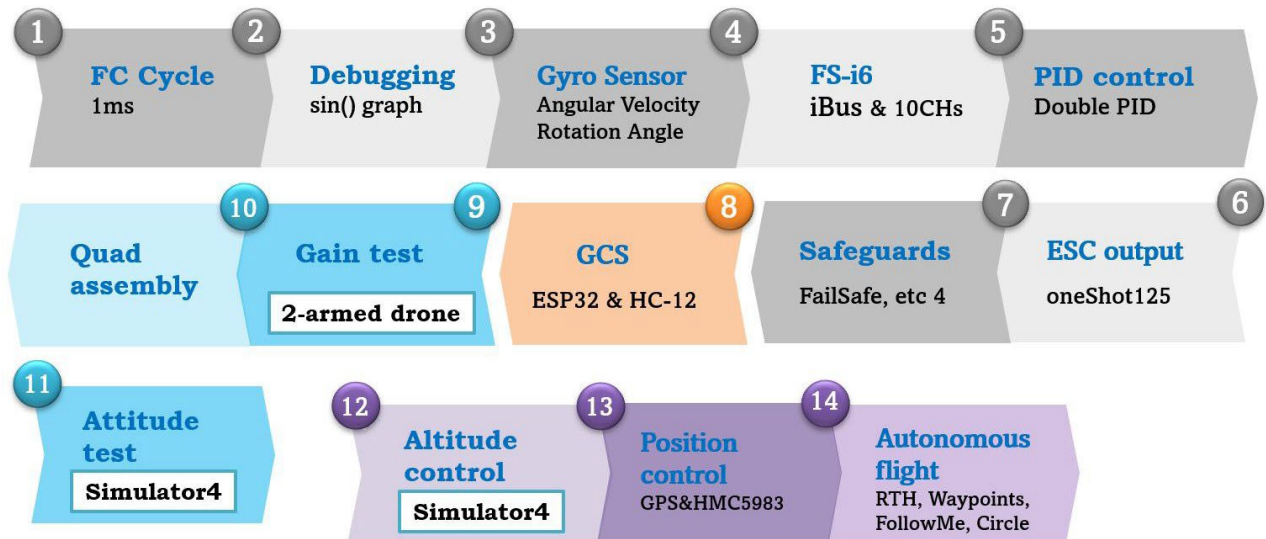


BOM BOM.pdf

2022-06-20 G.S, Jee

> Roadmap



Common Tools

1. Soldering Tool Set (Including Lead and Paste)



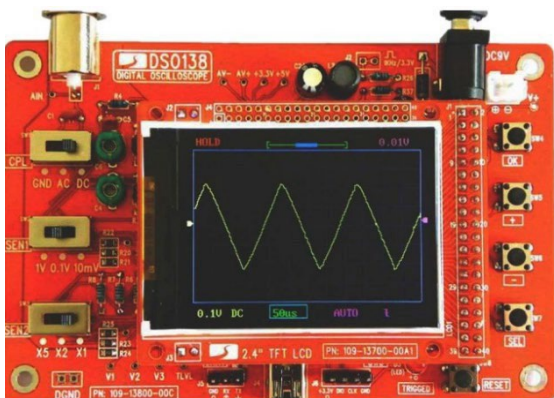
2. Wire Stripper



3. Electronic nipper

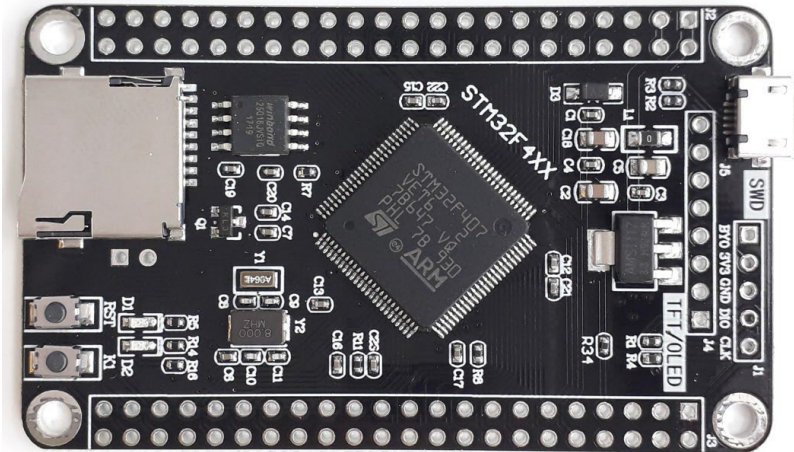


4. Oscilloscope (DSO138)



DIY1 FC Cycle

1. [AliExpress] stm32F407VET or stm32F407VGT

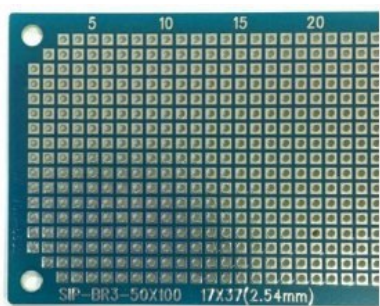


2. st-Link V2



3. Prototype PCB (50mm * 100mm, 2.54mm pitch)

If you do not have a board of that size, buy a wider one and cut it according to the SketchUp file of the drone's body. Alas, board standards vary from country to country.



4. [AliExpress] Soldering wire (6 colors if possible)

Several advantages exist to using different colored wires when soldering to build a circuit. For example, if you connect 3V3 with red, GND with black, and the clock line with yellow, you can reduce the manufacturing time of the FC board.



5. LED diode (red, yellow, green)

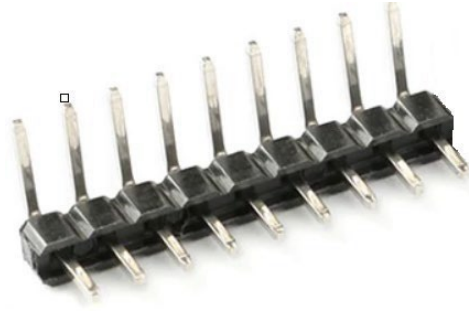


6. Pin Header

① Straight type(2.54mm)



② Angle type(2.54mm)

