HGLRC F4 V5PRO Manual

Introduction：

HGLRC F4 V5PRO is a high-performance all in 1 flight controller which is designed for racing drone players. Not only there is pdb combining with the flight controller perfectly, but also there is OSD, current sensor, voltage sensor, built-in high power BEC, Switcher VTX 0/25/200/600MW power and so on. HGLRC F4 V5PRO can give all that you want as a flight controller, it is perfect for FPV competition, aerobatic flight and aerial photography!

Specifications：

● OMNIBUSF4 firmware

● Master STM32F405 GRT6, refresh rate up to 8K

● PCB 3OZ copper enhance current stability and cooling fast

● 5V 3A BEC output; 3.3 V Voltage output

● Exposed pad for easy soldering

● Compatible with all ESCs

● Integrated OSD, no need to flash firmware additionally,debug OSD via
   BF ground station.

● Integrated current meter to monitor the real-time power consumption

● Adjust the PID by OSD via remote control

● Switcher VTX 0/25/200/600MW power digital display

● 2-6s lipo support

● Net weight: 13g (exclude wire)

● Size: L45 * W43mm, hole distance: 30.5*30.5mm

Warning:

Please read the cautions as follows, otherwise stability of your flight controller cannot be ensured, your flight controller will even get damaged.

● Keep focus on the polarity. Check carefully before power supply.

● Cut off the power when you connect, plug and pull anything.

● Don't connect 5V or electrical power interfaces, otherwise your flight controller will catch fire.

● The refresh rate of PID and Gyroscope is up to 8K.

1、 Flight control characteristics:
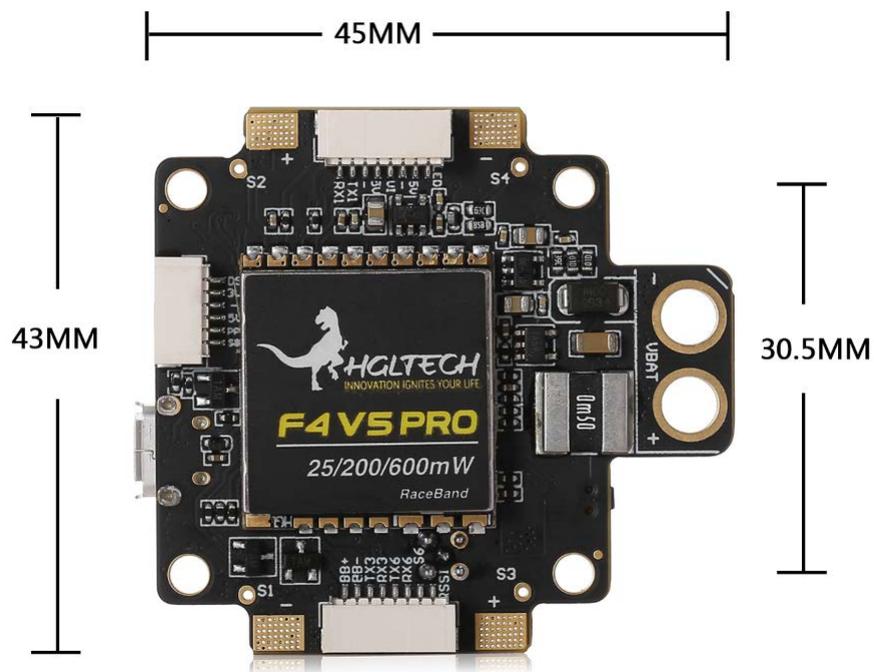
Technical Parameters：

Size: L45 * W43mm, hole distance: 30.5*30.5mm

Master：STM32F405 GRT6

Voltage： 2-6S Lipo support

MAX Current：200A

5v bec：3A

Net weight: 13g (exclude wire)

2、Wiring Diagram：

VTX BUTTON
(5.8G 40CH RaceBand)
1.short A~E or 1~8
2.press 200ms~2s FR<>CH
3.long 2s~ change VTXPower

