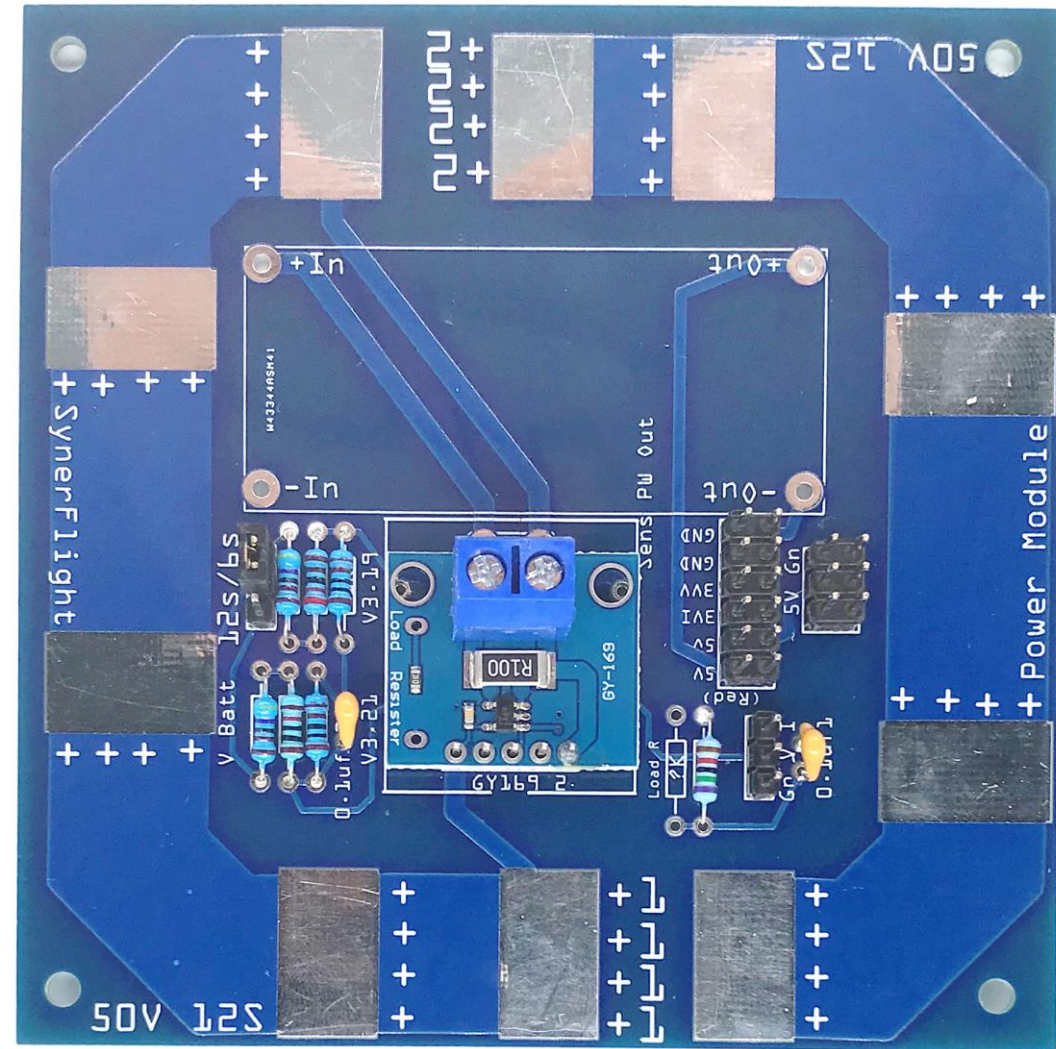


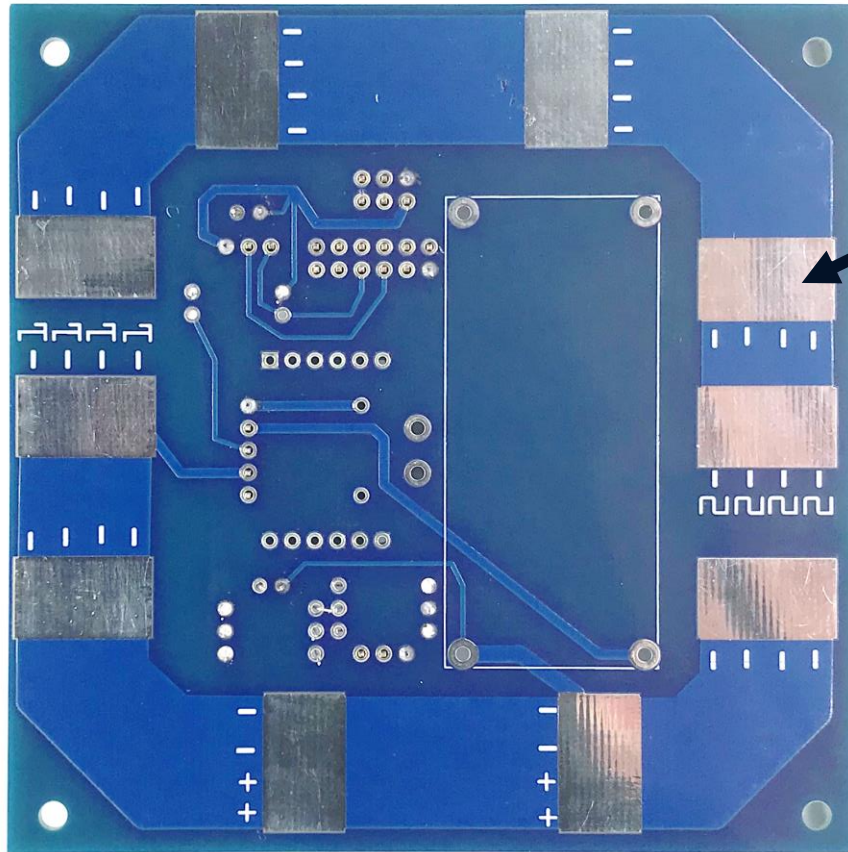
Distribution Board and Power Module

Synerflight

For Pixhawk and Multiwii Synerduino Boards
Voltage Sensor for 3s/4s/6s/12s (12V/16V/25V / 50V)