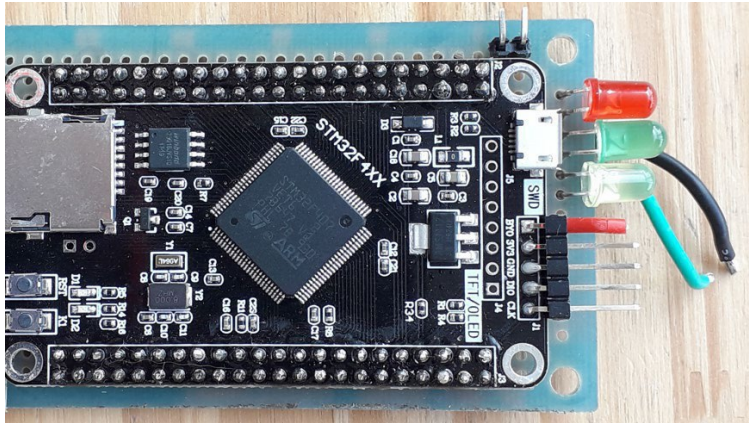


7. Plastic support (10mm ~)

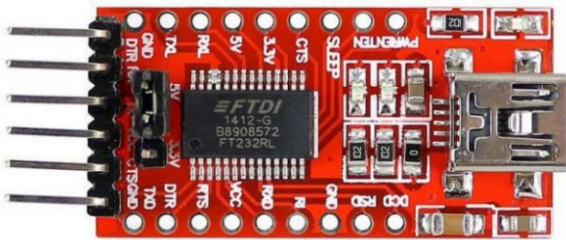


DIY2 Debugging

1. FC board made in DIY1



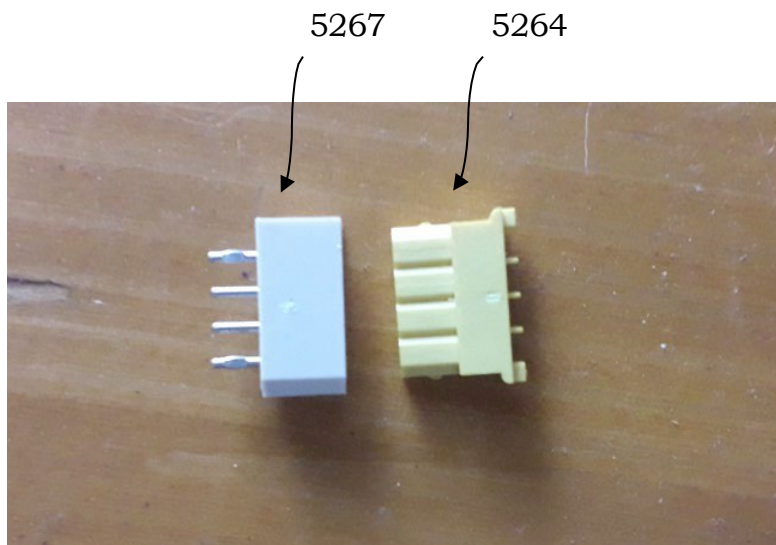
2. FTDI FT232RL



3. Molex 5264

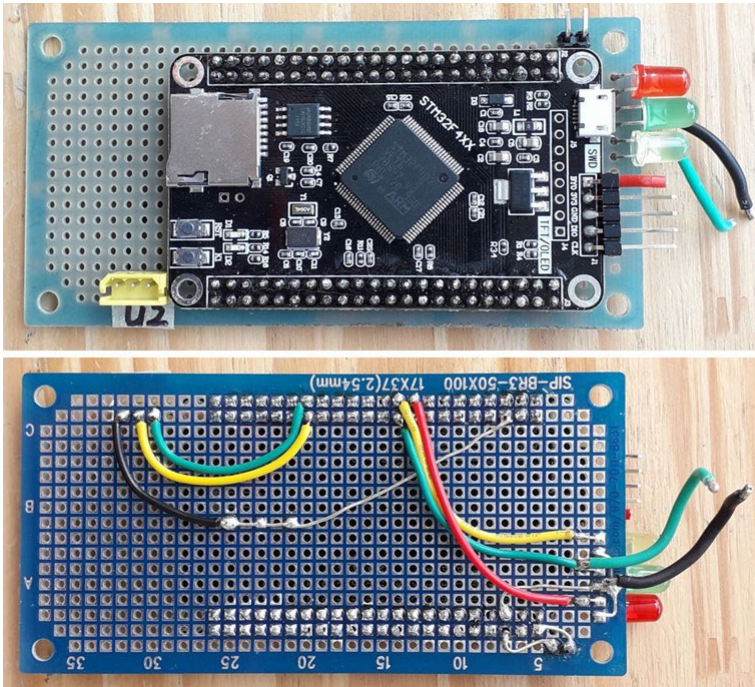


