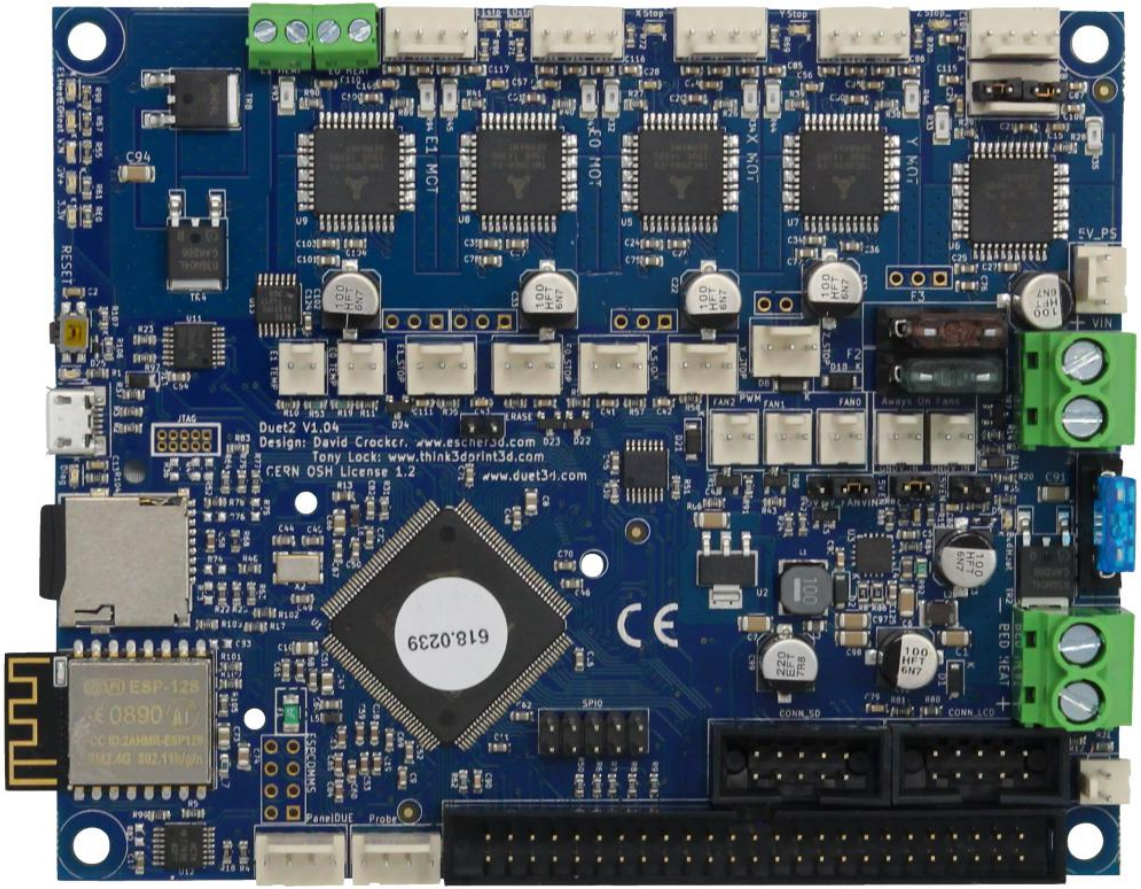
Duet 2 Wifi motion controller wiring setup for MK3s



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

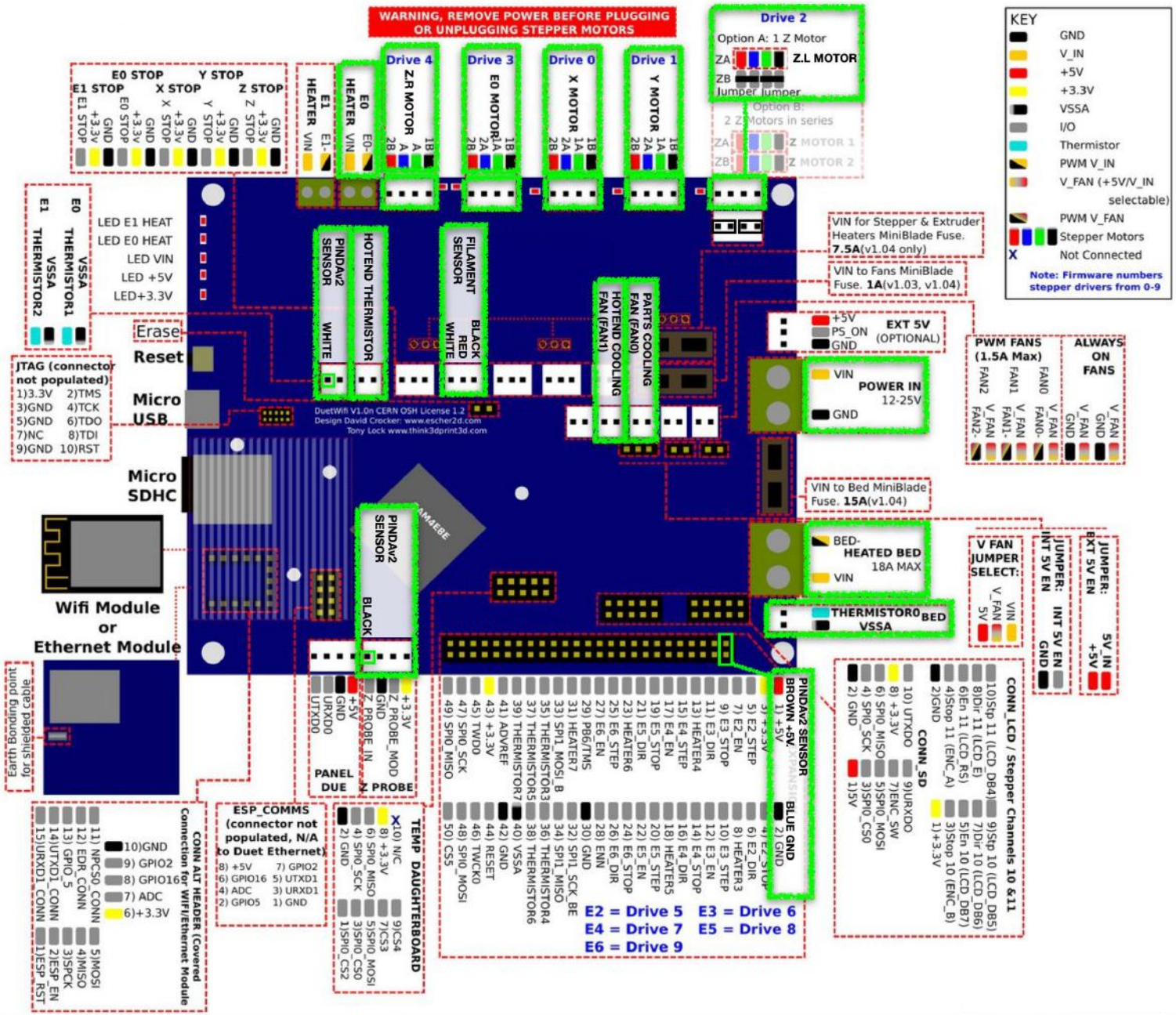
!! After completion of Step 1, you should have completed the wifi configuration and software update to the duet board. Proceed to https://github.com/rkolbi/RRF-machine-config-files/tree/master/Prusa%20MK3s, review the readme and then copy the config files from the repository to the duet sd-card. Repository dump follows this guide. Huge thanks to Ben Argolein and Duet3d forums!

!! 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

!! Never blindly trust stepper motors' wiring colors, always check phases. Mixing the phases up on the 4-pin connector can and often does result in damage to the stepper driver. Be especially careful when using stepper motors with detachable cables! https://duet3d.dozuki.com/Wiki/Choosing_and_connecting_stepper_motors

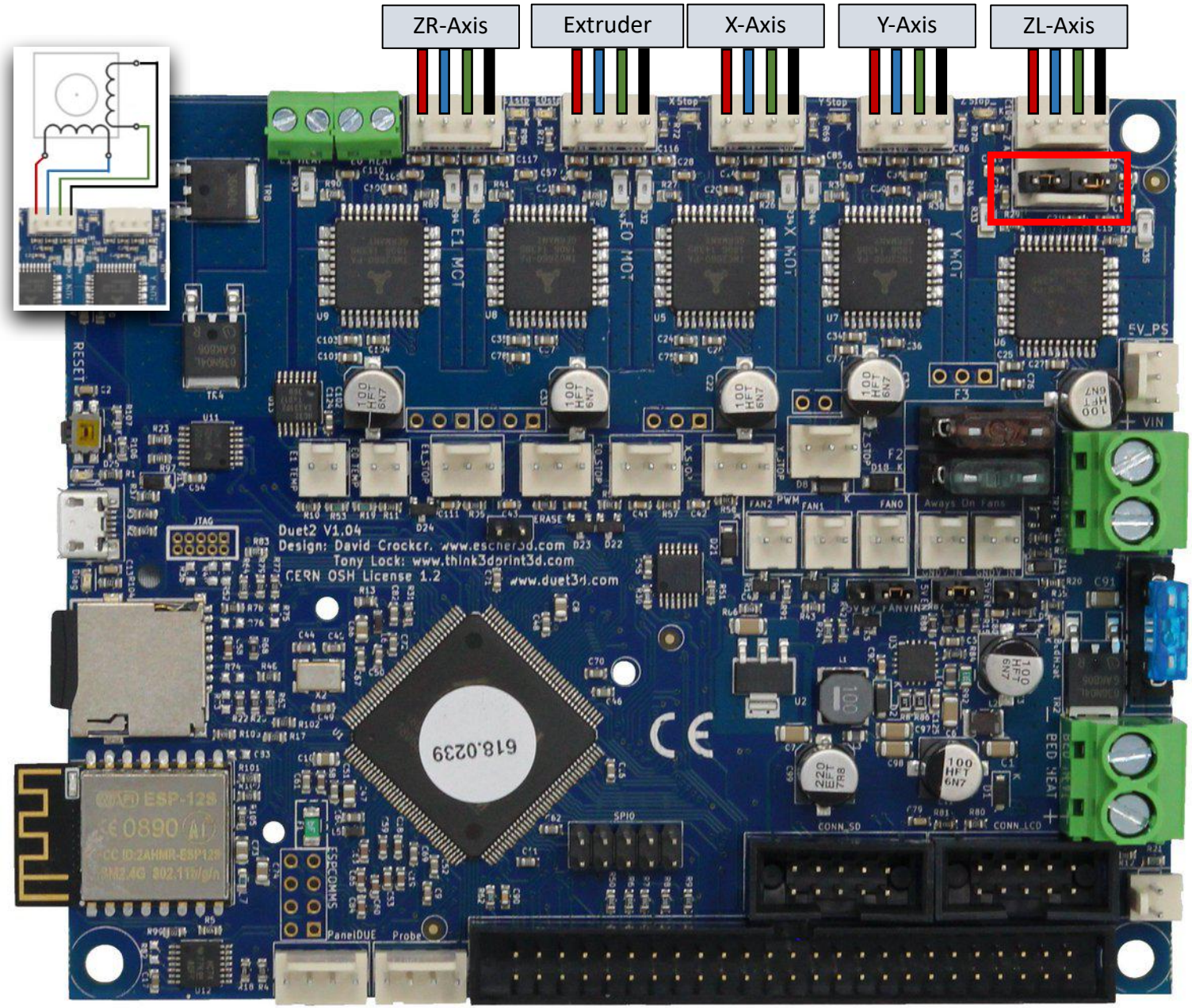
?? When in need of assistance, the Duet3d forums are a great place to search and ask questions. https://forum.duet3d.com/