Current Sensor (10A) Avionics Hardware



Distribution Board and Power Module



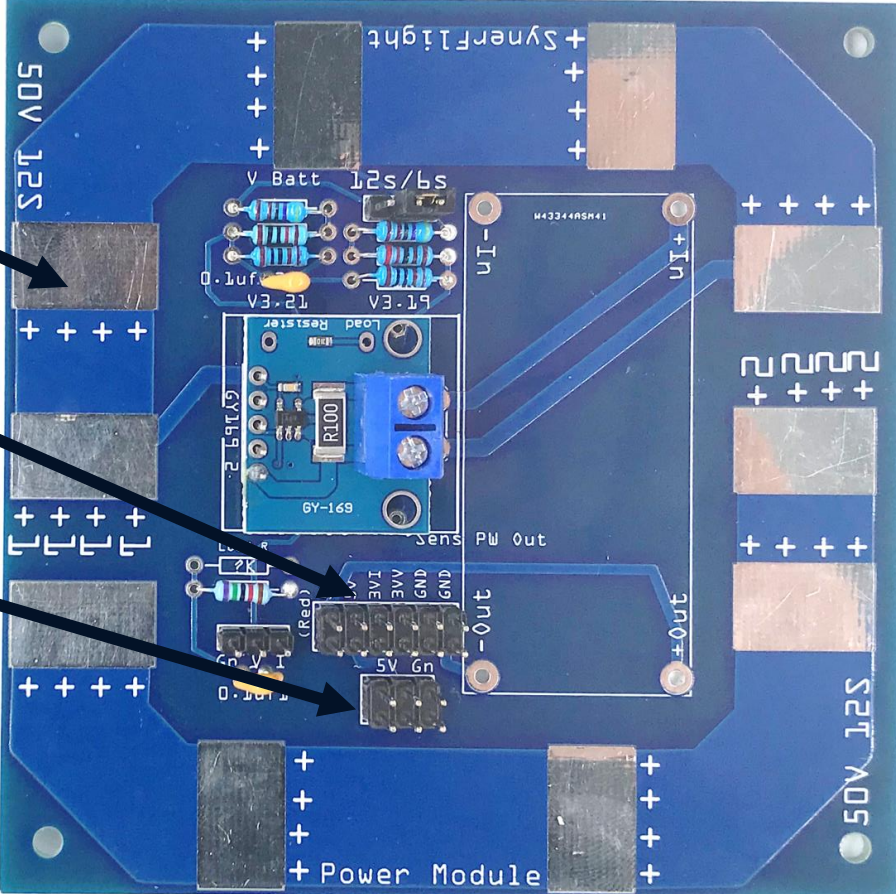
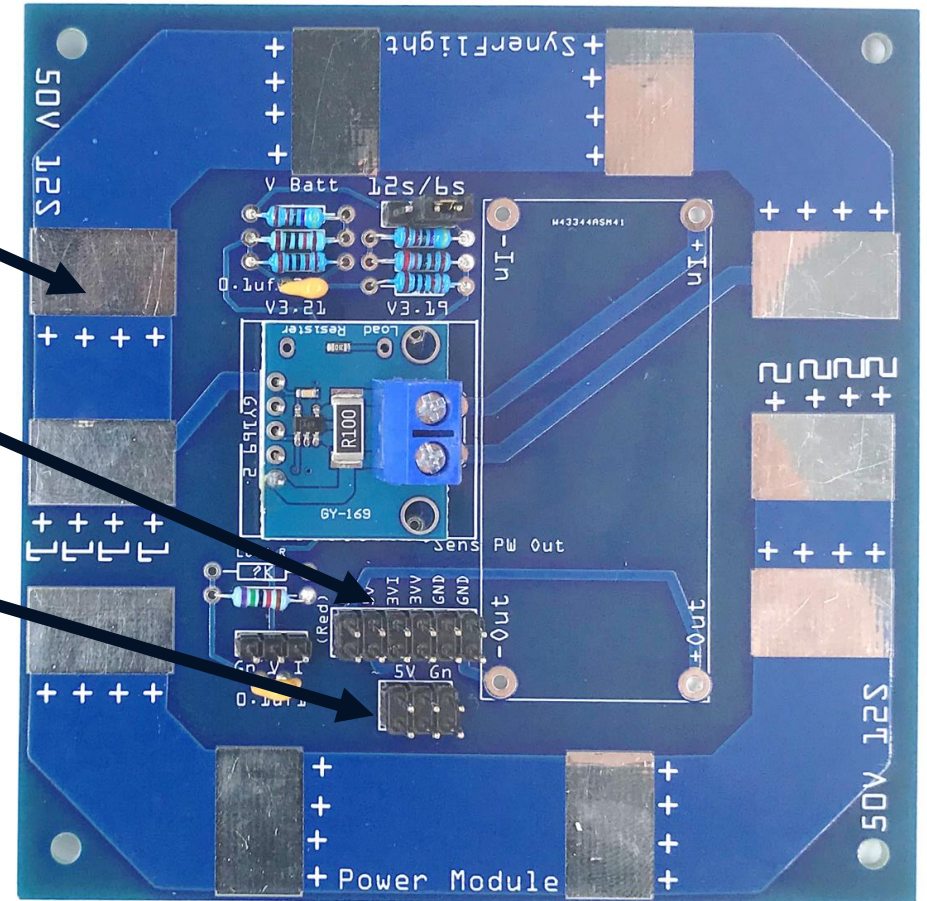
- Power Pads +
Positive on top Negative on Bottom

