forums are a great place to search and ask questions. <https://forum.duet3d.com/>

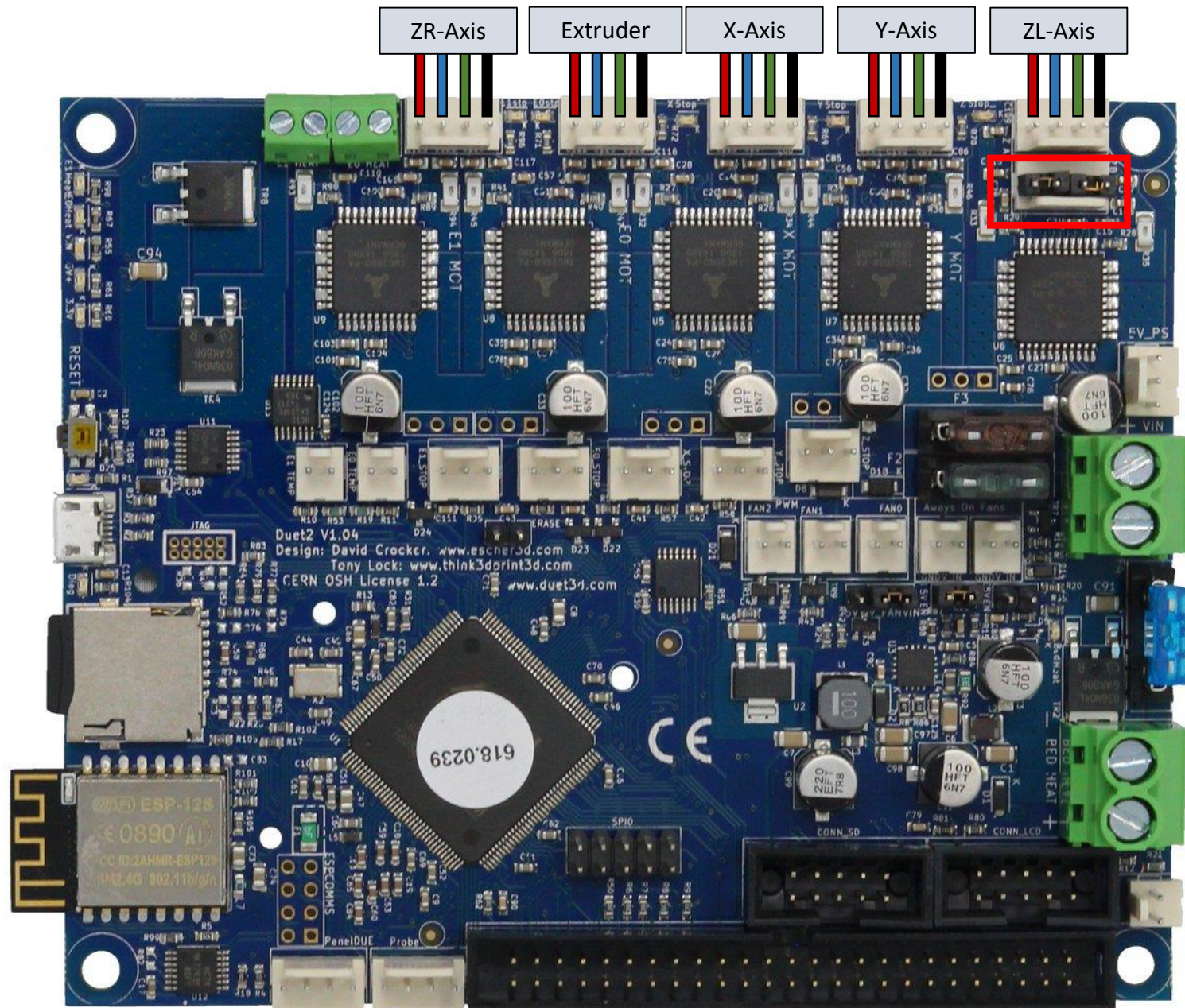
# WIRING OVERVIEW



Upon completion of the guide, you will have made all the above connections denoted by GREEN highlight.