WIRING OVERVIEW



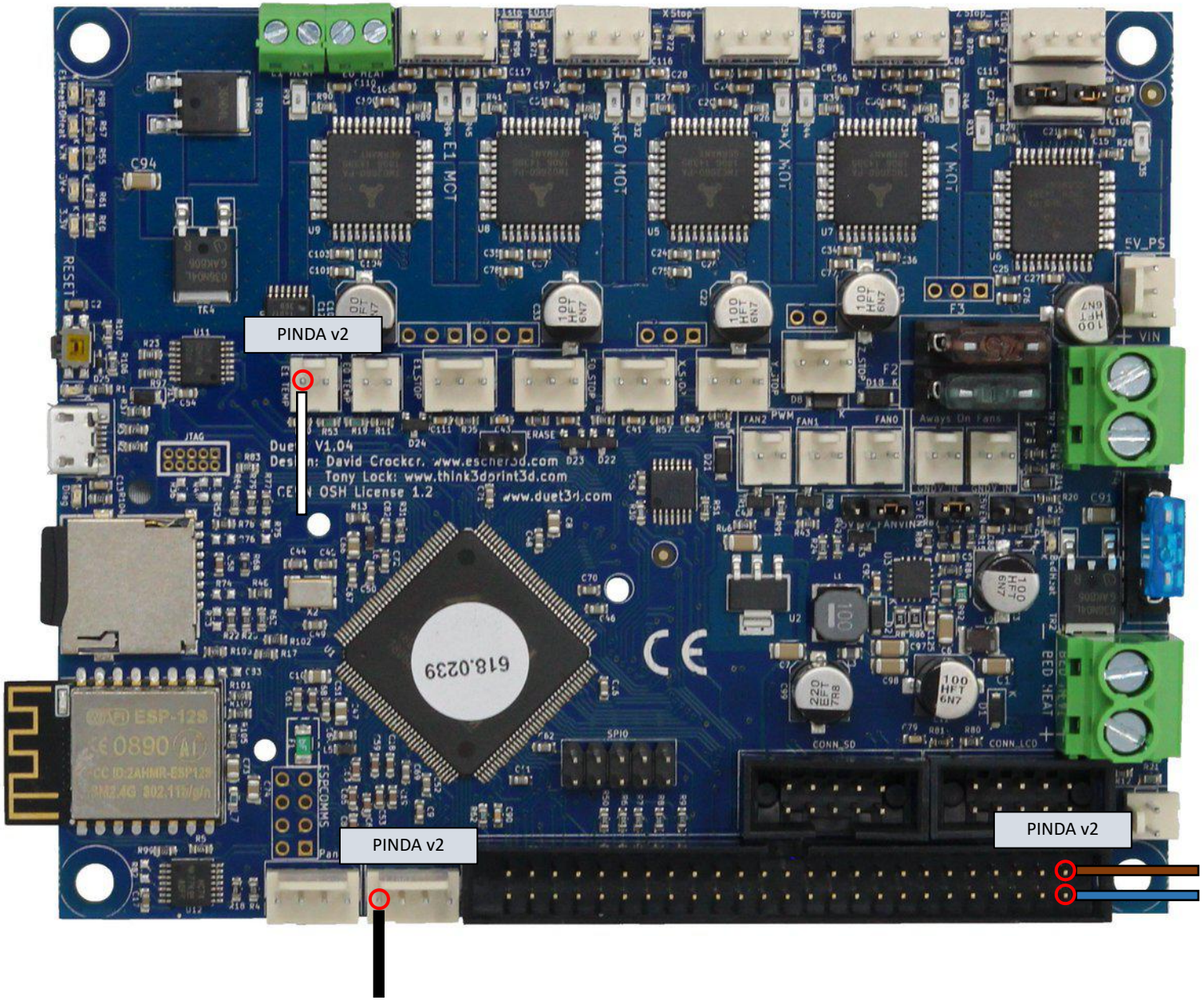
Upon completion of the guide, you will have made all the above connections denoted by GREEN highlight.

STEPPER MOTOR (independent Z-axis control)



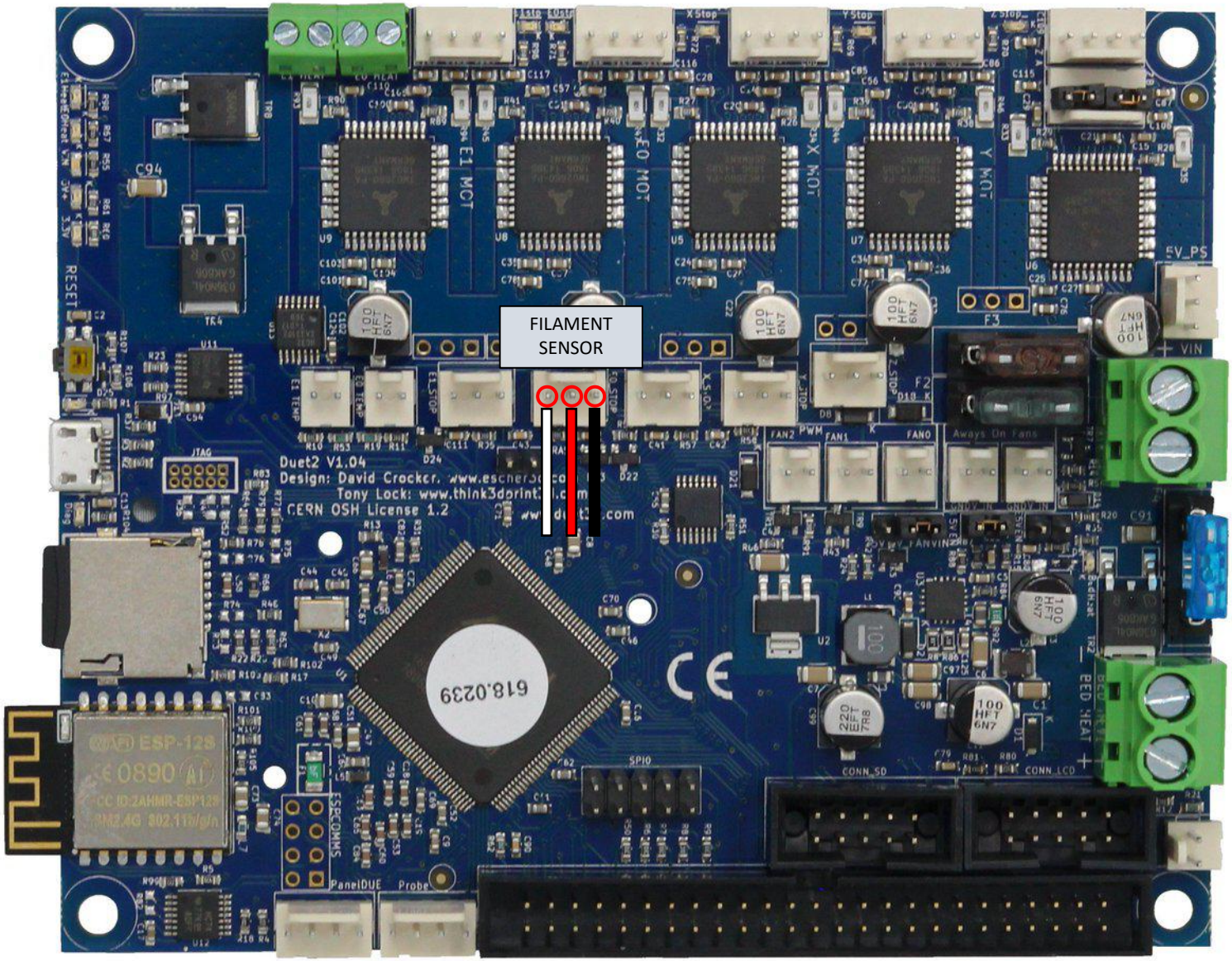
*Be sure that the supplied jumpers are installed on the ZB connector. Coil 2: Red(-) Blue(+) / Coil 1: Green(+) Black(-)

PINDA v2 (with thermistor)

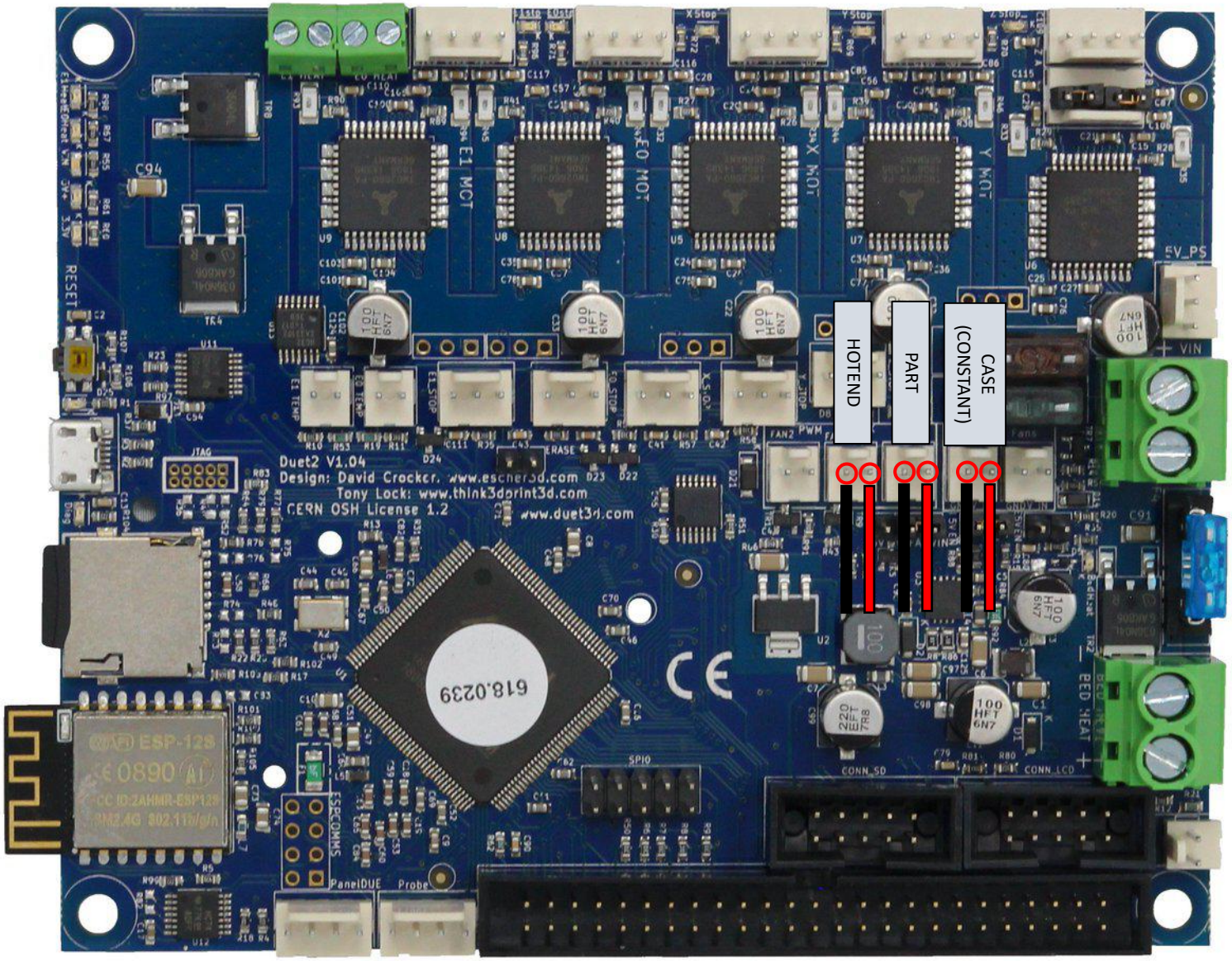


*The PINDA v2 probe needs to be split into three connections; WHITE for temperature sense, BLACK for probe trigger, and power as BROWN +5v & BLUE GND.