4. Molex 5264 & 5267 male and female connectors (requires 2-6 pins)

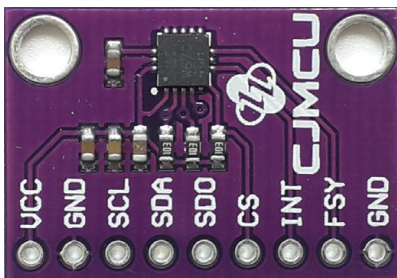


DIY3 Gyro

1. FC board made in DIY2



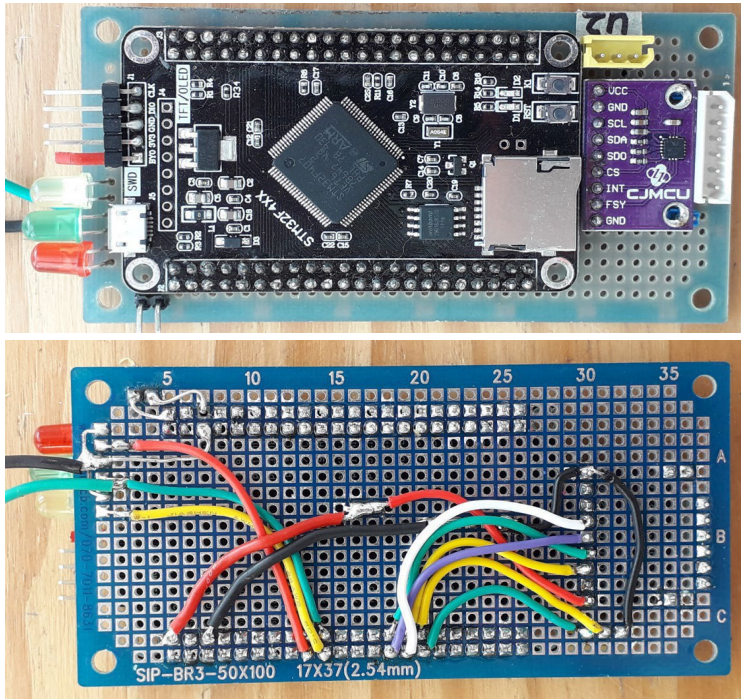
2. [AliExpress] icm20602 * 2 (Includes 1 for two-armed drone)