Sensor Pins

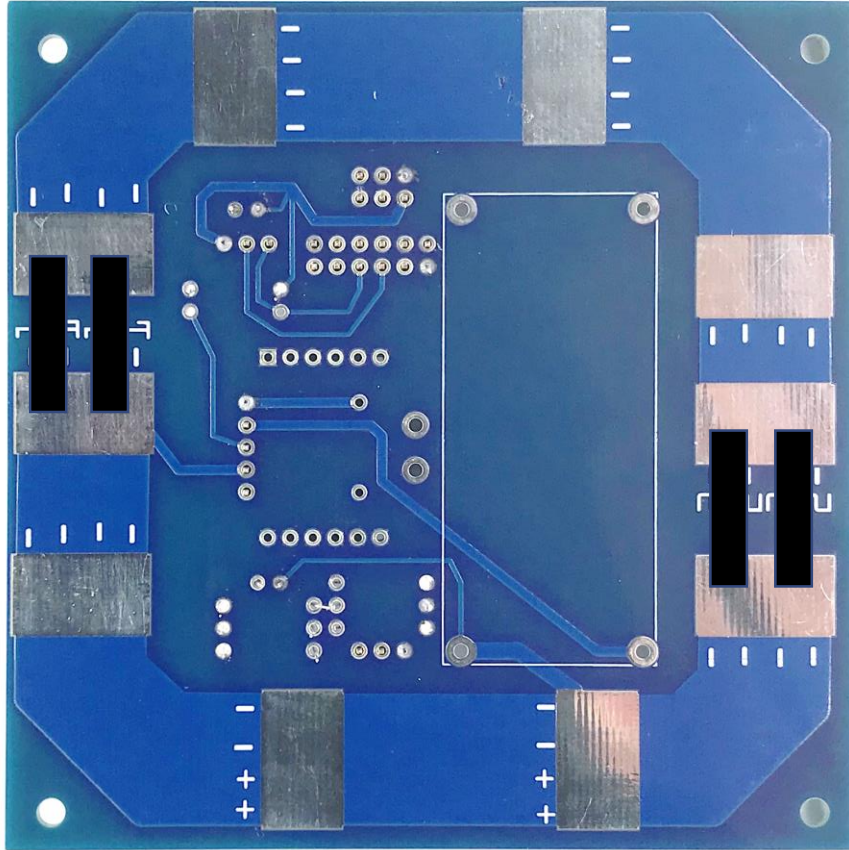
This Plugs into the Flight controller's PMU input

UBEC Pins I/O

(can be use to power the 5V rails in a flight controller)