FILAMENT SENSOR

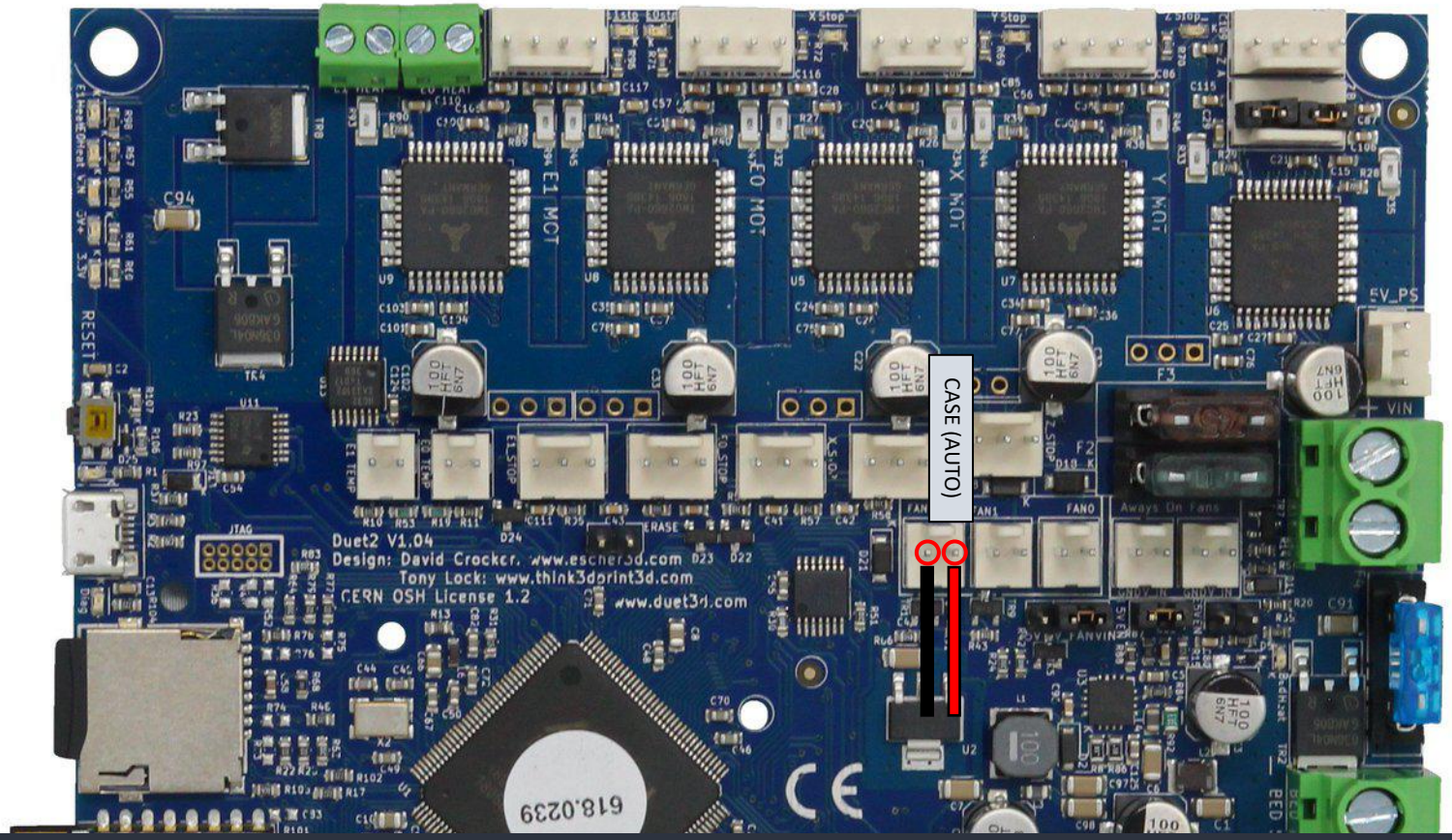


HOTEND FAN, PART COOLING FAN, AND CASE FAN



*The case fan is optional. As shown, the two rightmost connections are constant supplied - always on. The far left (FAN2) connection is available and can be programmed to operate at a defined condition, such as when the MCU or hotend reach a certain temperture. This is beyond the scope of this guide, but information is available in the forums.

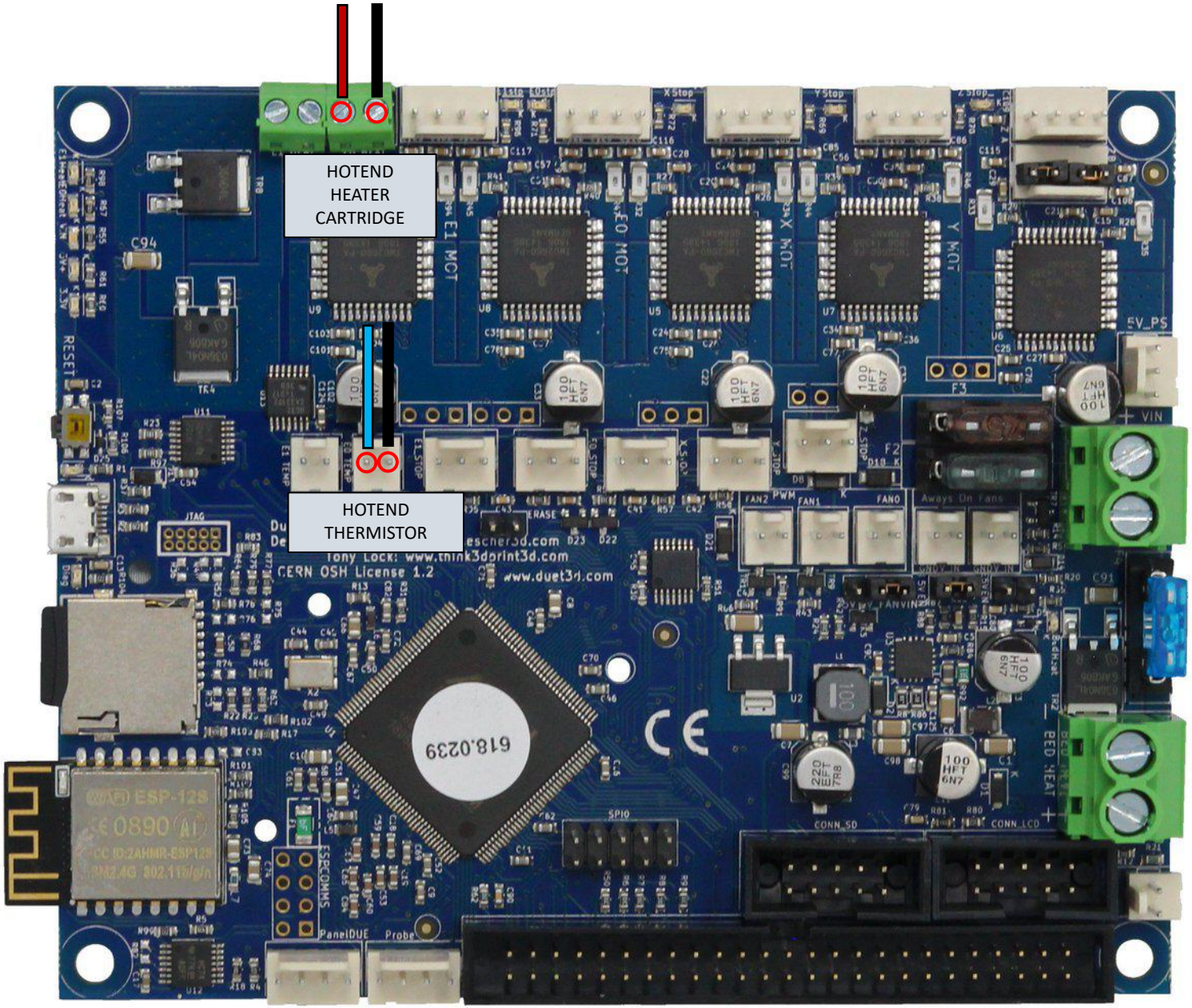
CASE FAN AUTO CONTROL




```
76
77  ; Fans
78  M950 F1 C"Fan1" Q250                          ; Creates HOTEND Fan
79  M106 P1 T45 S255 H1                           ; HOTEND Fan Settings
80  M950 F0 C"Fan0" Q250                          ; Creates PARTS COOLING FAN
81  M106 P0 H-1                                   ; Set fan 1 value, PWM signal inversion and frequency. Thermostatic control is turned off PARTS COOLING FAN
82  ; The following lines are for auto case fan control, attached to 'fan2' header on duet board
83  M308 S2 Y"drivers" A"DRIVERS"                 ; Case fan - configure sensor 2 as temperature warning and overheat flags on the TMC2660 on Duet
84  M308 S3 Y"mcu-temp" A"MCU"                    ; Case fan - configure sensor 3 as thermistor on pin e1temp for left stepper
85  M950 F2 C"fan2" Q100                          ; Case fan - create fan 2 on pin fan2 and set its frequency
86  M106 P2 H2:3 L0.15 X1 B0.3 T40:70             ; Case fan - set fan 2 value
87
```

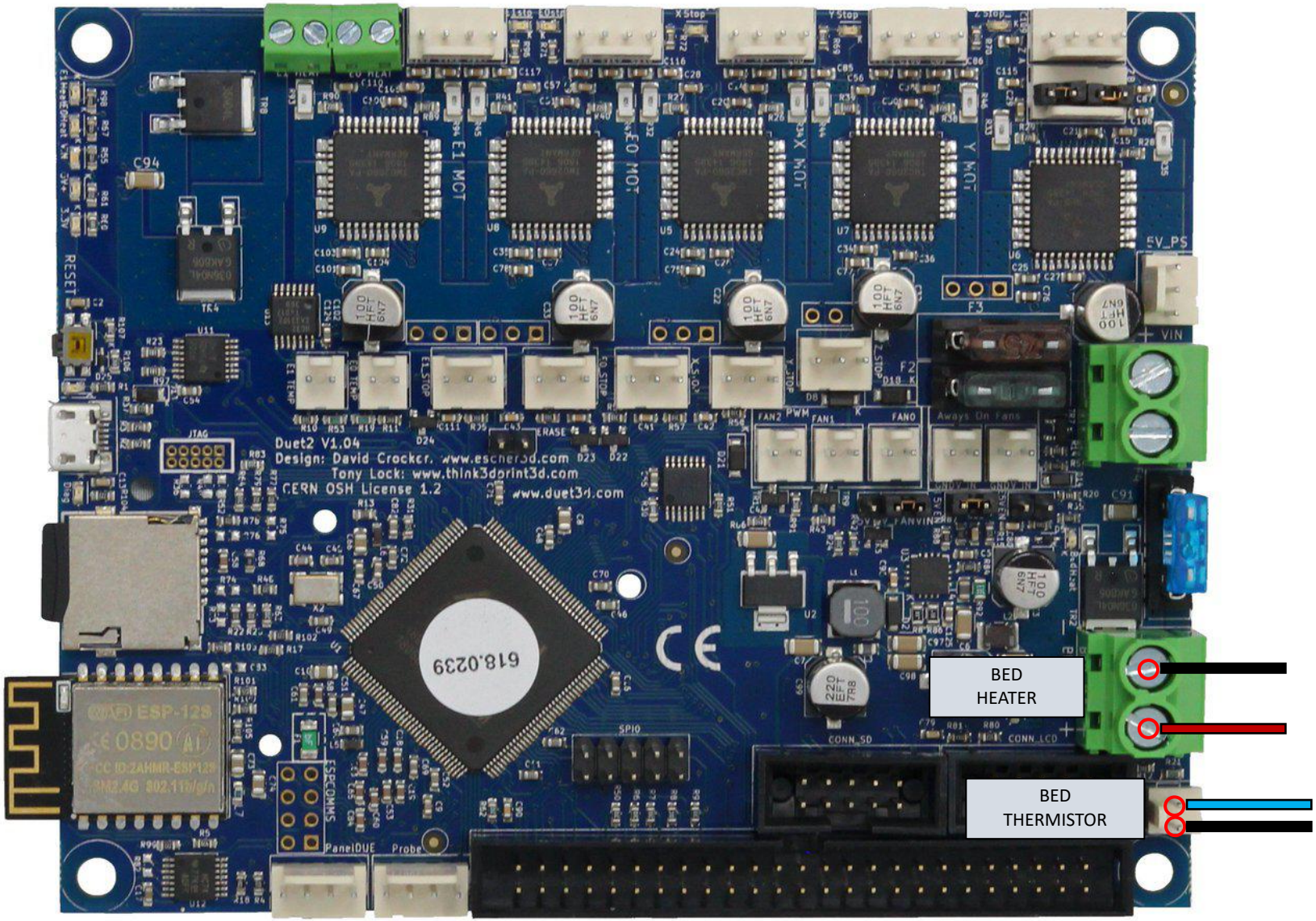
*If you desire to use auto case fan control, plug the case fan into the FAN2 port on the duet board and add lines 83 through 86 under the FANS section of your config.g file.
Please read the full documentaion here: https://duet3d.dozuki.com/Wiki/Mounting_and_cooling_the_board#Section_Cooling

HOTEND POWER AND THERMISTOR



*Polarity does not matter for hotend heaters.
*The polarity of a thermistor does not matter.