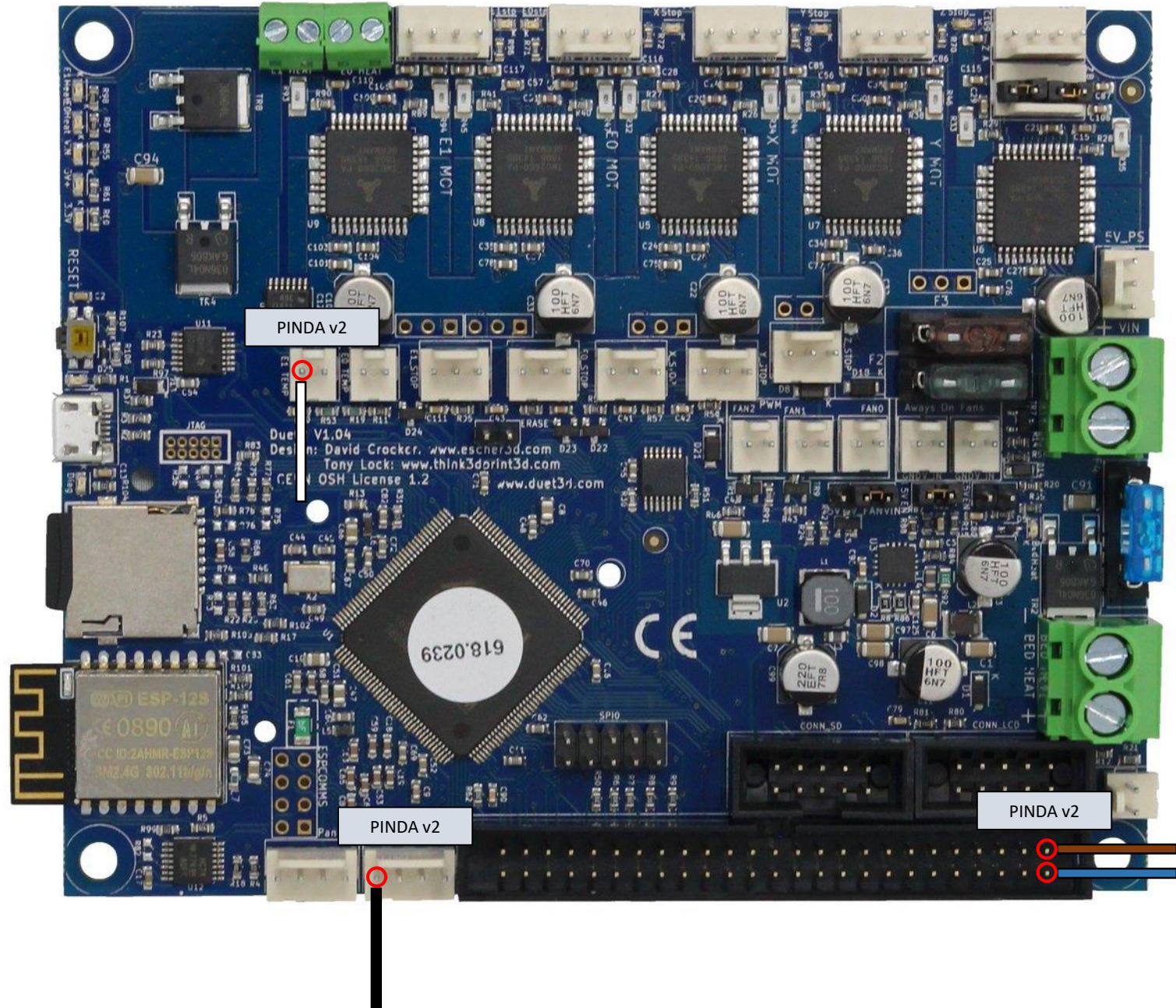
# STEPPER MOTOR (independent Z-axis control)



\*Be sure that the supplied jumpers are installed on the ZB connector.