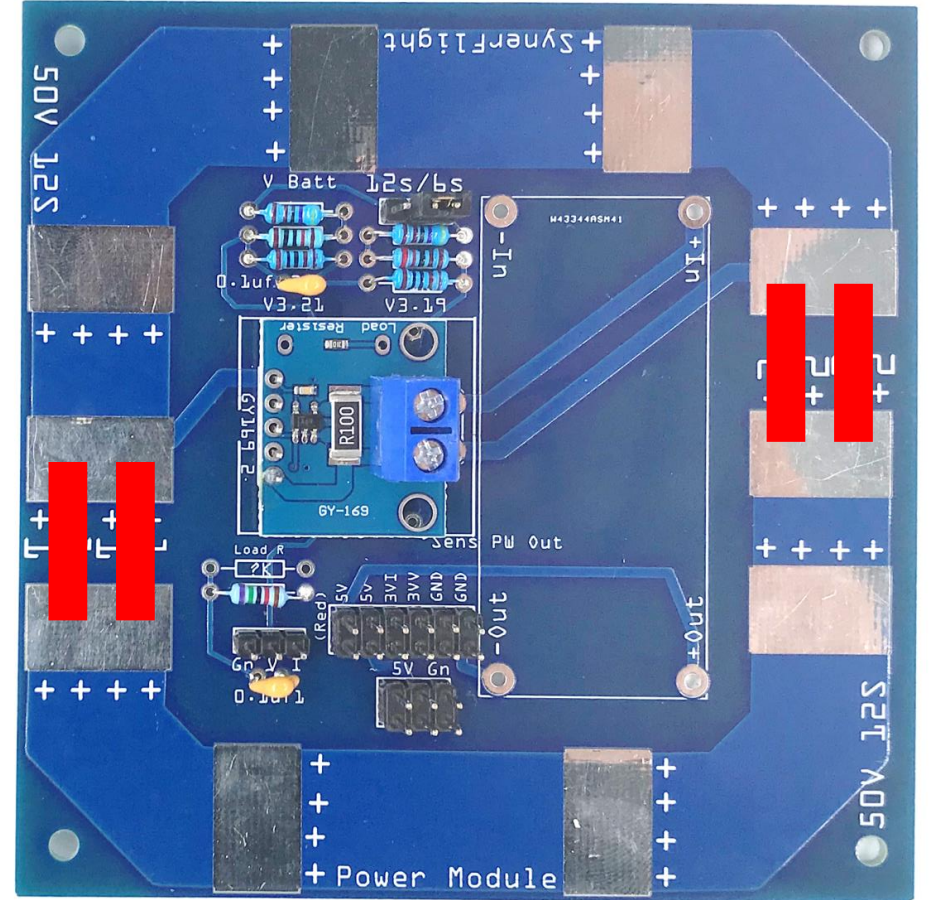
Distribution Board and Power Module

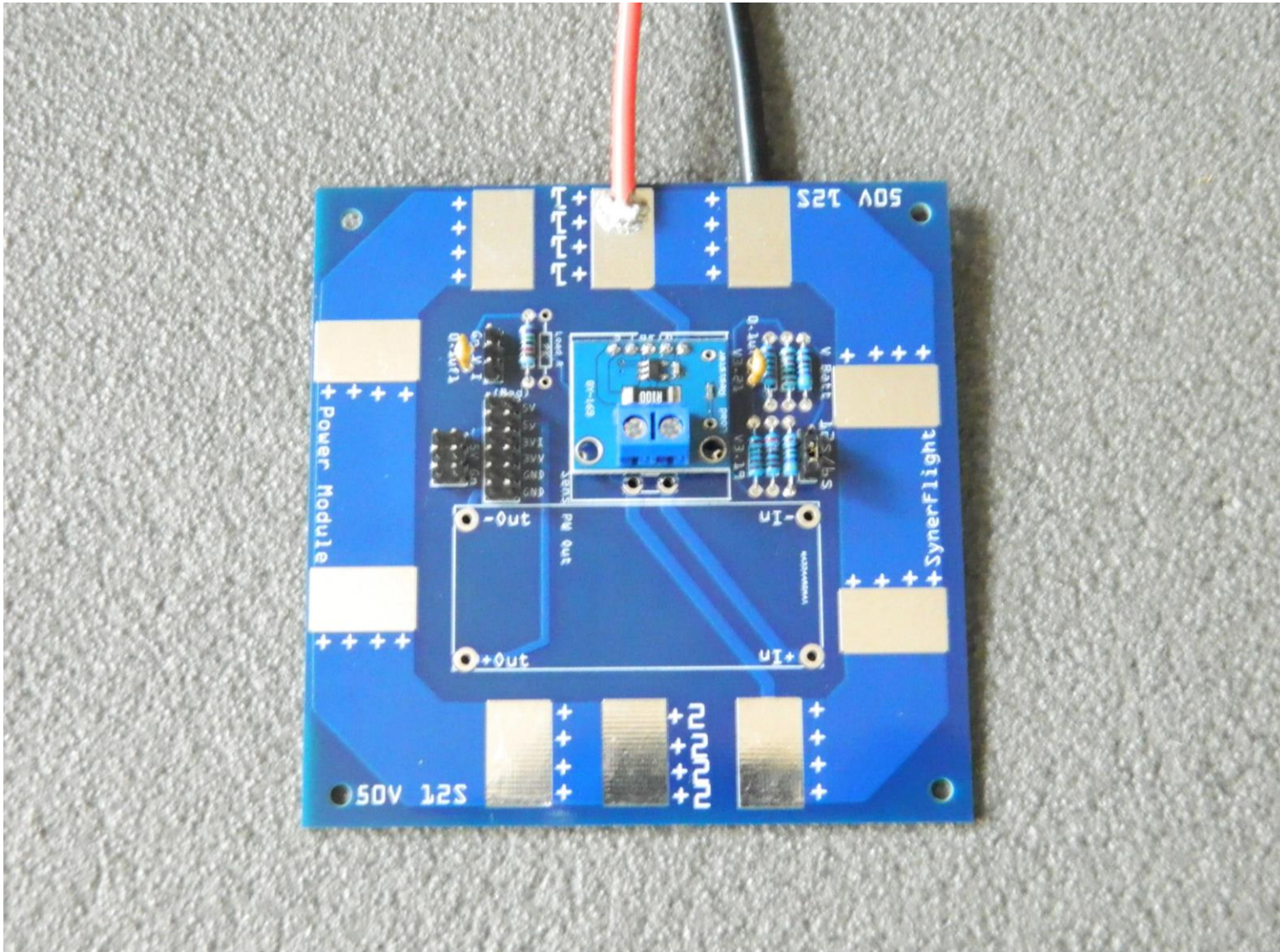


Connect the Rail 1 and Rail 2 together

top rails Positive and bottom Negative rails

this add additional Pads for ESCs Power





Power input can be applied to any of the Pads

(+) on Top Rails