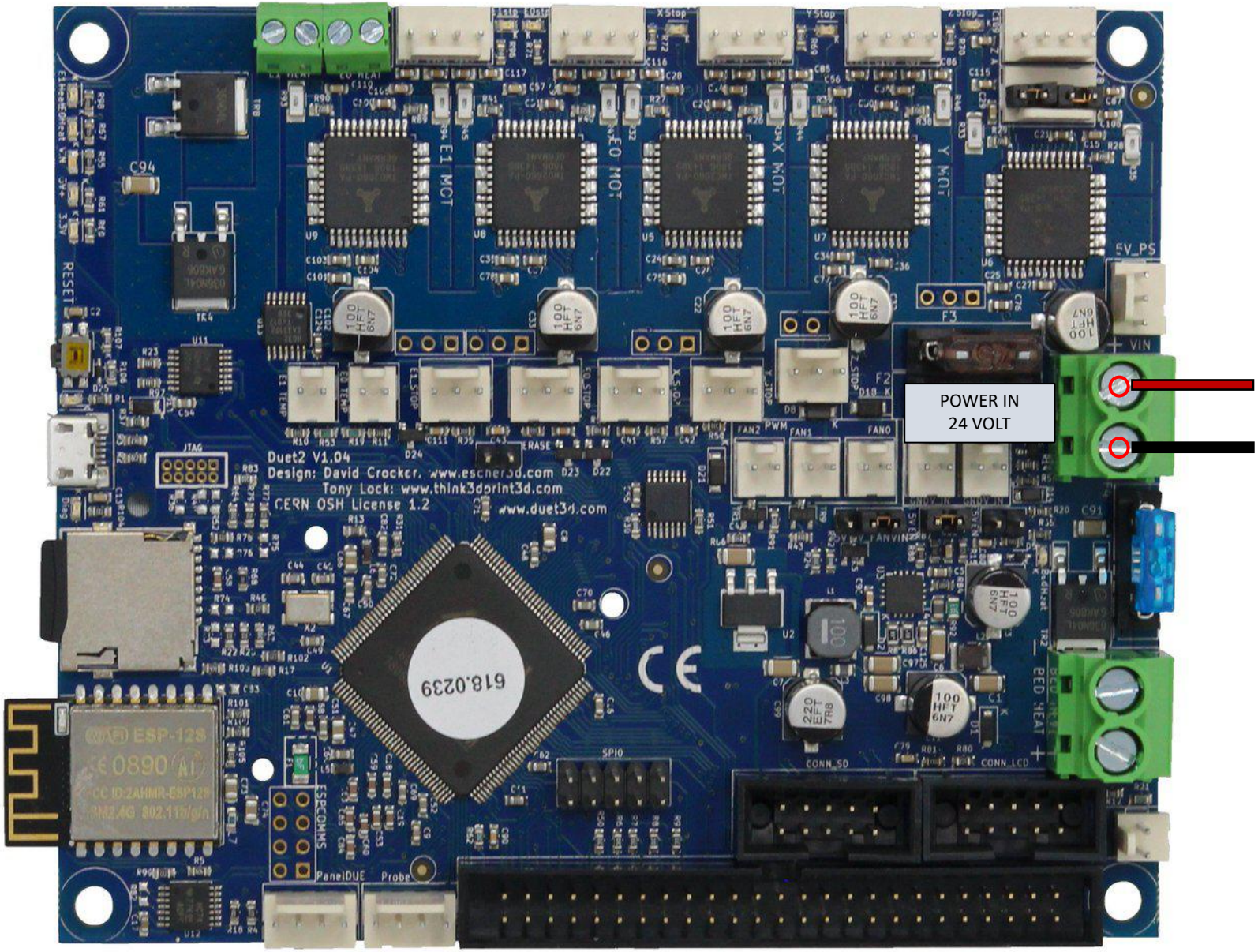
BED POWER AND THERMISTOR



*If your heater has an integrated LED, then the polarity will matter as the LED will not light with reverse polarity. Otherwise, a heater's polarity doesn't matter.
*The polarity of a thermistor does not matter.

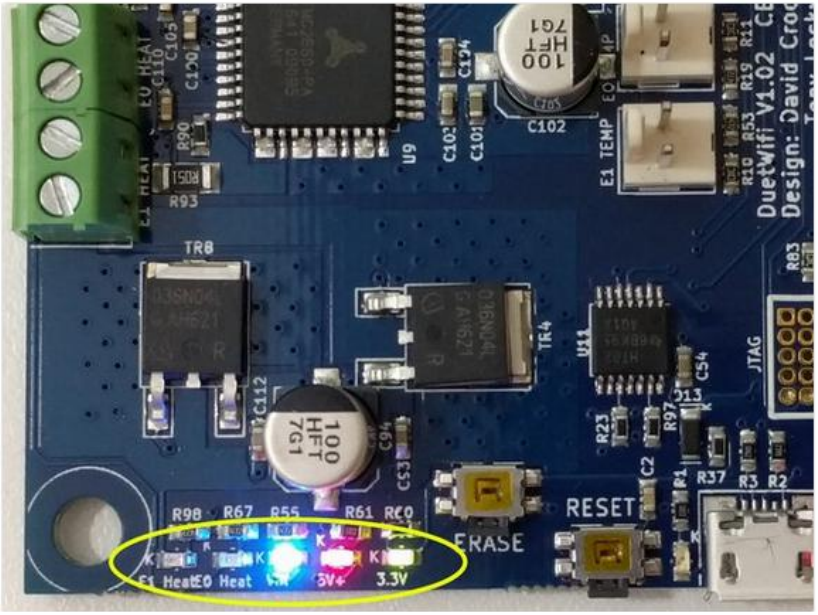
!!!

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.

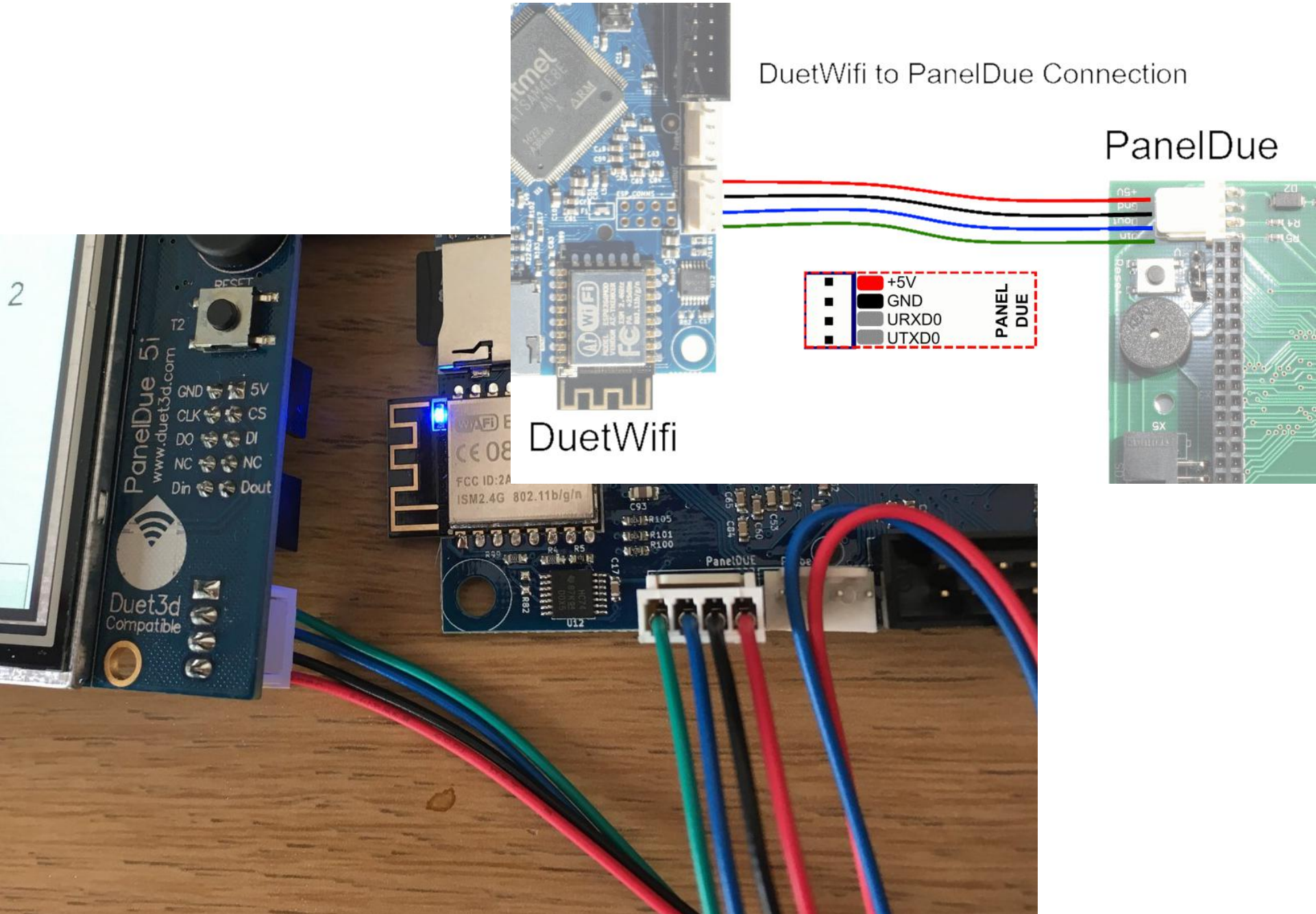
POWER IN – 24 VOLT EXPECTED LED INDICATIONS



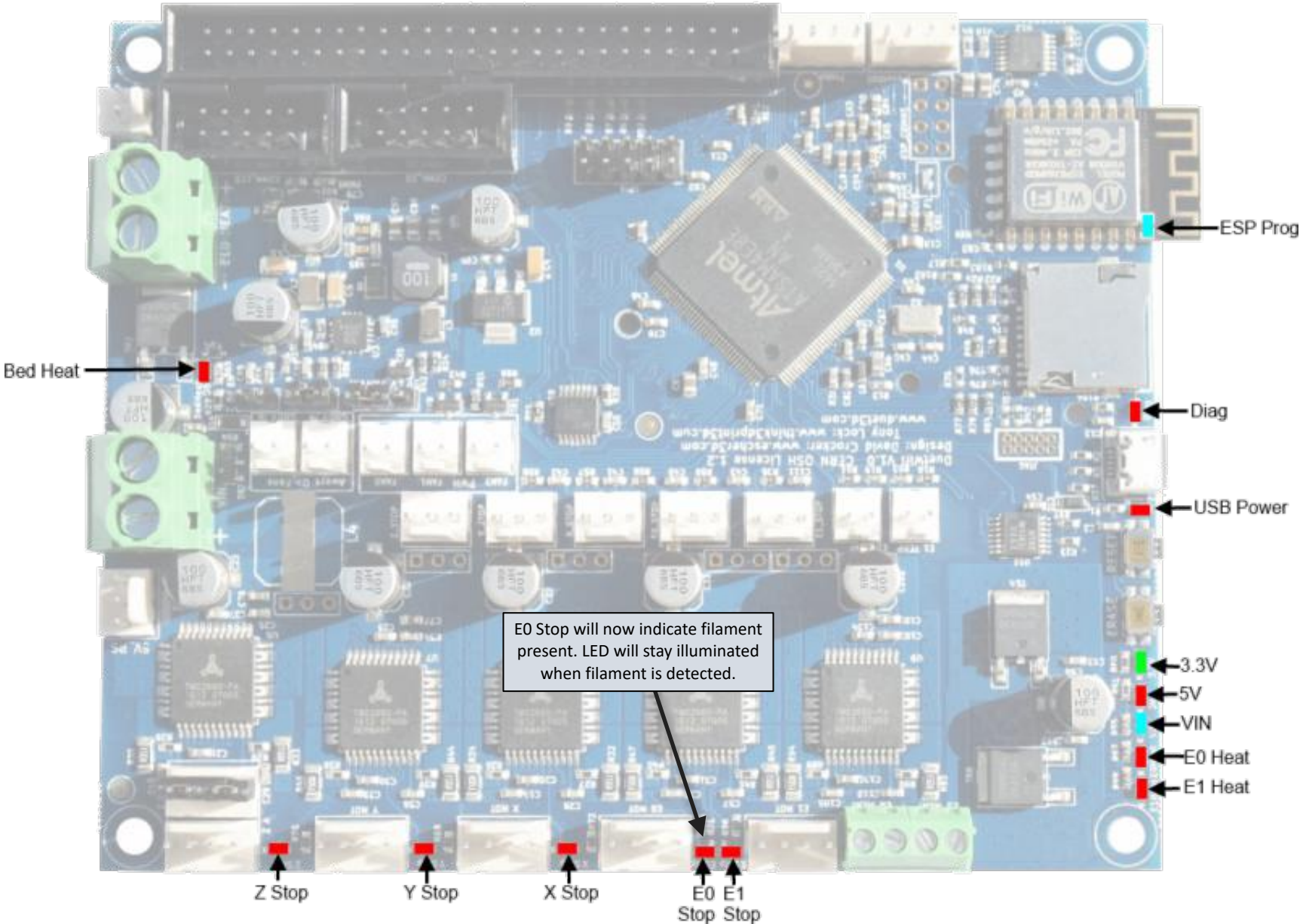
- These indicators show the status of 3.3v power, 5v power, the Vin (power from your power supply) and the two extruder heaters.
- When the board is idle and connected to a power supply, expect the 3.3v, 5v, and Vin LEDs to be illuminated.
- When the board is powered only through an external 5v supply 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.