FR:A-B-C-D-E
CH:1.2.3.4.5.6.7.8

PowerLED
0mw:num 0
25mw:2 led
200mw:1 led
600mw:no led

BOOT BUTTON

Betaflight configurator
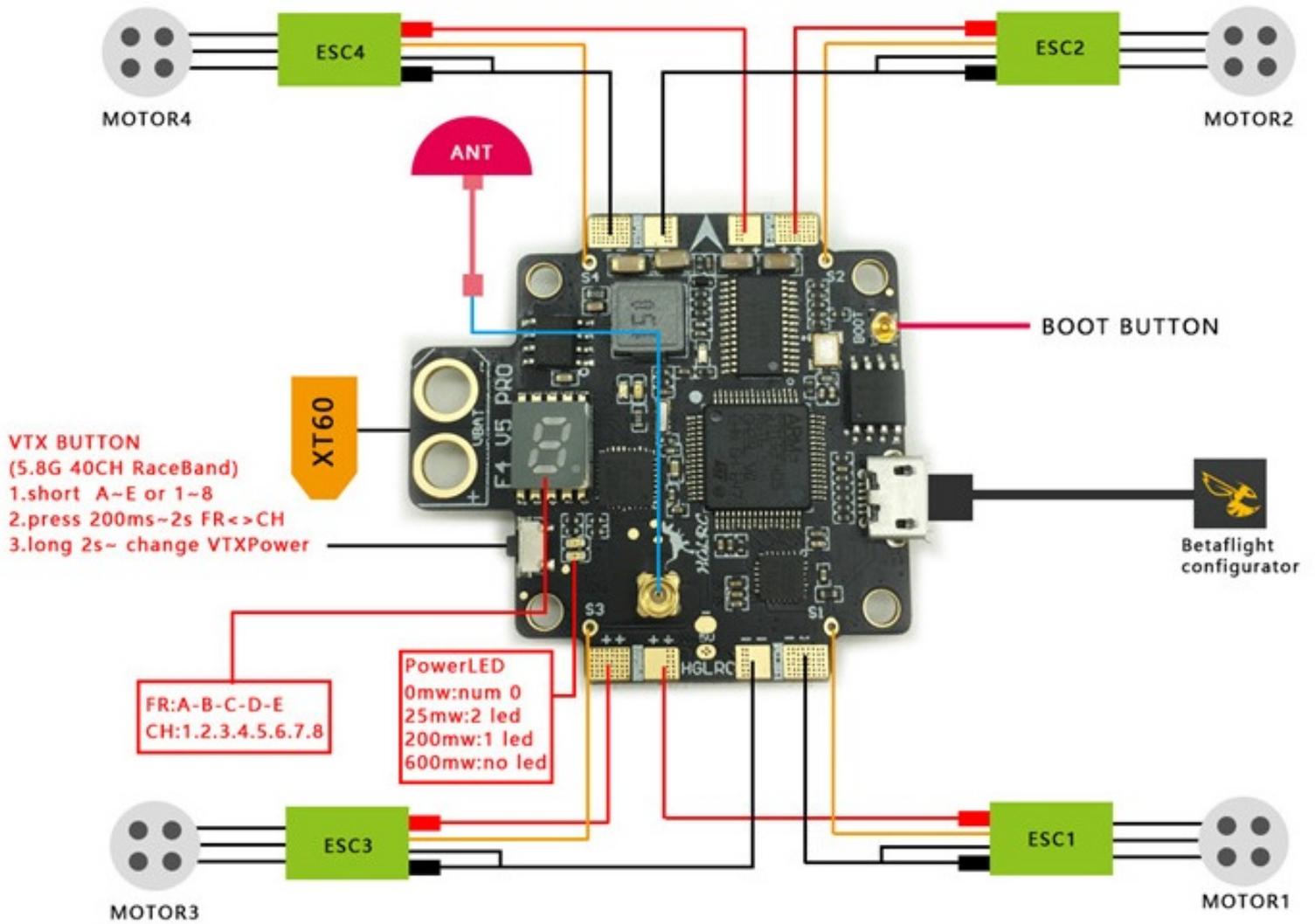
Push-button Usage:

1. Channel selection: short press(1-8) or (A-E);

2.band selection: press and hold for 500ms-2 seconds

3.Output power selection: press and hold for more than 2 seconds.