(-) On Bottom Rails

Power Pin Layout

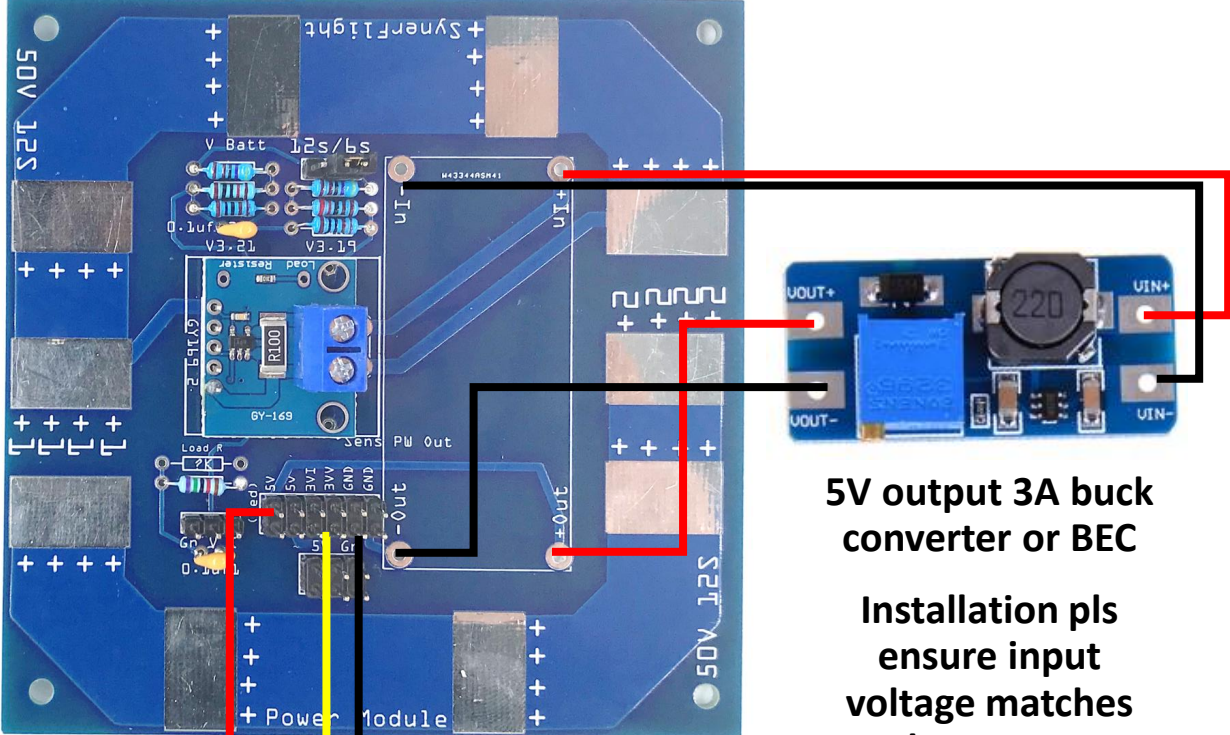
Vin	Vin	I	V	G	G
5V	5V	ADC 3.3V	ADC 3.3V	Gnd	Gnd

3VV connected to A0 Pin of Synerduino

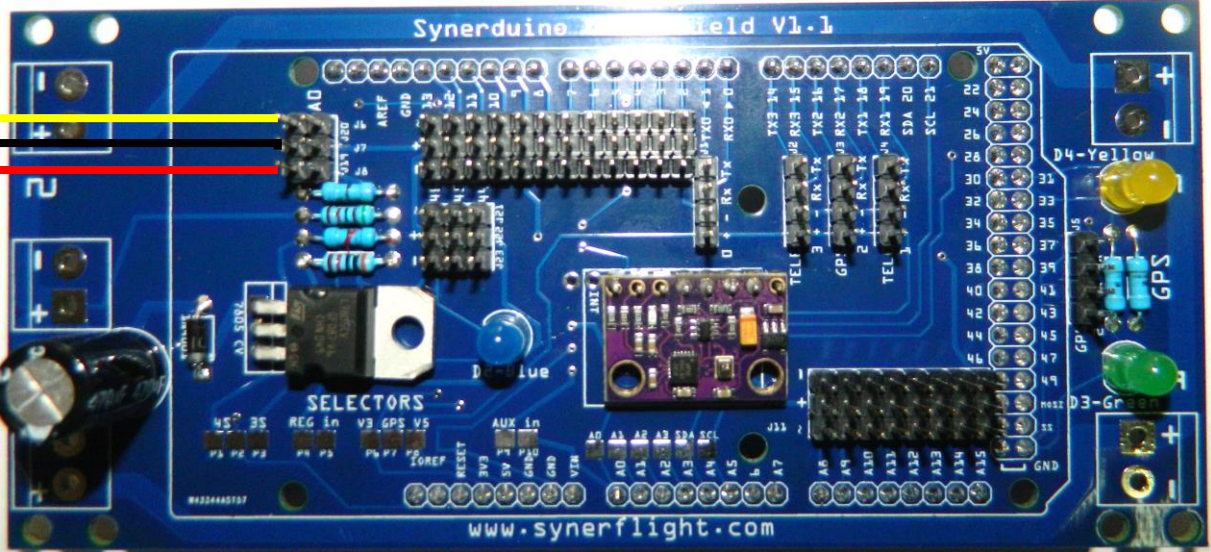
A0	5V	Gnd
A0	5V	Gnd

Power module Settings

- 2A Per/Volt
- BATT_VOLT_MULT - 15.150
- Selector 6s -25.2v
- Selector 12s - 50.4v