PANELDUE CONNECTION

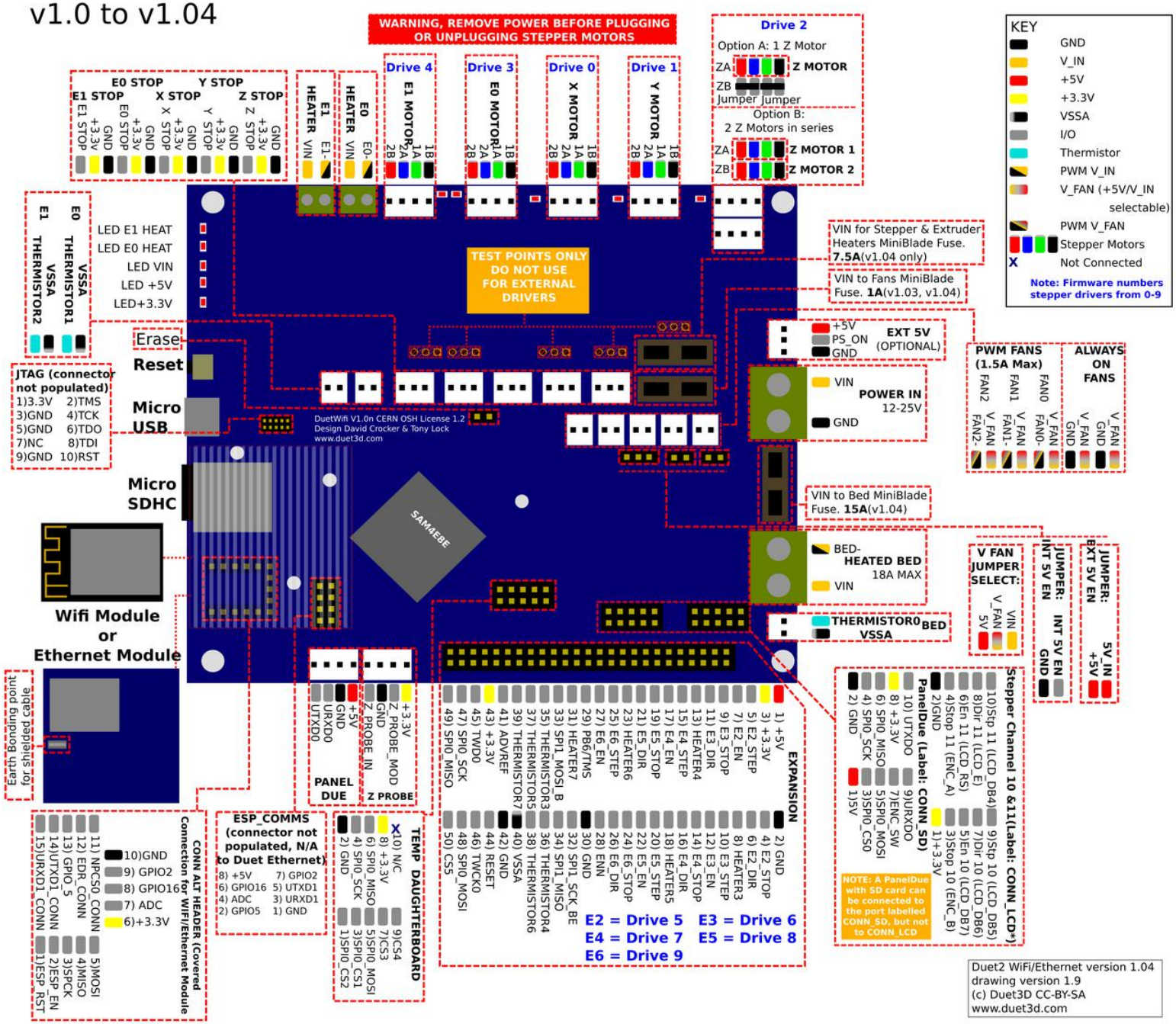


DUET 2 WIFI LED INDICATIONS

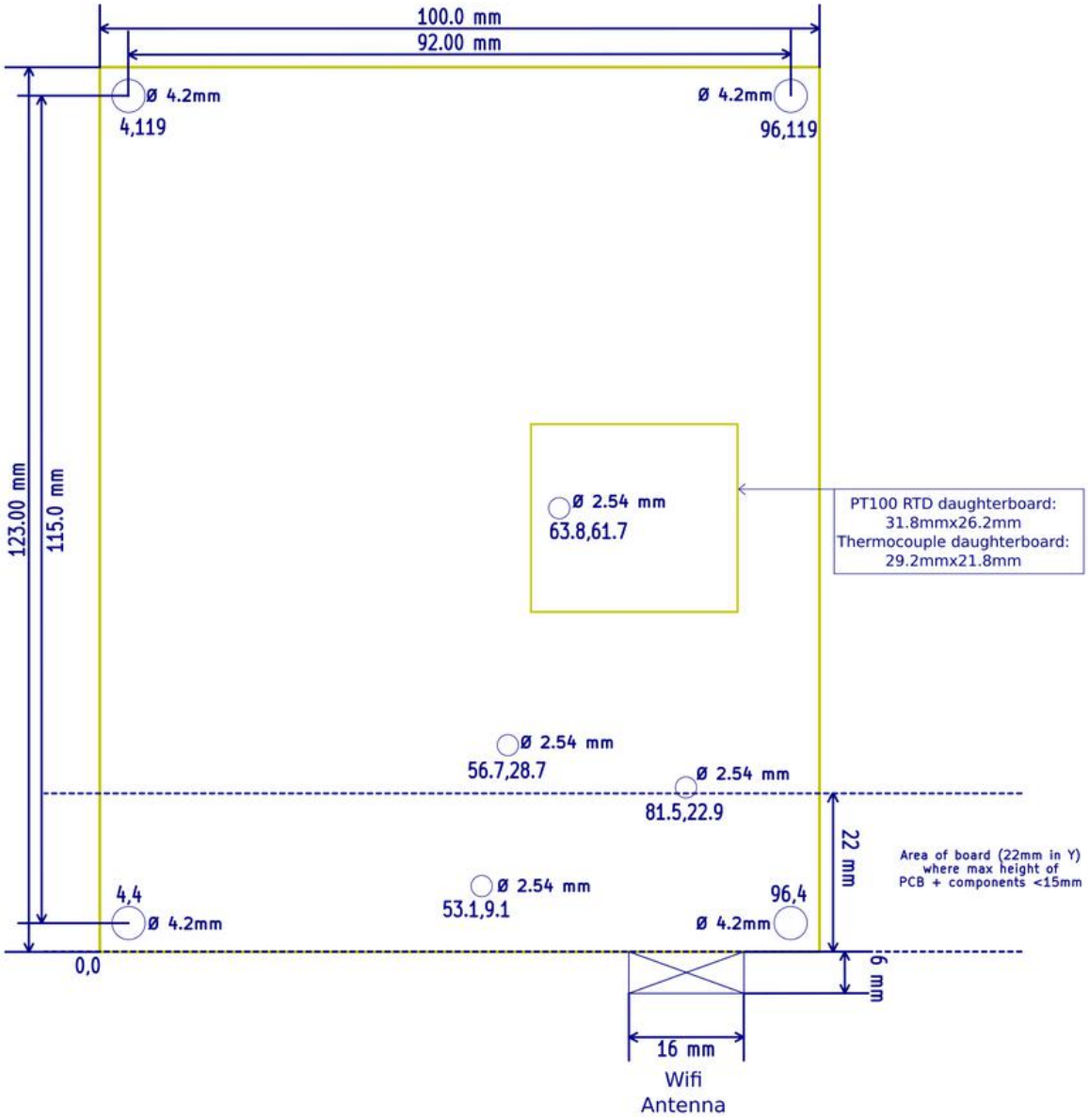


Duet Wifi / Duet Ethernet Connections

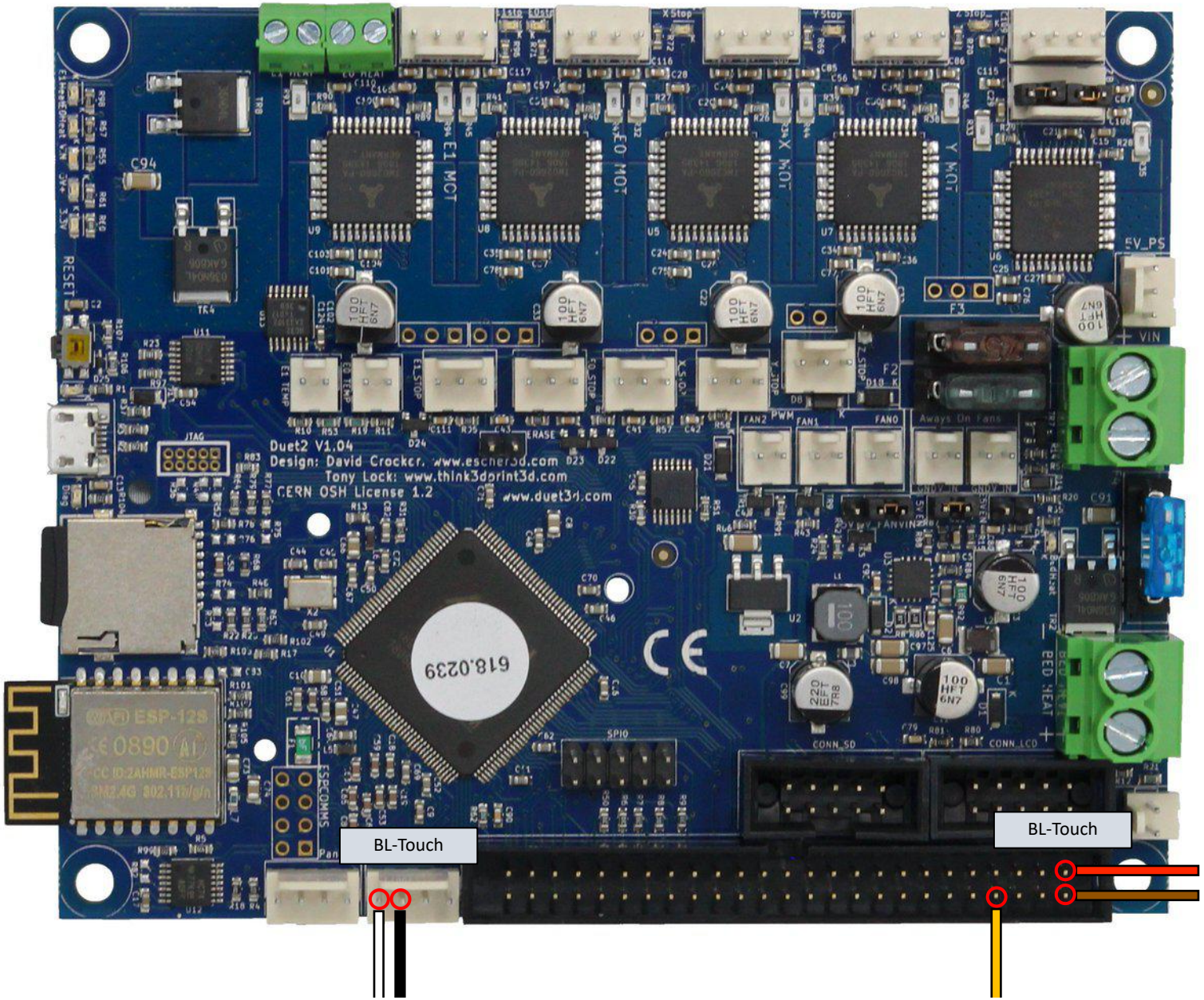
v1.0 to v1.04



DUET 2 WIFI DIMENSIONS



BLTouch v3.1



*The BL-Touch probe needs to be split into three connections; WHITE & BLACK for probe trigger, YELLOW as PWM(exp.heater3), and power as RED +5v & BROWN GND.