If the product does not appear after searching for icm-20602, icm20602 on [AliExpress], click [here](#). It was \$6 last year, and now it's \$20.

DIY4 FS-I6

1. FC board made in DIY3



2. FS-i6 & FS-iA6B



3. [HobbyKing] 3S (or 4S) Lithium Polymer Battery

Also, buy the Lipo charger

① Turnigy Heavy Duty 2200mAh 3S 60C



② Turnigy Graphene 2200mAh 3S 45C



4. [AliExpress] Matek Power Board

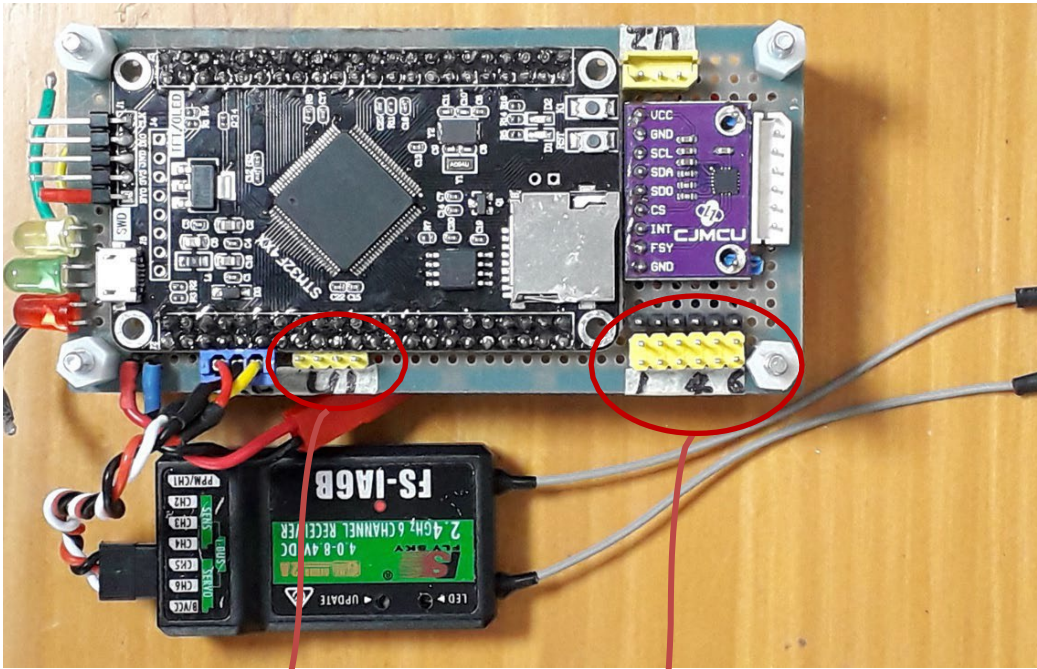


5. [AliExpress] FlySky 데이터 케이블



DIY5 Double PID Control

1. FC board made in DIY3



In Chapter 8

In Chapter 6

DIY6 ESC Output (oneShot125)