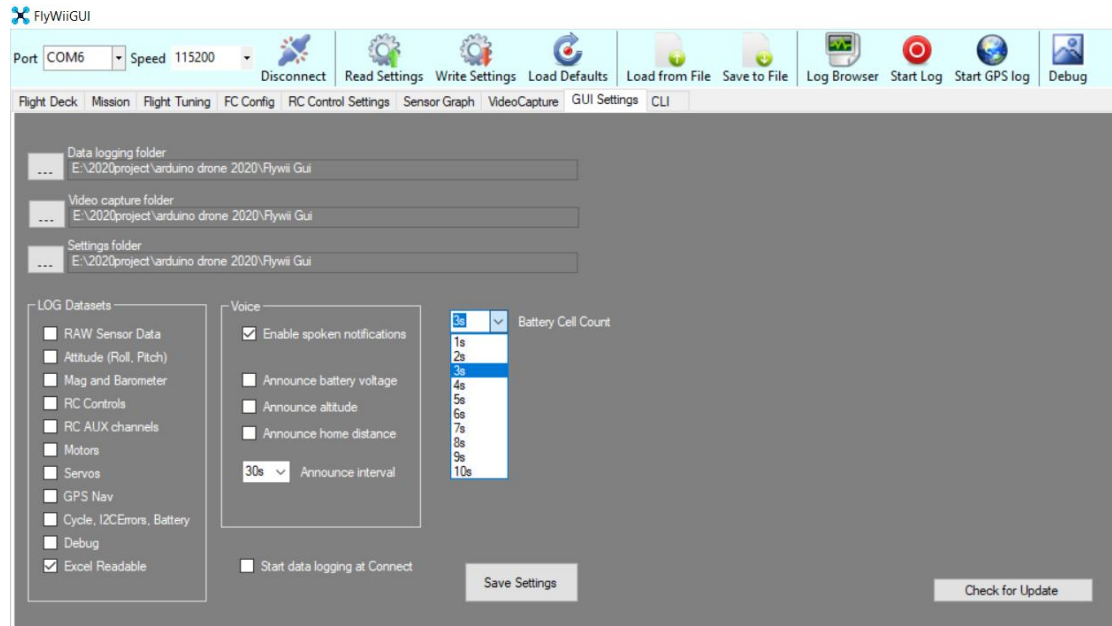


5V output 3A buck converter or BEC
Installation pls ensure input voltage matches your battery source



FlywiiGUI battery Cell Count scaling

GUI Settings>Battery Cell count



The screenshot shows the FlywiiGUI interface with the 'GUI Settings' tab selected. The 'Battery Cell Count' dropdown menu is open, showing options from 1s to 10s. The 'Voice' section has 'Enable spoken notifications' checked. The 'LOG Datasets' section has 'Excel Readable' checked. The 'Save Settings' button is visible at the bottom.

Port: COM6 Speed: 115200

Flight Deck | Mission | Flight Tuning | FC Config | RC Control Settings | Sensor Graph | VideoCapture | GUI Settings | CLI

Data logging folder: E:\2020\project\arduino drone 2020\Flywii Gui

Video capture folder: E:\2020\project\arduino drone 2020\Flywii Gui

Settings folder: E:\2020\project\arduino drone 2020\Flywii Gui

LOG Datasets

- RAW Sensor Data
- Attitude (Roll, Pitch)
- Mag and Barometer
- RC Controls
- RC AUX channels
- Motors
- Servos
- GPS Nav
- Cycle, I2CErrors, Battery
- Debug
- Excel Readable