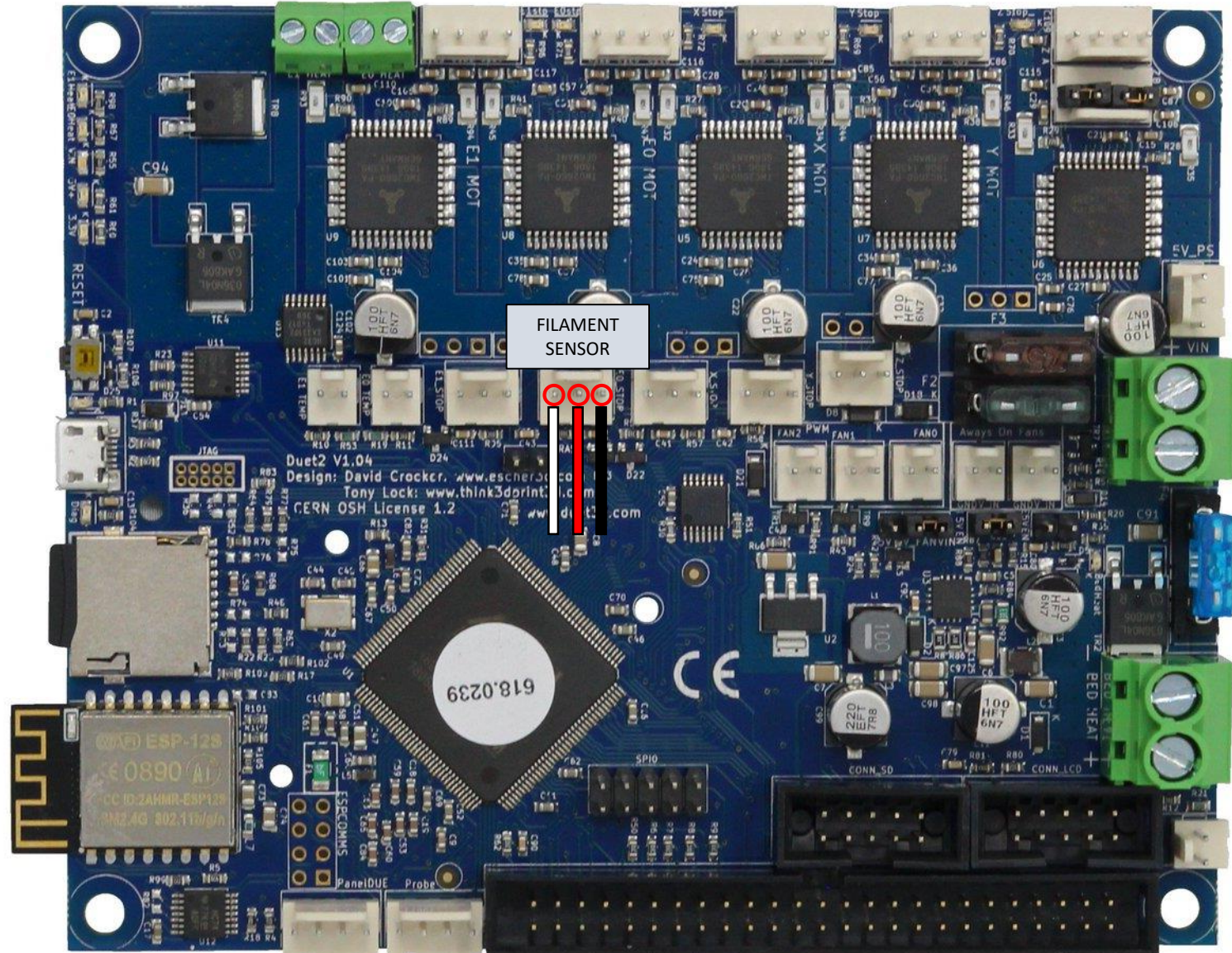


# PINDA v2 (with thermistor)

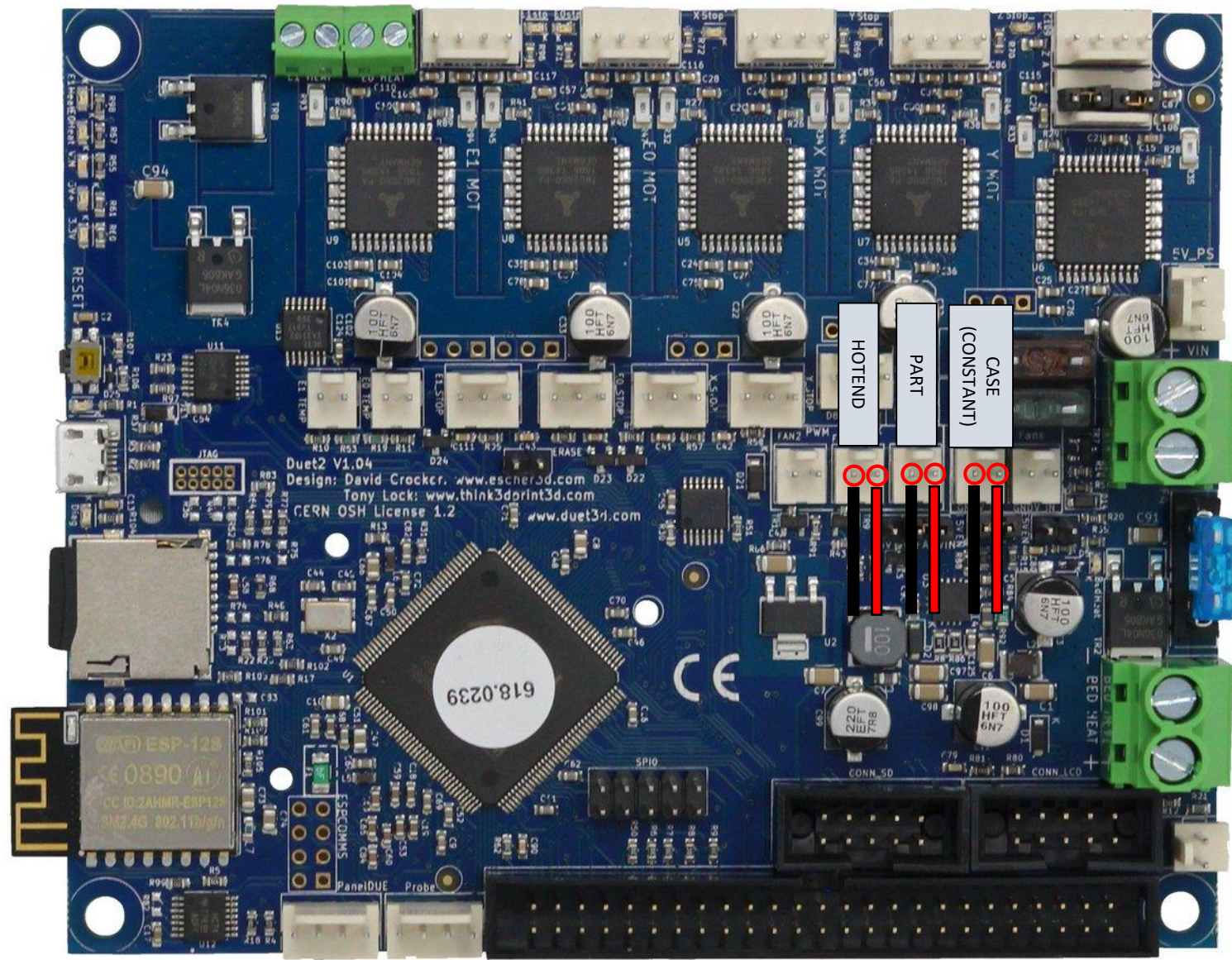




# FILAMENT SENSOR

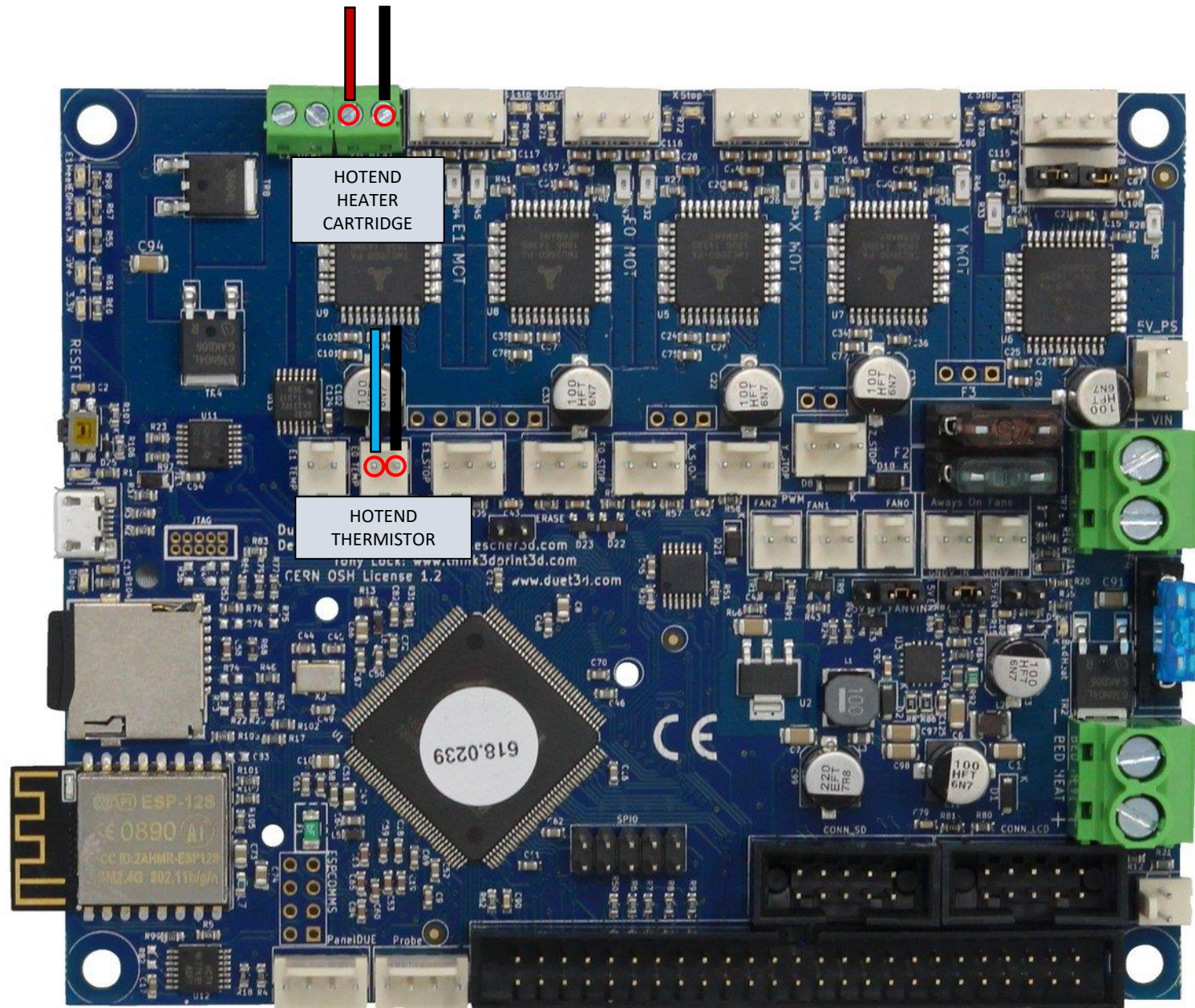








# HOTEND POWER AND THERMISTOR



\*Polarity does not matter for hotend heaters.

\*The polarity of a thermistor does not matter.



Design: David Crocker, [www.escher3d.com](http://www.escher3d.com)  
 Tony Lock: [www.think3dprint3d.com](http://www.think3dprint3d.com)  
 CERN OSH License 1.2 [www.duet3d.com](http://www.duet3d.com)

ESP-12S  
 CC ID: 24HMR-ESP12S  
 FM2.4G 802.11b/g/n

618.0239

BED HEATER

BED THERMISTOR

\*The polarity of a thermistor does not matter.