BLTouch v3.1

- !! Read the Duet3d wiki article on connecting a BLTouch probe. https://duet3d.dozuki.com/Wiki/Connecting_a_Z_probe

```
; Z-Probe Settings
;M558 P9 C"^zprobe.in" H5 F200 T3000              ; USE FOR BL_TOUCH! Connected to Z probe IN pin
;M950 S0 C"exp.heater3"                           ; USE FOR BL_TOUCH! Create servo/gpio 0 on heater 3 pin on expansion
M574 Z1 S2                                       ; Set endstops controlled by probe
M558 P5 C"^zprobe.in" I1 H0.7 F400 T8000 A20 S0.003 ; USE FOR PINDA!
M308 S2 P"e1_temp" A"Pinda V2" Y"thermistor" T100000 B3950 ; USE FOR PINDA!
M557 X25:235 Y10:195 P9                          ; Define mesh grid for probing
```

In the /sys/config.g file, comment out the M558 & M308 lines for the Pinda, uncomment to M558 & M590 for the BLTouch.

Your config.g should look like the example below.

```
; Z-Probe Settings
M558 P9 C"^zprobe.in" H5 F200 T3000              ; USE FOR BL_TOUCH! Connected to Z probe IN pin
M950 S0 C"exp.heater3"                           ; USE FOR BL_TOUCH! Create servo/gpio 0 on heater 3 pin on expansion
M574 Z1 S2                                       ; Set endstops controlled by probe
;M558 P5 C"^zprobe.in" I1 H0.7 F400 T8000 A20 S0.003 ; USE FOR PINDA!
;M308 S2 P"e1_temp" A"Pinda V2" Y"thermistor" T100000 B3950 ; USE FOR PINDA!
M557 X25:235 Y10:195 P9                          ; Define mesh grid for probing
```

BLTouch v3.1

- !! In addition to the changes in the config.g file, you will need to add two simple files in your /sys/ folder.

× 0:/sys/deployprobe.g

```
; deployprobe.g
; called to deploy a physical Z probe
;
M280 P0 S10 ; deploy BLTouch
```

× 0:/sys/retractprobe.g

```
; retractprobe.g
; called to retract a physical Z probe
;
M280 P0 S90 ; retract BLTouch
```

BLTouch v3.1

BLTouch – Smart V3.1				
BLTouch Instruction	Center Of PWM (Available PWM Rage ±20)	G-code	x: Servo Pin or No.	
		Marlin / Duet	Repetier	Smoothieware
Push-pin Down (deploy)	647 μs (10°)	M280 Px S10	M340 Px S647	M280 S3.24
Alarm Release & Touch SW Mode(M119)	1162 μs (60°)	M280 Px S60	M340 Px S1162	M280 S5.81
Push-pin Up (Stow)	1473 μs (90°)	M280 Px S90	M340 Px S1473	M280 S7.36
Self-test (10 Times)	1782 μs (120°)	M280 Px S120	M340 Px S1782	M280 S8.9
EEPROM Conversion Request	1884 μs (130°)	M280 Px S130	M340 Px S1884	M280 S9.42
EEPROM::5V Logic Zmin (Do not activate on 3.3V logic system)	1988 μs (140°)	M280 Px S140	M340 Px S1988	M280 S9.94
EEPROM::Logic voltage Free Zmin (Return to default: Open Drain)	2091 μs (150°)	M280 Px S150	M340 Px S2091	M280 S10.45
Alarm Release & Push-pin UP	2194 μs (160°)	M280 Px S160	M340 Px S2194	M280 S10.97

※ Depending on your board, you can need to adjust the PWM range or Duty cycle.

※ EEPROM::5V Logic Zmin: Used with 130° when the Z probe input pin on the control board is not pull-up or has an abnormal input circuit.

☞ see Logic Voltage Conversion

NOTES

Zaribo/Prusa i3 MK3s - Duet 2 WiFi - RRF 3.11

Hardware changes from stock MK3s:

Note: The mag-glass icons are in Zaribo's mag-alignment in case Prusa MK3s

- Bondtech Mosquito Extruder
- 5 Titan stepper motors on 5 X-Ends
- Duet WiFi
- PowerBoy II
- PT100 hotend thermistor
- BL-Touch v3.1

⚠️What do those hardware changes mean for your config?

⚠️Motors, microstepping resolutions, and steps/mm:
Unless you have the same setup as mentioned above, you may have to change the microstepping resolution and the steps per millimeter/degree/pulse of the configuration file. To reverse your current microstepping configuration, issue a M350 command in the terminal followed by a M500 to save the changes to the configuration file. Then, issue a M92 to set the steps per millimeter/degree/pulse for the extruder. Recalculate the steps/mm using the formula and make the qualitative changes as needed. More about this can be read here: https://duet3d.dozuki.com/Wiki/Tuning_and_connecting_stepper_motors and https://www.thesamfamily.com/jerkonaxis-and-microstepping-on-the-duet-and-reprapfirmware.htm

⚠️ Once you have changed/verified the motor settings, replace the remaining sections of the file. When completed, copy all the files located in the sys/ "macros", and "filaments" directory over to your sys/ folder. The "macros" and "global" folder are present in this repository, but not in the Duet's default sys/ folder. Also, make sure to read through the rest of this document to learn more about what each file does. Lastly, read through the Duet's wiki, more over the wiki about what the "config.g" does.

⚠️Jerk/Max Homing / Feedrapid sensitivity:
The TMC2660 drivers used on the Duet WiFi support the stallGuard feature. This feature allows the driver to detect motor traffic and stall/jam/obstruction. This is used for sensorless homing and endstops. However, it requires a lot of tuning to work properly, as obstructions and the homing process are very sensitive without using sensitivity settings.
Jerk/Max Homing feedrate sensitivity is a setting that allows the stallGuard to be more sensitive during the rapid/feedrate phase of a stallguard sensitivity and sensorless homing. For stallguard sensitivity, look for the "M915" in the current sample homing g files and current-sense homing. Read the full documentation here: https://duet3d.dozuki.com/Wiki/Stall_detection_and_sensorless_homing

⚠️ Use the included Macros for Thermal Runaway:
To make thermal runaway protection, and changing the most stringent/sensitive and simplest possible resolutions, I have made a macro set that is readily accessible from the Panelduo. To take full advantage of the Duet firmware's system you will need to make changes to your "config.g" file. Read the "config.g" section of this document for more information. Read the wiki's section on setting up thermal runaway in the firmware's config file. Read about so-called sensor-less errors, it is important that each thermistor's heating and sensing element/wiring. Read why cold-pulls/cold-checks (PA will heat these cold).
Thermal runaway protection, and cold-pull/cold-check protection, is built into RRF 3.01-RC1. Based on the extensive, this macro overrides the Duet firmware's built in heater fault and the sensitive thermal runaway. Note: this macro only has to be uncommented out in the "config.g" file to override the firmware's built in thermal runaway protection. Read the wiki's section on thermal runaway protection. Read about the Duet's default heater fault.
The Duet's default thermal runaway protection is very sensitive, and will shutdown the printer if any thermal runaway occurs. This macro allows for more tolerance, and more customization. Read the wiki's section on thermal runaway protection. Read about the Duet's default heater fault.
Cold-pull/cold-check protection is a feature that ensures that the thermistor is not shorted or disconnected from the heater block. This feature is not built into the Duet's firmware, but is included in this repository. Read the wiki's section on cold-pull/cold-check protection.
Thermal runaway protection, and cold-pull/cold-check protection, is only available on the Duet's primary heater. This feature is not available on the bed heater, or any other heaters. Note: the bed heater is the more reliable of the heaters. Read the wiki's section on thermal runaway protection. Read about the Duet's default heater fault.
The macro's thermal runaway protection, and cold-pull/cold-check protection, are only available on the Duet's primary heater. This feature is not available on the bed heater, or any other heaters. Note: the bed heater is the more reliable of the heaters. Read the wiki's section on thermal runaway protection. Read about the Duet's default heater fault.
Read the Duet's wiki's section on setting up thermal runaway in the firmware's config file.
Read about so-called sensor-less errors, it is important that each thermistor's heating and sensing element/wiring.
Read why cold-pulls/cold-checks (PA will heat these cold).
Read the wiki's section on thermal runaway protection.
Read about the Duet's default heater fault.
Read the wiki's section on cold-pull/cold-check protection.
Read the Duet's wiki's section on setting up thermal runaway in the firmware's config file.
Read about so-called sensor-less errors, it is important that each thermistor's heating and sensing element/wiring.
Read why cold-pulls/cold-checks (PA will heat these cold).
Read the wiki's section on thermal runaway protection.
Read about the Duet's default heater fault.
Read the wiki's section on cold-pull/cold-check protection.

⚠️ Use the included Macros for Filament Handling:
To make filament loading, unloading, and changing the most straightforward and simplest possible resolutions, I have made a macro set that is readily accessible from the Panelduo. To take full advantage of the Duet firmware's system you will need to make changes to your "config.g" file. Read the "config.g" section of this document for more information. Read the wiki's section on setting up filament handling in the firmware's config file. Read about so-called sensor-less errors, it is important that each filament's heating and sensing element/wiring. Read why cold-pulls/cold-checks (PA will heat these cold).
Filament handling is a feature that allows for the loading, unloading, and changing of filament. This feature is not built into the Duet's firmware, but is included in this repository. Read the wiki's section on filament handling. Read the wiki's section on filament handling in the firmware's config file. Read about so-called sensor-less errors, it is important that each filament's heating and sensing element/wiring. Read why cold-pulls/cold-checks (PA will heat these cold).
The filament sensor's sensitivity, and the filament sensor's distance between the extruder's stepper gear-wheels, can be adjusted via the "filament" command and can be entered in lower the filament to the extruder's stepper gear-wheel. Read the wiki's section on filament handling. Read the wiki's section on filament handling in the firmware's config file. Read about so-called sensor-less errors, it is important that each filament's heating and sensing element/wiring. Read why cold-pulls/cold-checks (PA will heat these cold).
The filament sensor's sensitivity, and the filament sensor's distance between the extruder's stepper gear-wheels, can be adjusted via the "filament" command and can be entered in lower the filament to the extruder's stepper gear-wheel. Read the wiki's section on filament handling. Read the wiki's section on filament handling in the firmware's config file. Read about so-called sensor-less errors, it is important that each filament's heating and sensing element/wiring. Read why cold-pulls/cold-checks (PA will heat these cold).

⚠️ Use the included Macros for Thermal Runaway:
To make thermal runaway protection, and changing the most stringent/sensitive and simplest possible resolutions, I have made a macro set that is readily accessible from the Panelduo. To take full advantage of the Duet firmware's system you will need to make changes to your "config.g" file. Read the "config.g" section of this document for more information. Read the wiki's section on setting up thermal runaway in the firmware's config file. Read about so-called sensor-less errors, it is important that each thermistor's heating and sensing element/wiring. Read why cold-pulls/cold-checks (PA will heat these cold).
Thermal runaway protection is built into RRF 3.01-RC1. Based on the extensive, this macro overrides the Duet firmware's built in heater fault and the sensitive thermal runaway. Note: this macro only has to be uncommented out in the "config.g" file to override the firmware's built in thermal runaway protection. Read the wiki's section on thermal runaway protection. Read about the Duet's default heater fault.
The Duet's default thermal runaway protection is very sensitive, and will shutdown the printer if any thermal runaway occurs. This macro allows for more tolerance, and more customization. Read the wiki's section on thermal runaway protection. Read about the Duet's default heater fault.
Cold-pull/cold-check protection is a feature that ensures that the thermistor is not shorted or disconnected from the heater block. This feature is not built into the Duet's firmware, but is included in this repository. Read the wiki's section on cold-pull/cold-check protection.
Thermal runaway protection, and cold-pull/cold-check protection, is only available on the Duet's primary heater. This feature is not available on the bed heater, or any other heaters. Note: the bed heater is the more reliable of the heaters. Read the wiki's section on thermal runaway protection. Read about the Duet's default heater fault. Read the wiki's section on cold-pull/cold-check protection.
The macro's thermal runaway protection, and cold-pull/cold-check protection, are only available on the Duet's primary heater. This feature is not available on the bed heater, or any other heaters. Note: the bed heater is the more reliable of the heaters. Read the wiki's section on thermal runaway protection. Read about the Duet's default heater fault. Read the wiki's section on cold-pull/cold-check protection.
Read the Duet's wiki's section on setting up thermal runaway in the firmware's config file.
Read about so-called sensor-less errors, it is important that each thermistor's heating and sensing element/wiring.
Read why cold-pulls/cold-checks (PA will heat these cold).
Read the wiki's section on thermal runaway protection.
Read about the Duet's default heater fault.
Read the wiki's section on cold-pull/cold-check protection.