Voice

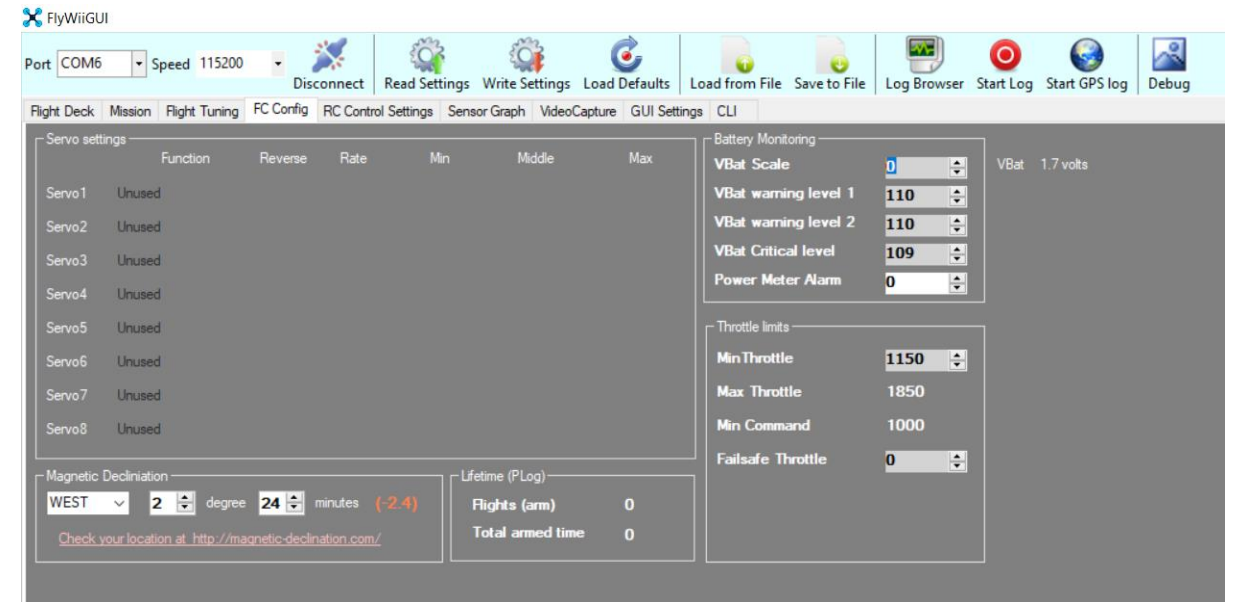
- Enable spoken notifications
- Announce battery voltage
- Announce altitude
- Announce home distance
- 30s Announce interval
- Start data logging at Connect

Battery Cell Count

Save Settings

Check for Update

FC Config>Battery Monitoring



The screenshot shows the FlywiiGUI interface with the 'FC Config' tab selected. The 'Battery Monitoring' section is active, showing VBat Scale, VBat warning levels, VBat Critical level, Power Meter Alarm, Throttle limits, and Magnetic Declination. The 'Lifetime (PLog)' section shows 0 flights and 0 total armed time.

Port: COM6 Speed: 115200

Flight Deck | Mission | Flight Tuning | FC Config | RC Control Settings | Sensor Graph | VideoCapture | GUI Settings | CLI

Servo settings

Servo	Function	Reverse	Rate	Min	Middle	Max
Servo1	Unused					
Servo2	Unused					
Servo3	Unused					
Servo4	Unused					
Servo5	Unused					
Servo6	Unused					
Servo7	Unused					
Servo8	Unused					

Battery Monitoring

VBat Scale: 0 VBat: 1.7 volts

VBat warning level 1: 110

VBat warning level 2: 110

VBat Critical level: 109

Power Meter Alarm: 0

Throttle limits

Min Throttle: 1150

Max Throttle: 1850

Min Command: 1000

Failsafe Throttle: 0

Magnetic Declination

WEST 2 degree 24 minutes (-2.4)

Lifetime (PLog)