[illegible]

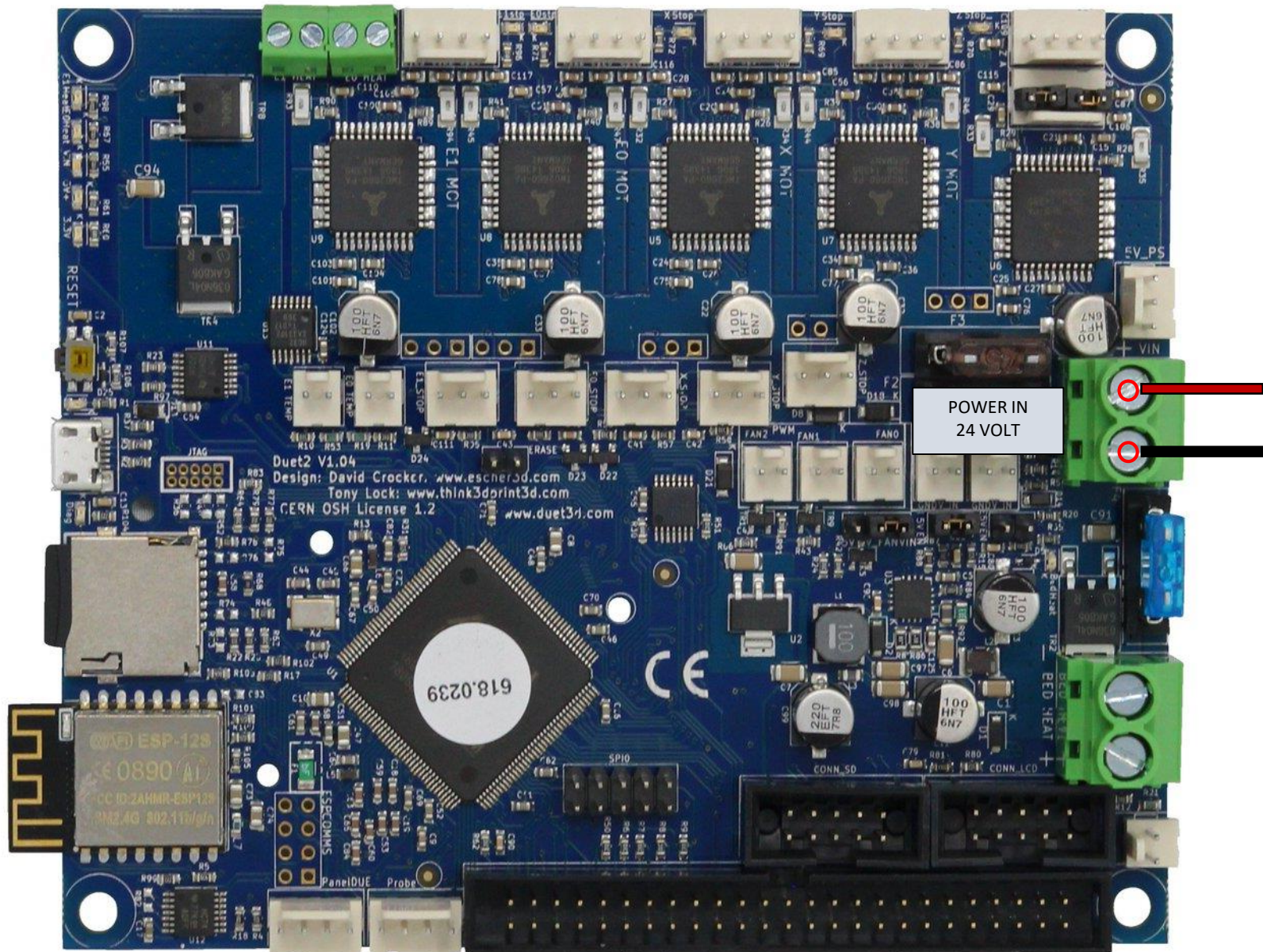
Before proceeding to the next step be sure to first go to the beginning of this guide and second check that all of the connections are in the proper locations and fully seated into the board.