1. HAKRC 35A BLHeli_32 * 4



2. TCMMRC 2206 2300KV Motor * 4



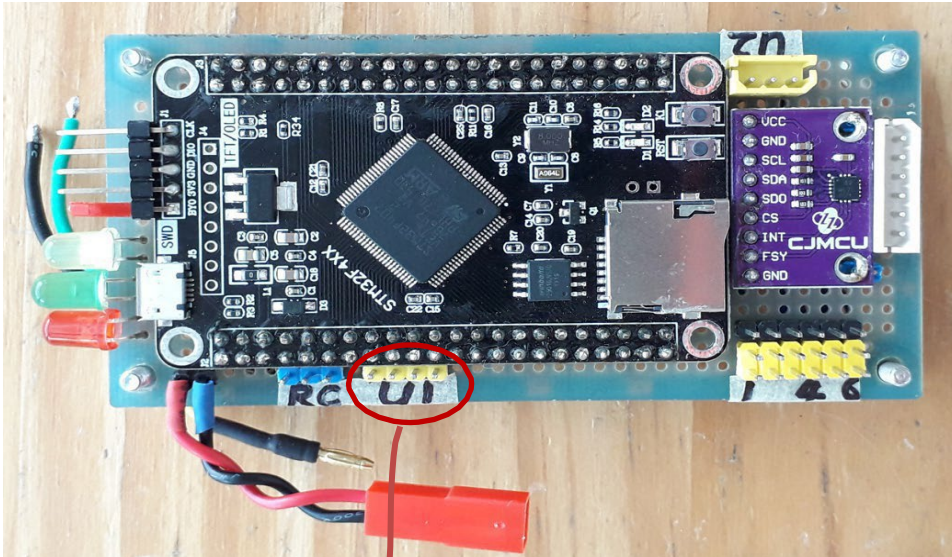
3. [AliExpress] 22AWG silicone wire (recommended to purchase 3-colors or more, such as black, red, and yellow)

This wire is required when the motor wire is short.



DIY7 Safeguards

1. FC board made earlier



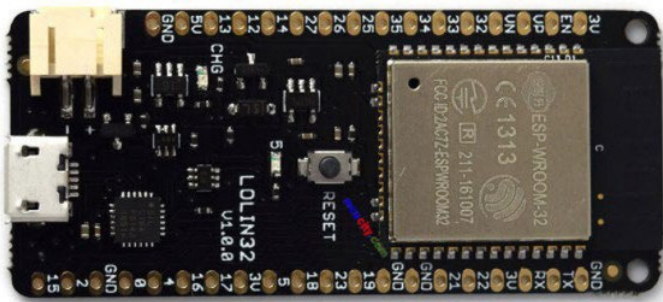
The port does not yet exist.