Flights (arm): 0

Total armed time: 0

Check your location at <http://magnetic-declination.com/>

Power Pin Layout

Vin	Vin	I	V	G	G
5V	5V	ADC 3.3V	ADC 3.3V	Gnd	Gnd

UBEC Pin Layout

-	5V	Gnd
-	5V	Gnd

Power module Settings

2A Per/Volt

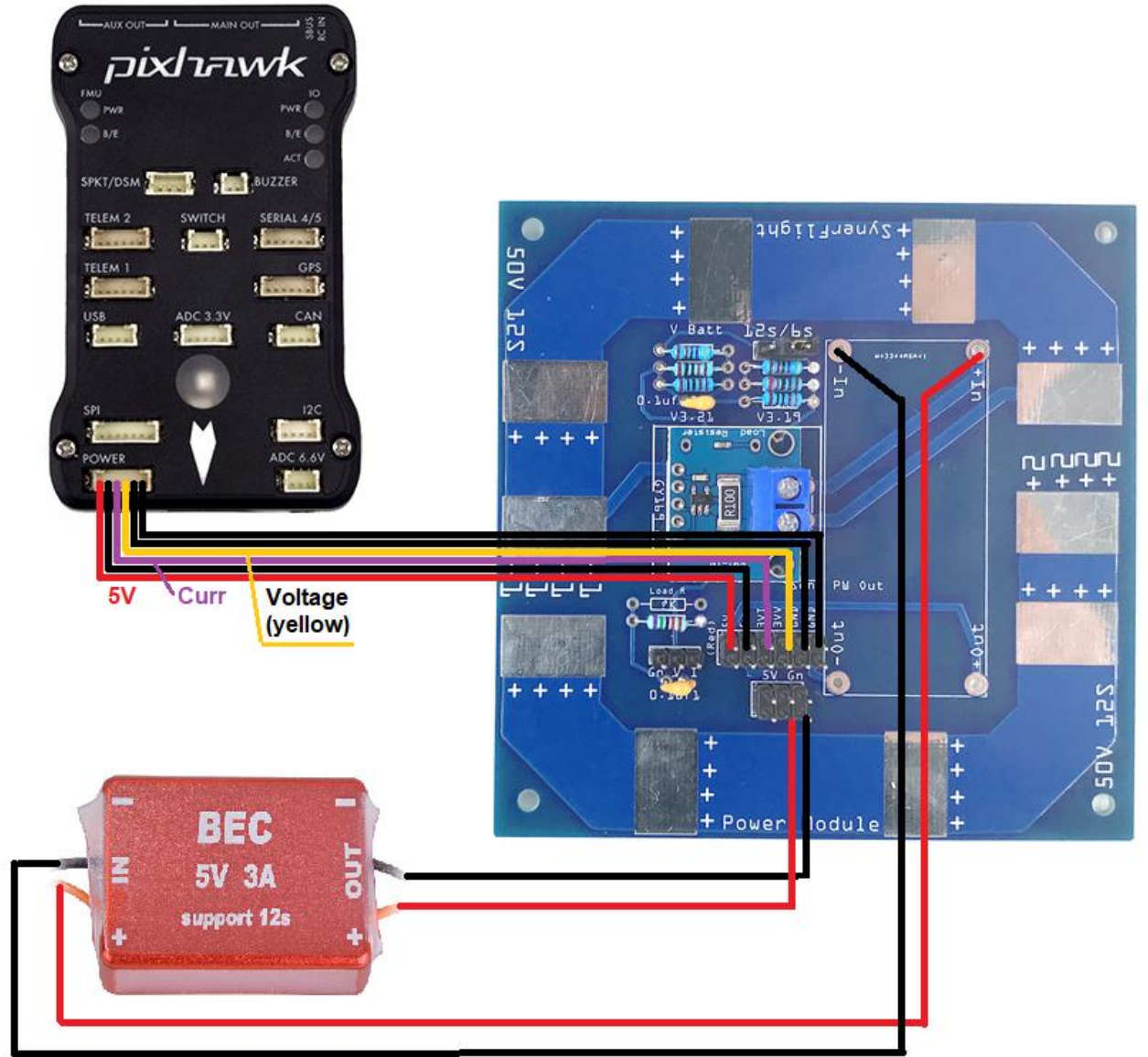
BATT_VOLT_MULT - 15.150

Selector 6s - 25.2v

Selector 12s - 50.4v

**5V output 3A buck
converter or BEC**

**Installation pls
ensure input
voltage matches
your battery source**




Pixhawk and QgroundControl Battery monitoring

Settings>Power

The screenshot displays the QGroundControl interface. At the top, the status bar shows 'Disarmed' and 'Altitude'. The left sidebar contains navigation options: Vehicle Setup, Summary, Firmware, Joystick, Airframe, Sensors, Radio, Flight Modes, Power (highlighted), Motors, Safety, Tuning, Camera, and Parameters. The main area is titled 'Power Setup' and includes a description: 'Power Setup is used to setup battery parameters as well as advanced settings for propellers.'

Battery

Number of Cells (in Series) S  Battery Max: 16.8 V

Full Voltage (per cell) V Battery Min: 14.0 V

Empty Voltage (per cell) V

Voltage divider

If the battery voltage reported by the vehicle is largely different than the voltage read externally using a voltmeter you can adjust the voltage multiplier value to correct this. Click the Calculate button for help with calculating a new value.

Amps per volt

If the current draw reported by the vehicle is largely different than the current read externally using a current meter you can adjust the amps per volt value to correct this. Click the Calculate button for help with calculating a new value.

ESC PWM Minimum and Maximum Calibration

WARNING: Propellers must be removed from vehicle prior to performing ESC calibration.

You must use USB connection for this operation.

Show UAVCAN Settings

Show Advanced Settings

The Windows taskbar at the bottom shows the time as 2:03 PM on 09/04/2022, with language set to ENG.

Pixhawk and Mission Planner Battery monitoring

Initial Setup > Optional Hardware > Battery Monitor

The screenshot displays the Mission Planner software interface. The title bar reads "Mission Planner 1.3.60 build 1.3.6899.37831". The top navigation bar includes icons for Flight Data, Flight Plan, Initial Setup, Config Tuning, Simulation, Terminal, Help, and Donate. The "ARDUPILOT" logo is prominently displayed on the right side of the top bar, along with COM port settings (COM15, 57600) and a "DISCONNECT" button.

The left sidebar contains a list of configuration options under the "Install Firmware" section:

- Wizard
- >> Mandatory Hardware
- >> Optional Hardware
- RTK/GPS Inject
- Sik Radio
- Battery Monitor**
- Battery Monitor 2
- CAN
- Compass/Motor Calib
- Range Finder
- Airspeed
- PX4Flow
- Optical Flow
- OSD
- Camera Gimbal
- Motor Test
- Bluetooth Setup
- Parachute
- ESP8266 Setup
- Antenna Tracker
- FFT Setup

The main configuration area for the "Battery Monitor" is visible, featuring a small image of a battery monitor module. The settings are as follows:

- Monit: 4: Voltage and Current
- Sens: 0: Other
- APM V: 4: The Cube or Pixhawk
- Battery Capacity: 00 mAh
- MP Alert on Low Battery

A "Calibration" window is open, showing the following data:

Calibration	
1. Measured battery voltage:	19.94771041
2. Battery voltage (Calced):	19.71766791
3. Voltage divider (Calced):	16.15
4. Measured current:	
5. Current (Calced):	0
6. Amperes per volt:	2

The Windows taskbar at the bottom shows the system tray with the time 2:09 PM and date 09/04/2022, along with a "Links" menu and "ENG" language setting.