As you verify the wiring placements, check each connection for a tight-fitting crimp to ensure good connectivity.

[illegible]



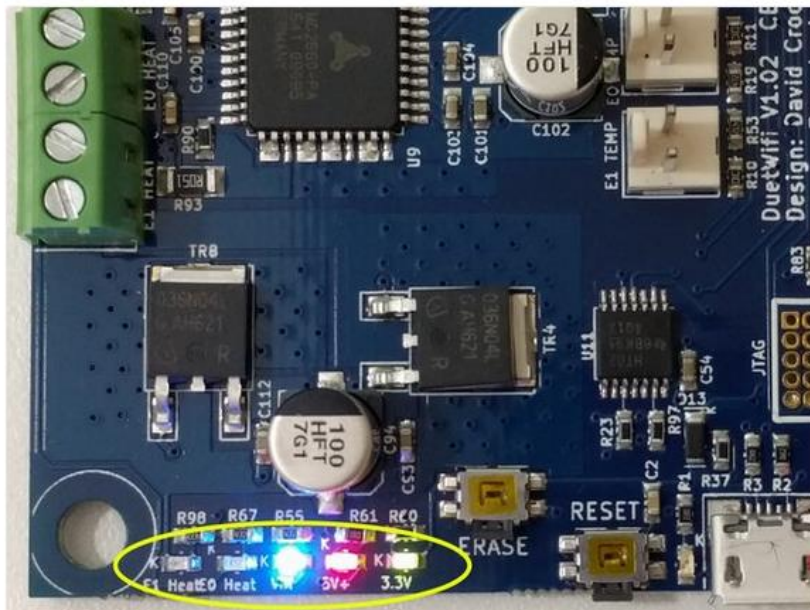
# POWER IN – 24 VOLT



\*Unlike the Einsy RAMBo controller board, the Duet controller only requires 1 set of power cables. You can feed both PSU cables into the single VIN terminal block on the Duet if they will fit, or else run a single heavy-duty cable from the PSU to the Duet.



## POWER IN – 24 VOLT    EXPECTED LED INDICATIONS



- These indicators show the status of 3.3v power, 5v power, the Vin (power from your power supply) and the two extruder heaters.
- When the board is idle and connected to a power supply, expect the 3.3v, 5v, and Vin LEDs to be illuminated.
- When the board is powered only through an external 5v supply or through USB, expect only the 5v and 3.3v lights to be on.
- In this area you will also find indicators to show when an extruder heater is turned on.



My Duet wifi didn't power up the 5V/3.3V circuit when I connected my 24V PSU. The issue was that the INT 5V\_EN jumper to drive the 5V circuit was not placed properly. I assume that this jumper should be connected as default when delivered as it is not mentioned in this guide. However, the jumper on my board was only sitting on one of the pins. Something to look out for if you are having issues here.

# NOTES

A series of horizontal blue lines for writing notes.



# NOTES

Argo 29 Jun 2020, 00:59

I've upped my Config. You can copy the things you need.

<https://www.file-upload.net/download-14164086/Config.zip.html>

If you intent to use the whole config: You will need to add this in your start gcode in your slicer software for the filament runout sensor:

```
1 ; Prime Filament Sensor for Runout
2 M581 P1 T2 S-1 R0 ; Filament Sensor P1 triggers Trigger2.g always (R0) TRIGGER OFF
3 M950 J1 C"nil" ; Input 1 e0 Filament Sensor
4 M591 D0 P2 C"e0stop" S1 ; Filament Runout Sensor
```

The reason for this is that I wrote a filament autoloader script and you can't have runout detection and autoloader enabled at the same time without conditional code.

For the PINDA:

Black is the signal for the probe and goes into Z Probe in.