DIY8 Ground Control System

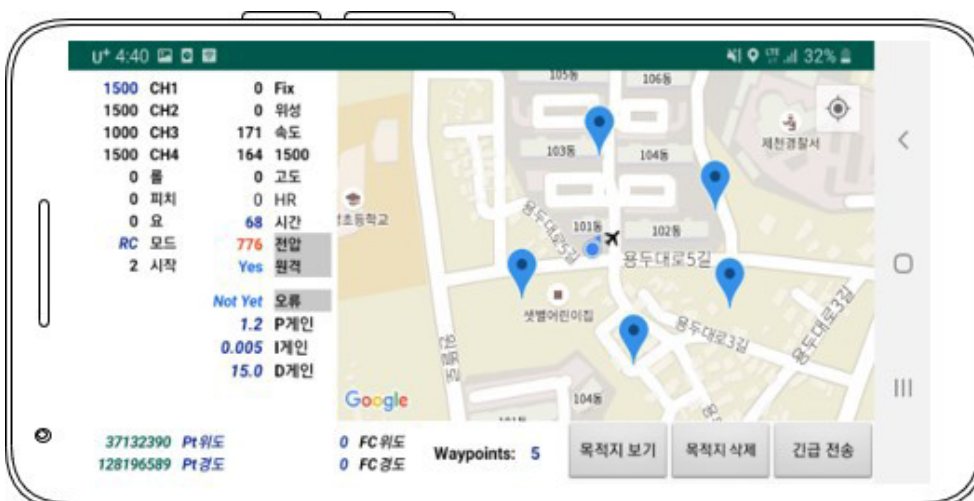
1. FC board made earlier
2. HC-12 * 2



3. ESP32 WEMOS LOLIN32 V1.0

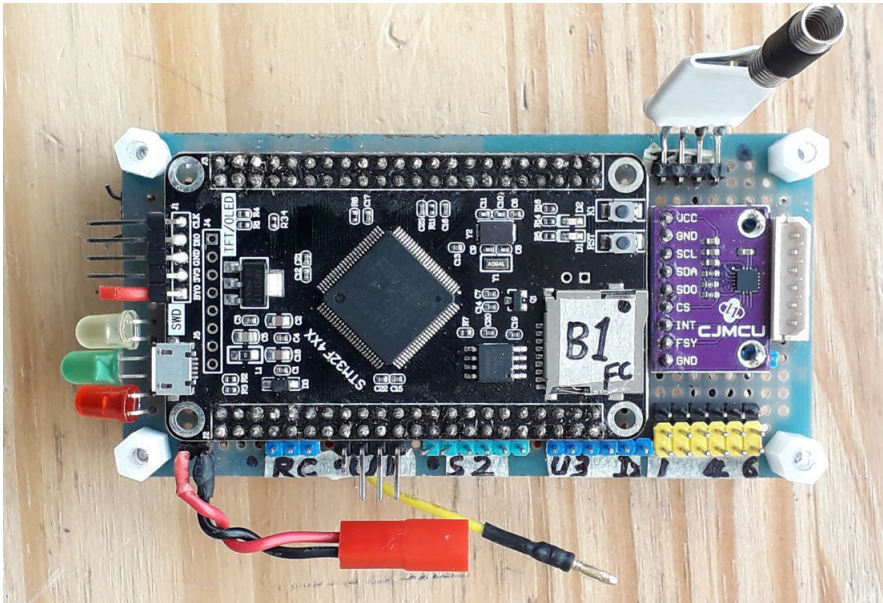


4. Android Phone

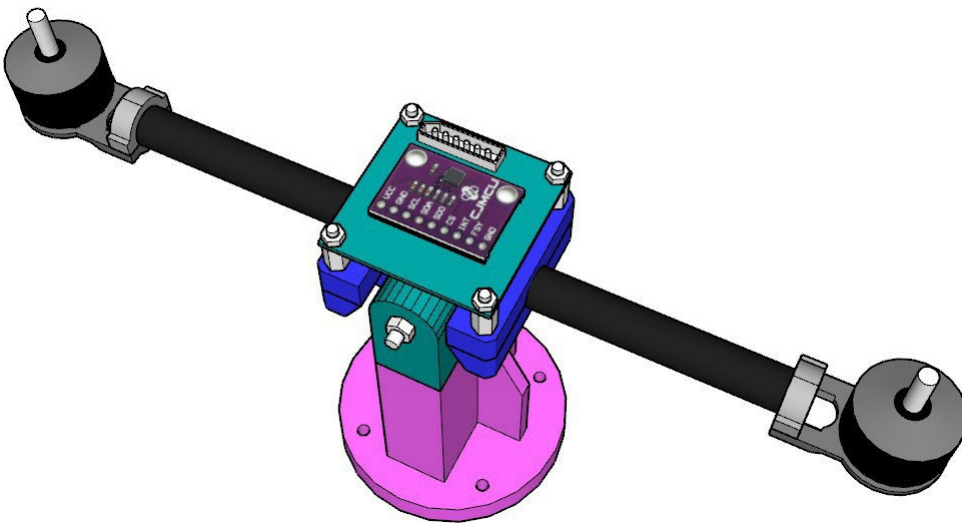


DIY9 Gain Test

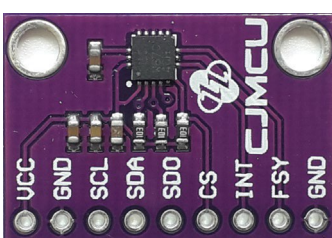
1. FC board made earlier



2. Two-Armed Drone's [sketchup file](#)



3. Previously purchased icm20602



4. 50X50 prototype PCB



5. Bolt & nut (Hex socket bolt recommended)



3mm * 25mm * 4 pcs
3mm * 35mm * 2 pcs
4mm * 60mm * 1

6. MF104ZZ flange bearing * 2

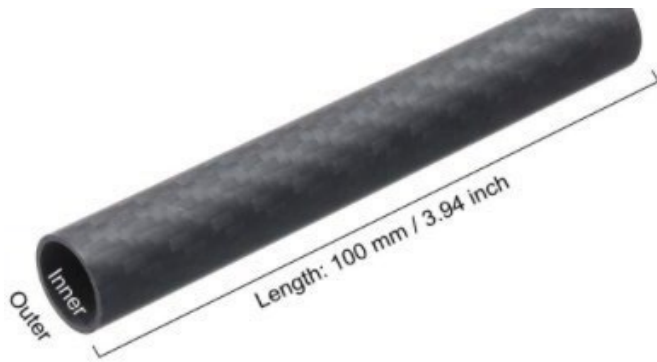


7. [AliExpress] 12mm motor mount * 4

You need to buy two more as a spare.