Additional notes:

⚠️ **Electrically independent Z-motors:** On printers, such as MK3, which use Z-motors to unscrew/lower the bed in gantry, you can have the Firmware pulse the bed down in steps, and move horizontally to unscrew. The auto calibration uses a bed-square algorithm that minimizes the sum of the height errors. The deviation before and expected deviation after calibration is reported in the console. Read the Duet documentation here: https://duet3d.dozuki.com/Wiki/Multi-Motor_leveling_using_multi-pt_probe#Step_2_Leveling

⚠️ **PSU0-AT:** Prusa decided (I suppose) that the previous version's that it now has an integrated power-failure detection circuit, and thus, removed the PSU0-AT. However, the PSU0-AT is still required for power-failure detection. Without the PSU0-AT, the printer will not detect a power-failure and will not resume the print from the last Firmware-block. Read Mogo's posting on the Duet forum: https://forum.duet3d.com/topic/15812/prusa-i3-powerfailure-detection-by-comparator/p1 / https://forum.duet3d.com/topic/15812/prusa-i3-powerfailure-detection-by-comparator/p2 / https://forum.duet3d.com/topic/15812/prusa-i3-powerfailure-detection-by-comparator/p3 / https://forum.duet3d.com/topic/15812/prusa-i3-powerfailure-detection-by-comparator/p4 / https://forum.duet3d.com/topic/15812/prusa-i3-powerfailure-detection-by-comparator/p5

⚠️ **Duet3 A/S:** The config.g has commented sections for using Duet3 and the wiring guide covers a finished unit's side.

⚠️**printing Z:** the very last codeline that is executed. This last part commonly disassembles heaters, retracts a lot of filament, and positions the machine to easily remove the print/part.

Additional notes:

⚠️ **Electrically independent Z-motors:** On printers, such as MK3, which use Z-motors to unscrew/lower the bed in gantry, you can have the Firmware pulse the bed down in steps, and move horizontally to unscrew. The auto calibration uses a bed-square algorithm that minimizes the sum of the height errors. The deviation before and expected deviation after calibration is reported in the console. Read the Duet documentation here: https://duet3d.dozuki.com/Wiki/Multi-Motor_leveling_using_multi-pt_probe#Step_2_Leveling

⚠️ **PSU0-AT:** Prusa decided (I suppose) that the previous version's that it now has an integrated power-failure detection circuit, and thus, removed the PSU0-AT. However, the PSU0-AT is still required for power-failure detection. Without the PSU0-AT, the printer will not detect a power-failure and will not resume the print from the last Firmware-block. Read Mogo's posting on the Duet forum: https://forum.duet3d.com/topic/15812/prusa-i3-powerfailure-detection-by-comparator/p1 / https://forum.duet3d.com/topic/15812/prusa-i3-powerfailure-detection-by-comparator/p2 / https://forum.duet3d.com/topic/15812/prusa-i3-powerfailure-detection-by-comparator/p3 / https://forum.duet3d.com/topic/15812/prusa-i3-powerfailure-detection-by-comparator/p4 / https://forum.duet3d.com/topic/15812/prusa-i3-powerfailure-detection-by-comparator/p5

⚠️ **Duet3 A/S:** The config.g has commented sections for using Duet3 and the wiring guide covers a finished unit's side.

⚠️**printing Z:** the very last codeline that is executed. This last part commonly disassembles heaters, retracts a lot of filament, and positions the machine to easily remove the print/part.

Example start gcode for ideaMaker Slicer:

```
; ideaMaker Start G-Code

; M92 X100.00 Y100.00 Z400.00 E93.00 ; Set default steps/mm
; M350 X16 Y16 Z16 E16 ; Set default microsteps
; M203 X500.00 Y500.00 Z12.00 E120.00 ; set maximum speed
; M201 X9000.00 Y9000.00 Z500.00 E10000.00 ; set max accelerations

; Use macro to pause extruder at a 'comfortable' position from 1.1 to 1.6
; M98 P"sys/macros-extruder.g"

; set pressure advance
; M572 D0 S0.05 ; set pressure advance
```

Example end gcode for ideaMaker Slicer:

```
; ideaMaker End G-Code
M107 ; Turn fan off
M104 S0 ; Stop extruding and cool nozzle/nozzle 0
```

Example start gcode for SimplyFy3D Slicer:

```
; SimplyFy3D Start G-Code

; M92 X100.00 Y100.00 Z400.00 E93.00 ; Set default steps/mm
; M350 X16 Y16 Z16 E16 ; Set default microsteps
; M203 X500.00 Y500.00 Z12.00 E120.00 ; set maximum speed
; M201 X9000.00 Y9000.00 Z500.00 E10000.00 ; set max accelerations

; Use macro to pause extruder at a 'comfortable' position from 1.1 to 1.6
; M98 P"sys/macros-extruder.g" ; pressure advance

; set pressure advance
; M572 D0 S0.05 ; set pressure advance
```

Example end gcode for SimplyFy3D Slicer:

```
; SimplyFy3D End G-Code
M107 ; Turn fan off
M104 S0 ; Turn off extruder
M140 S0 ; Turn off bed
```

Example start gcode for Prusa Slicer:

```
; PrusaSlicer Start G-Code

; M92 X100.00 Y100.00 Z400.00 E93.00 ; Set default steps/mm
; M350 X16 Y16 Z16 E16 ; Set default microsteps
; M203 X500.00 Y500.00 Z12.00 E120.00 ; set maximum speed
; M201 X9000.00 Y9000.00 Z500.00 E10000.00 ; set max accelerations

; Use macro to pause extruder at a 'comfortable' position from 1.1 to 1.6
; M98 P"sys/macros-extruder.g" ; pressure advance

; set pressure advance
; M572 D0 S0.05 ; set pressure advance
```

Example end gcode for Prusa Slicer:

```
; PrusaSlicer End G-Code
M107 ; Turn fan off
M104 S0 ; Turn off extruder
M140 S0 ; Turn off bed
```

**It is highly recommend to read through the very detailed Duet Wiki pages at https://duet3d.dozuki.com/. RepRapFirmware's support is code reference can be found here: https://duet3d.dozuki.com/Wiki/GcodeRepap.*

DUET System (sd-card contents) files follow:

**Always use the global folders as they will contain the latest revisions of these files.*

file dump - v0b/0b/20

Directory / File list follow:

```
0:/macros/
0:/filaments
0:/filaments/ABS
0:/filaments/ABS.g
0:/filaments/PC
0:/filaments/PC.g
0:/filaments/PETG
0:/filaments/PETG.g
0:/filaments/PLA
0:/filaments/PLA.g
0:/filaments/PLA+
0:/filaments/PLA+.g
0:/filaments/Polymaker
0:/filaments/Polymaker.g
0:/filaments/Polymaker/Polymaker.g
0:/filaments/Polymaker/Polymaker_Profiles.txt
0:/filaments/Polymaker/Polymaker_Profiles.txt.bak
0:/filaments/Polymaker/Polymaker_Profiles.txt.orig
0:/filaments/Polymaker/Polymaker_Profiles.txt.rej
0:/filaments/Polymaker/Polymaker_Profiles.txt.~HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~master
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/master.~origin/HEAD
0:/filaments/Polymaker/Polymaker_Profiles.txt.~origin/master.~origin/master
```

```
; rotated when a probe is canceled after a pause.

M83                                                     ; Make the extruder interpret extrusion values as
; relative positions
M106 S-255                                              ; turn off hotend
M104 S-273                                              ; turn off heatbed
M18                                                     ; turn off steppers
G1 Z1000.0                                              ; set feed rate
G1 E-2                                                  ; retract 2mm
M98 P"current-sense-homing.g"                           ; Set current and sensitivity for homing routines
M106 S255                                               ; unlock X, Y, Z axis

; rpi/config.g

; ------------------------------------------------------
; Configuration file for RepRap Duet WiFi, firmware version 3.1
; Go to https://forum.duet3d.com/search?keywords=config.g+line%3Aauthor%3Ataw%2BRRK%3Ataw.RRK%20
; for corresponding wiring information.
;
; General preferences
G90                                                     ; Send absolute coordinates
M83                                                     ; Relative extruder moves
M550 P"DMD3.DMDW"                                       ; Set printer name

; Network
M552 P"10"                                              ; Set parameters
M586 P0 S1                                              ; Enable HTTP
M586 P6 S1                                              ; Enable FTP
M586 P7 S0                                              ; Disabled TFTP
M586 P8 S1                                              ; Enable Telnet
M575 P1 B38400                                          ; Enable support for PanelDue

; Drive mapping for 6mm x 6mm x 1mm x 2mm x 2mm x 2mm
M584 P0 E1                                              ; Drive 0 goes forwards 0 Axis
M584 P1 E2                                              ; Drive 1 goes forwards 0 Axis
M584 P2 E3                                              ; Drive 2 goes forwards 0 Axis left
M584 P3 E0                                              ; Drive 3 goes backwards X Axis
M584 P4 E4                                              ; Drive 4 goes forwards Z Axis (right rating #1)

; Motor configuration
; Note that these values are the following as a starting point:
; M906 X600 Y600 Z600 E1200:2400:2400:2400 I30.                ; Set motor currents (mA) and motor idle factor in
percent
; M350 X16 Y16 Z16 E1                                           ; Microstepping with interpolation
; M350 X32 I0                                                   ; Microstepping without interpolation
; M92 X80.00000 Y80.00000 Z1600.00 E409.00                      ; Set axis steps/mm
; ;; Also some text that should wait the current-sense-homing.g file to get the proper M-offset for your
printer
; ; ;; Comment out the I Microsh line in the homes and homeall files

; M906 X0 Y0"opacity.co" ;; X1 Y1000 T60000 A20 S0.005          ; Press Plate0?
; M906 X0 Y0"opa_temp" ;Value YZ ;"Transducer" T10000 A5000     ; Press Plate0?

; G-Offsets - Bed bears https://duet3d.dozuki.com/Wiki/Text_and_calibrate_the_G-offset
; G31 P1000 X0 Y0 Z0.485                                        ; PEI Sheet (Steps 1000=0.5mm) Tungsten Carbide
; G31 P1000 X0 Y0 Z0.440                                        ; PEI Sheet (Steps 1000=0.5mm) BMG MICRO NOZZLE
; G31 P1000 X0 Y0 Z0.490                                        ; Textured Sheet (Steps 1000=0.5mm) BMG MICRO NOZZLE
; G31 P1000 X20 Y0 Z0.440                                       ; Textured Sheet (Steps1000=0.5mm) Stainless MICRO NOZZLE
M574 X2:3E2                                                     ; Set endstops controlled by probe
M557 X20:220 Y20:195 S9                                         ; Define mesh grid for probing

; G-Probe Setting for P1000 v2
; ;; Comment out the following line if using a M558 Probe, replace with the following M574 & M558 line
; ;; Comment out if the G-Offsets below, use the offset method to get the proper z-offset for your
printer
; ; ; Comment out the I Microsh line in the homes and homeall files

; M558 P5 C"^pinsim.in" I1 F1500 T6000 A20 S0.005               ; Press Plate0?
; M558 P2 F\_temp" F"Plate YZ" ;"Transducer" T10000 A5000       ; Press Plate0?

; G-Offsets - Bed bears https://duet3d.dozuki.com/Wiki/Text_and_calibrate_the_G-probe
; G31 P1000 X20 Y0 Z0.485                                       ; PEI Sheet (Steps1000=0.5mm) Tungsten Carbide
; G31 P1000 X20 Y0 Z0.440                                       ; PEI Sheet (Steps1000=0.5mm) BMG MICRO NOZZLE
; G31 P1000 X20 Y0 Z0.490                                       ; Textured Sheet (Steps1000=0.5mm) BMG MICRO NOZZLE
; G31 P1000 X20 Y0 Z0.440                                       ; Textured Sheet (Steps1000=0.5mm) Stainless MICRO NOZZLE
M574 X2:3E2                                                     ; Set endstops controlled by probe
M557 X20:220 Y20:195 S9                                         ; Define mesh grid for probing

; Heated beds and Thermistor TWO
M308 S0 P"bed0.temp" ;"Thermistor" ;"Bold Plate" T10000 B4138 R4700 ; Set thermistor + adc parameters for
heater 0 bed
M950 H0 C"bedhea0.*0                                            ; Create bed heater
M307 H0 B0 R0.300 C1.000:1.00 D1.00 V24.0 W                     ; Configure heater 0 (bed) enabled 0:0ms0:0V0
M140 H0                                                         ; Bed uses heater 0
M143 H0 S120                                                    ; Set temperature limit for heater 0 to 120C bed

; Filament Sensor
M591 D0 S2 P"sensor" E1                                         ; Filament Runner Sensor

; Heated Beds and Thermistor Ecobed
M308 S1 P"bed.temp" ;"Thermistor" ;Ecobed M308 S1 P"ad_temp" ;"Thermistor" ;"Bonus" T10000 B4725 R4700 ; Set
thermistor + adc parameters for heater 1 Ecobed
M950 H1 P"ad_temp" P"pin20" ;"Bonuspin"                         ; Set extruder thermistor for PT1000
M307 H1 B0 R0.300 C1.000:1.00                                   ; Configure heater 1
M307 H1 A400.0:400.0 C15.0 D1.00 V24.0 W                        ; Ecobed PID Calibration - updated 03/04/2020
M143 H1 S280                                                    ; Set temperature limit for heater 1 to 280C Ecobed
M92 E500 E200                                                   ; Allow cold extrusion, E-Volume extrusion
temperature, E-Volume retraction temperature

; Fans
M950 F0 C"fan0" Q250                                            ; Create NOCONO fan
M106 P0 S0 H-1 C"Fan0" Q250                                     ; Turn off fan 0 initially
M950 F1 C"fan1" Q250                                            ; Create PAPER COOLING FAN
M106 P1 H-1                                                     ; Set fan 1 value, PWM signal inversion and
frequency. Thermostatic control is turned off PAPER COOLING FAN
; The following lines are for auto case fan control, attached to 'fan1' header on Ekmb board
; ;; Comment out the following line if
using and purchase fuses on the TMC2660 on Duet                 ; Case fan - configure sensor 2 as temperature

; ;;; Reports EZ when there is no earing, 100% if
any driver reports over-temperature

; ;;; warning, and 100% if any driver reports over
temperature shutdown
M950 F2 C"fan1.temp" S"fan1PT1"                                 ; Case fan - configure sensor 2 as thermistor on pin
attach for left wrapper
M106 P2 T35:45 H-1 C"fan2"                                      ; Case fan - creates fan 2 on pin fan2 and set its
frequency
M106 P2 B0.3 L0.15 S1 A0.2 T40:75                               ; Case fan - set fan 2 value
M950 F3 C"fan3"                                                 ; M950 fan3 creation - default reads 5.5v higher
than expected

; Tools
M563 P0 D0 H1 F0                                                ; Define tool 0
G10 P0 X0 Y0 Z0                                                 ; Set tool 0 axis offsets
G10 P0 R0 S0                                                    ; Set tool 0 initial active and standby temperatures
to 0C
T0                                                              ; Set Tool 0 active

; Pressure A, T, and E axis
M18 I0E                                                         ; Unlock A, T, and E axis

; rpi/current-sense-homing.g

; rpi/sys/current-sense-homing.g
; Current and Sensitivity for homing routines

M915 X Z S2 H400 R0                                             ; Set X axis Sensitivity
M915 Y S2 H3 R400 R0                                            ; Set Y axis Sensitivity
M913 X20 Y20 E40                                                ; set X Y E motors to 0% of their normal current

; rpi/current-sense-normal.g

; rpi/sys/current-sense-normal.g
; Current and Sensitivity for normal routine

M913 X100 Y100 E100                                             ; set X Y E motors to 100% of their normal current
M915 X S3 P0 H200 R0                                            ; Set X axis Sensitivity
M915 Y S3 P0 H200 R0                                            ; Set Y axis Sensitivity

; rpi/deployprobe.g

; rpi/sys/deployprobe.g
; called to deploy a physical E probe

M280 P0 S120                                                    ; deploy BLTouch

; rpi/filament-change.g

; rpi/sys/filament-change.g
; called when a print from SD card runs out of filament

M25
M83
G1 E200 F1800                                                   ; Relative Positioning
M18                                                             ; Raise E
M83                                                             ; Absolute values
G1 Z200 X0 F6000                                                ; Move up and forward
M280 P0S0 P0S0                                                  ; Stow probe
M106 P0 S-1                                                     ; Unload and load filament using macro
M400                                                            ; Clear moves

M291 P"Press OK to recommence print." X"Filament Handling" ;
M83
M98 P"0:/macros/Mount Nozzle"                                   ; Get nozzle hot and continue print
M116                                                            ; wait for all temperatures - shouldn't need this but
just issues
M121                                                            ; Recover the last state pushed onto the stack

; rpi/filaments.cse

; RepRapFirmware filament assignment file v1 generated at 2020-04-01 15:01
; Generated filaments
; ,,0:0:0

; rpi/Unset

M1 S0:0
M1 S0:0 P"M905"

; rpi/homeall.g

; home X, Y, and Z axis

M98 P"current-sense-homing.g"                                   ; Ensure current and sensitivity is set for homing
routines

; ;;; If using Probe, comment-out the following two lines
M280 P0 S160                                                    ; BLTouch, alarm release
G4 P500                                                         ; BLTouch, delay for release command

G91                                                             ; relative positioning
G1 S1 P900 X2                                                   ; Lift Z relative to current position

; HOME X
G1 X0 Y0 F1000                                                  ; move slowly away
G1 X1 Y1 F1000                                                  ; move quickly to X endstop
G1 X0 Y0 F1000                                                  ; move slowly away
G1 X1 Y1 F250                                                   ; move quickly to X endstop, second check

; HOME Y
G1 X0 Y0 F1000                                                  ; move slowly away
G1 X1 Y1 F1000                                                  ; move quickly to Y endstop
G1 X0 Y0 F1000                                                  ; move slowly away
G1 X1 Y1 F250                                                   ; move quickly to Y endstop, second check

; HOME Z
G1 X2 Y2 F3000                                                  ; raise head 2mm to ensure it is above the Z probe
trigger height
G1 Z-5 F1000                                                    ; back to absolute mode
G1 Z10 Y15 F6000                                                ; go to first probe point
G54                                                             ; home Z by probing the bed

G90                                                             ; absolute positioning
G1 X0 Z5 F600                                                   ; Lift Z relative to current position

; rpi/homex.g

; rpi/sys/homex.g
; home the x axis

M98 P"current-sense-homing.g"                                   ; Ensure current and sensitivity is set for homing
routines

G91                                                             ; relative positioning

G1 Z2 F600 X2                                                   ; Lift Z relative to current position

G1 X0 Y0 F1000                                                  ; move slowly away
G1 X1 Y1 F1000                                                  ; move quickly to X endstop

G1 X0 Y0 F1000                                                  ; move slowly away
G1 X1 Y1 F250                                                   ; move quickly to X endstop, second check

G1 X-1 F600 X2                                                  ; place X back to starting position

; rpi/homey.g

; rpi/sys/homey.g
; home the y axis

M98 P"current-sense-homing.g"                                   ; Ensure current and sensitivity is set for homing
routines

G91                                                             ; relative positioning

G1 Z2 F600 X2                                                   ; Lift Z relative to current position

G1 X0 Y0 F1000                                                  ; move slowly away
G1 X1 Y1 F1000                                                  ; move quickly to Y endstop

G1 X0 Y0 F1000                                                  ; move slowly away
G1 X1 Y1 F250                                                   ; move quickly to Y endstop, second check

G1 Y-1 F600 X2                                                  ; place Y back to starting position

; rpi/homez.g

; rpi/sys/homez.g
; home the z axis

M98 P"current-sense-homing.g"                                   ; Ensure current and sensitivity is set for homing
routines

G91                                                             ; relative positioning

G1 Z2 F600 X2                                                   ; Lift Z relative to current position

G1 X0 Y0 F1000                                                  ; move slowly away
G1 X1 Y1 F1000                                                  ; move quickly to Y endstop

G1 X0 Y0 F1000                                                  ; move slowly away
G1 X1 Y1 F250                                                   ; move quickly to Y endstop, second check

G1 Z-1 F600 X2                                                  ; place Z back to starting position

; rpi/homeall.g

; rpi/sys/homeall.g
; home the z axis

M98 P"current-sense-homing.g"                                   ; Ensure current and sensitivity is set for homing
routines

; ;;; If using Probe, comment-out the following two lines
M280 P0 S160                                                    ; BLTouch, alarm release
G4 P500                                                         ; BLTouch, delay for release command

G91                                                             ; relative positioning
G1 Z5 F1000                                                     ; Lift Z relative to current position
G90                                                             ; Absolute positioning

G1 X20 Y15 F6000                                                ; go to first probe point
G54                                                             ; home Z by probing the bed

G90                                                             ; absolute positioning
G1 Z5 F1000                                                     ; Lift Z relative to current position

; rpi/pause.g

; rpi/sys/pause.g
; called when a print from SD card is paused

M120                                                            ; Push the state of the machine onto a stack

if sensors.filamentSensors[0].filamentPresent = false           ; if filament has run out, return the if filament
  G1 Z-5 F1000                                                  ; relative extruder moves
M83                                                             ; Relative Extruder
G1 E10 F1000                                                    ; Relative Retracting
G1 E10 F1000                                                    ; Raise E
G90                                                             ; Absolute Values
G1 X20 Y0 F6000                                                 ; Parking Position
M400 M98 P0S0                                                   ; pulse bump sound

; rpi/resume.g

; rpi/sys/resume.g
; called before a print from SD card is resumed

M98 P"current-sense-normal.g"                                   ; Ensure current and sensitivity is set for normal
routines
G1 X0 F6000                                                     ; retract head to 0
G1 Z-5 E-10 F1000                                               ; move down to first probe position with E Pam above
G1 X0 Z0                                                        ; go to X position of the last print move
M121                                                            ; Recover the last state pushed onto the stack

; rpi/retractprobe.g

; rpi/sys/retractprobe.g
; called to retract a physical E probe

M281 P0 S90                                                     ; retract BLTouch

; rpi/stopping.g

; rpi/sys/stopping.g
; called when M1 (Sleep) is being processed

M106 P-273                                                      ; turn off hotend
M140 S-273                                                      ; turn off bed
M18                                                             ; turn off fan
M18 S600                                                        ; unlock all axis

; rpi/start.g

; rpi/sys/start.g
; Executed before each print - BEFORE BED SLICER CODE IS RAN
; Note that this file is not used if a slicer is used to create the printer's gcode files
; Some discussion at https://forum.duet3d.com/forum/gcode.cgi, if the slicing/slicer does not
; mesh, comment out, and then save in the Slicer's gcode.

M83                                                             ; Ensure text is relative
M98 P0 S200                                                     ; Play a short beep
;G4 P500                                                        ; BLTouch, delay for release command
M572 D0 S0.3                                                    ; Set pressure advance
M572 D1 S0.3                                                    ; Set Speed Factor back to 100% in case it was
changed
M221 S100                                                       ; Set extrusion factor back to 100% in case it was
changed
M106 H0 A0                                                      ; Close heatsink/fan
M106 P0 S255                                                    ; Turn on cooling blower off if it is on
M703                                                            ; Execute loaded filament's config.g
G90 G1                                                          ; Home all

; if using BLTouch probe, use the following line:
G1 S120                                                         ; Lower the stepper to check nozzle clearance
; if using Probe type probe, use the following line to place probe center of bed to home the probe
;G1 X0 Y200 F300                                                ; Place nozzle center of bed, Y0a up

M400 M400 M400 M98 P0S0 M400 P0S0 M400 P0S0 M400 P0S0           ; Give a single beep
M116                                                            ; wait for all temperatures
G4 P10000                                                       ; Wait for 10 seconds for bed to stabilize
G10 P1                                                          ; Set tool 1 axis offsets
G29 P1 {"X0:"^(floor(mod(mod(mod
```