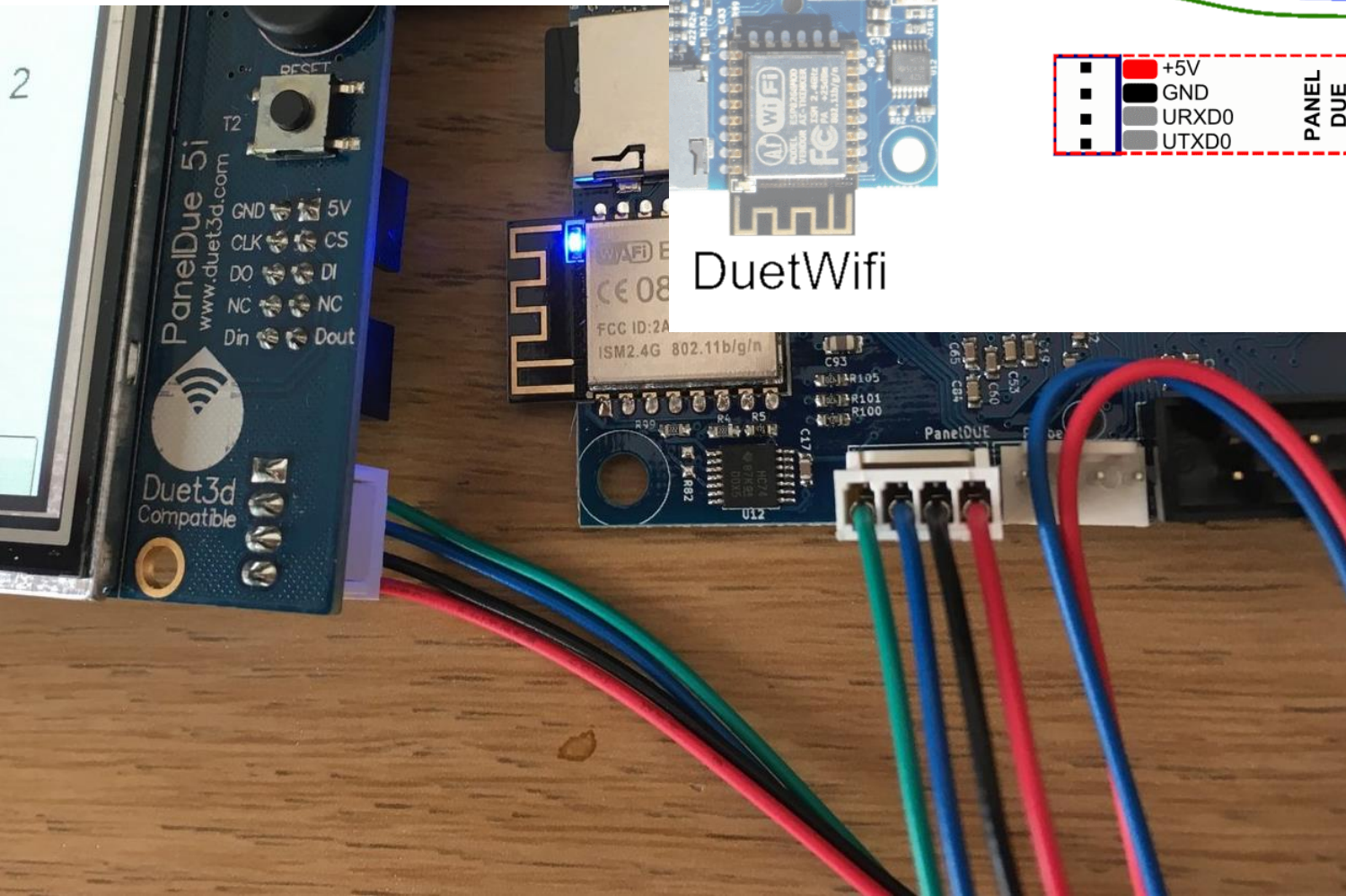
I connected 5V and GRND to the expansion port pins.

Thermistor is connected to E1

You can read out the PINDA thermistor temperature but we'll have to wait for conditional code being implemented as the temperature compensation feature as it is right now assumes that the inaccuracy is linear.

# PANELDUE CONNECTION

2





# Duet Wifi / Duet Ethernet Connections

v1.0 to v1.04