8. [AliExpress] Carbon Fiber Tube (12 x 10mm x 100mm) * 4



9. [AliExpress] [HobbyKing] 4045 propellers

For the two-armed drone only

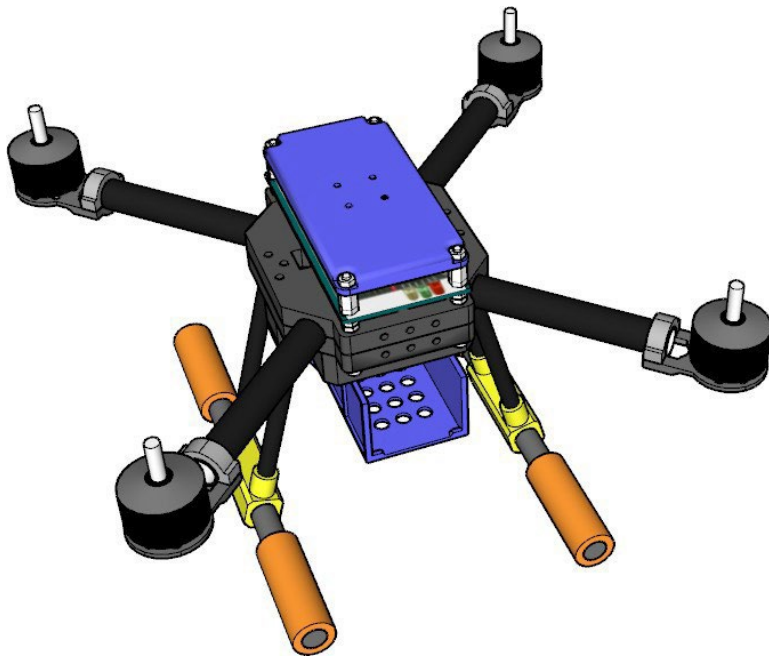


DIY10 Quad Assembly

1. FC board made earlier

FC boards used for 2-armed drones can be recycled. But it would be ok to make another one of the same FC.

2. Quad's [sketchup file](#)

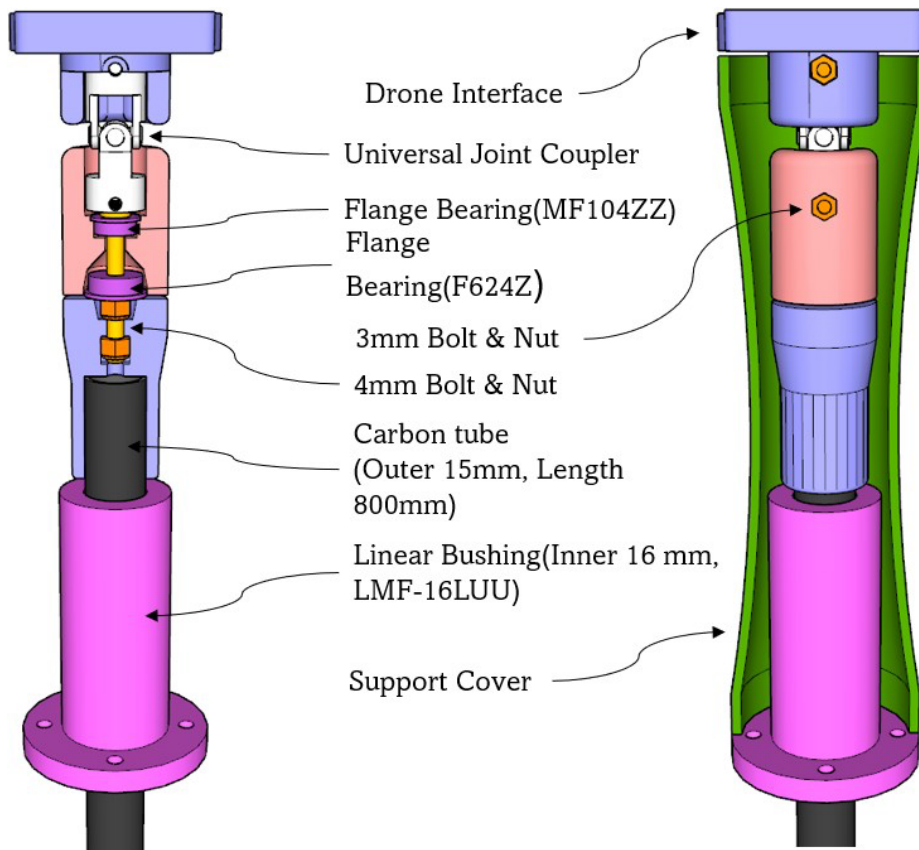


3. [AliExpress] 5045 3-wing Propeller



DIY11 Attitude Test

1. [sketchup file](#)

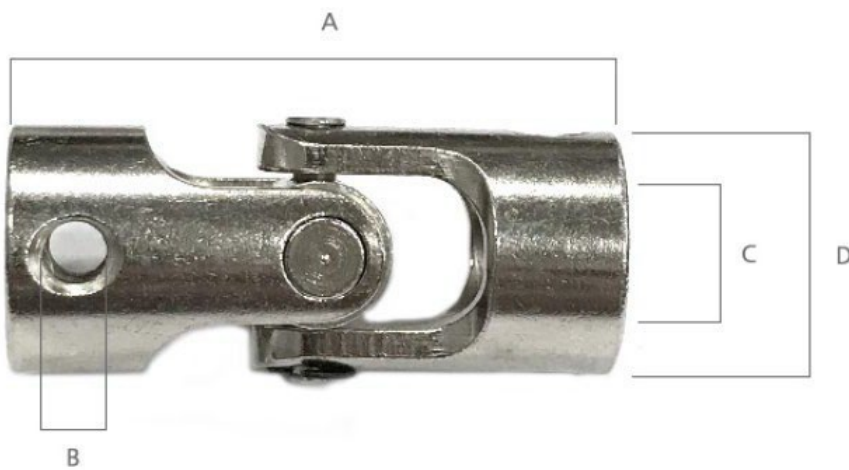


2. BOM

Item		개
Universal Joint Coupler	8x13.9	1
Flange Bearing	F624Z	1
Flange Bearing	MF104ZZ	1
M3 Flat Head Bolt & Nut	25mm	2
M4 Flat Head Bolt & Nut	35mm	1
Carbon Tube (outer 15mm)	800mm length	1
Linear bushing (inner 16mm)	LMF16LUU	1



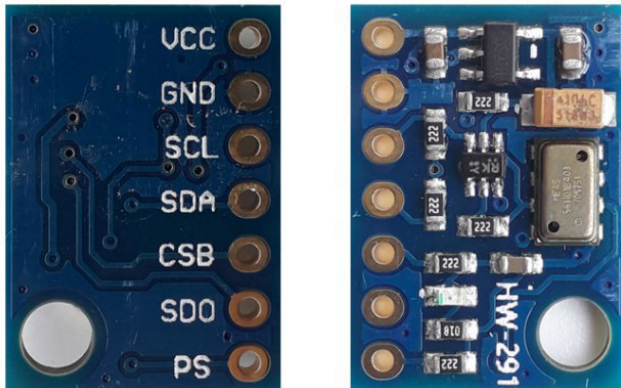
[Universal Joint Coupler]



A(mm)	B(mm)	C(mm)	D(mm)
33.5	3.0	8.0	13.9
23.7	3.0	6.0	10.8
23.7	3.0	5.0	10.8
23	2.5	4.0	8.8
17.5	2.5	2.3	7.8

DIY12 Altitude control

1. [AliExpress] MS5611



DIY13 Position Control

1. [AliExpress] SE100 (hmc5983 + GPS M8N)



DIY14 Autonomous Flight

- * No preparation