0mW: Numeric Display '0';

25mW: two LEDs on;

200mW: one LED on;

600mW: LED off

CAM

GND VCC Signal

RX1/TX1/GND/5V/CAM/GND/5V/LED

SPEK (DSMX): GND, 3.3V, SIN

DSMX
3.3V
GND
5V
PPM
SBUS

PPM: GND, 5V, SIN

SBUS: GND, 5V, SIN

F4 V5 PRO
25/200/600mW
RaceBand

HGLTECH

BB+/BB-/TX3/RX3/TX6/RX6/S6/RSSI

5V SIN

BUZZER
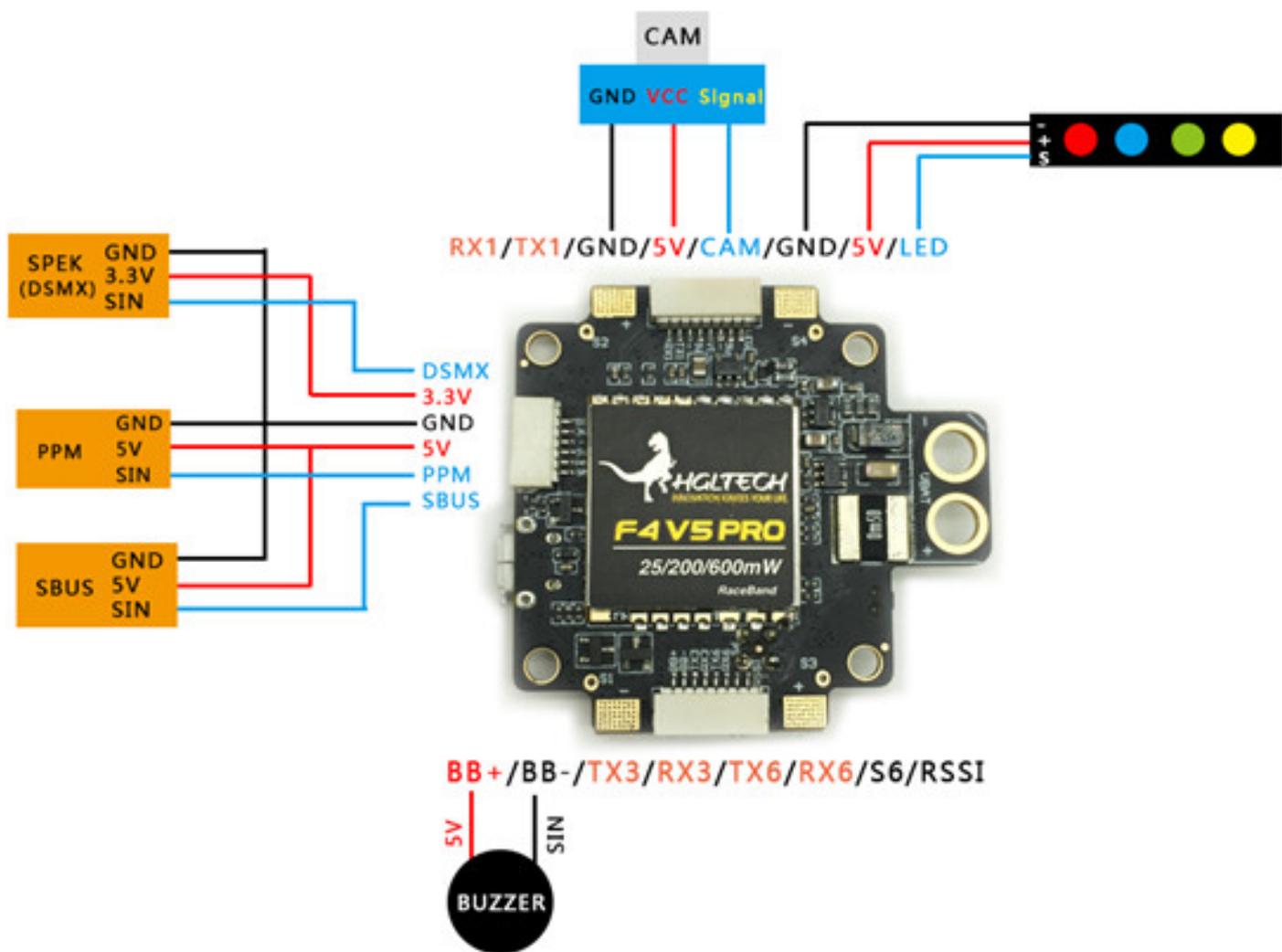
Frequency Table:

FR CH	A	B	C	D	E
CH1	5740MHz	5733MHz	5705MHz	5865MHz	5658MHz
CH2	5760MHz	5752MHz	5685MHz	5845MHz	5695MHz
CH3	5780MHz	5771MHz	5665MHz	5825MHz	5732MHz
CH4	5800MHz	5790MHz	5645MHz	5805MHz	5769MHz
CH5	5820MHz	5809MHz	5885MHz	5785MHz	5806MHz
CH6	5840MHz	5828MHz	5905MHz	5765MHz	5843MHz
CH7	5860MHz	5847MHz	5925MHz	5745MHz	5880MHz
CH8	5860MHz	5866MHz	5945MHz	5725MHz	5917MHz

3、FC firmware FLASH and Settings

FC firmware FLASH：

1、Long Press BOOT　buttons，connect USB，The system automatically

install the driver

2、open betaflight configurator，enter DFU mode
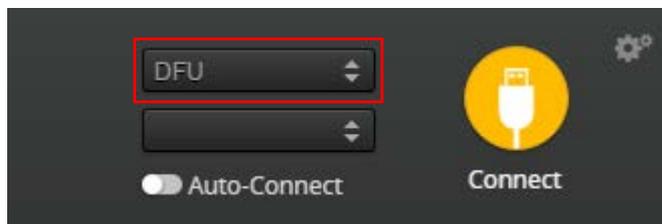
3、betaflight configurator，select "Firmware Flasher"，
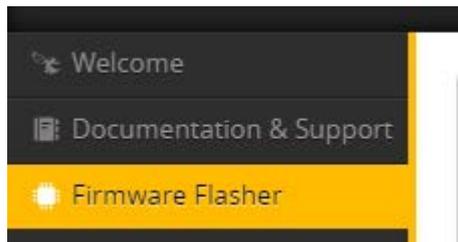
4、Don't open the Settings

5、click "Load Firmware[Local]" Select the firmware

"betaflight_3.1.6_OMNIBUSF4.hex"（The firmware version according to the actual situation）

6、click "Flash Firmware"，progress bar "Programming:SUCCESSFUL" Finish!
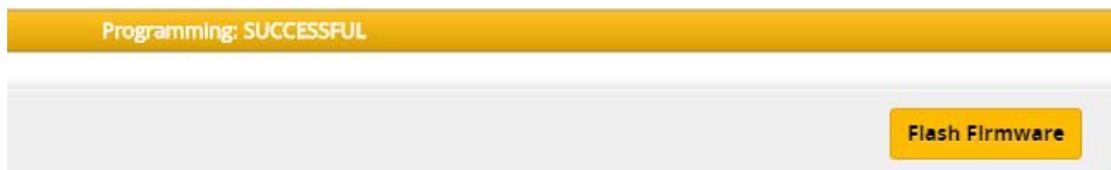
7、Betaflight Automatically assigned port，click "Connect" Enter setup interface（Different computer COM）

F4   Flight control parameter Settings

1、FC   horizontal ，The acceleration of calibration
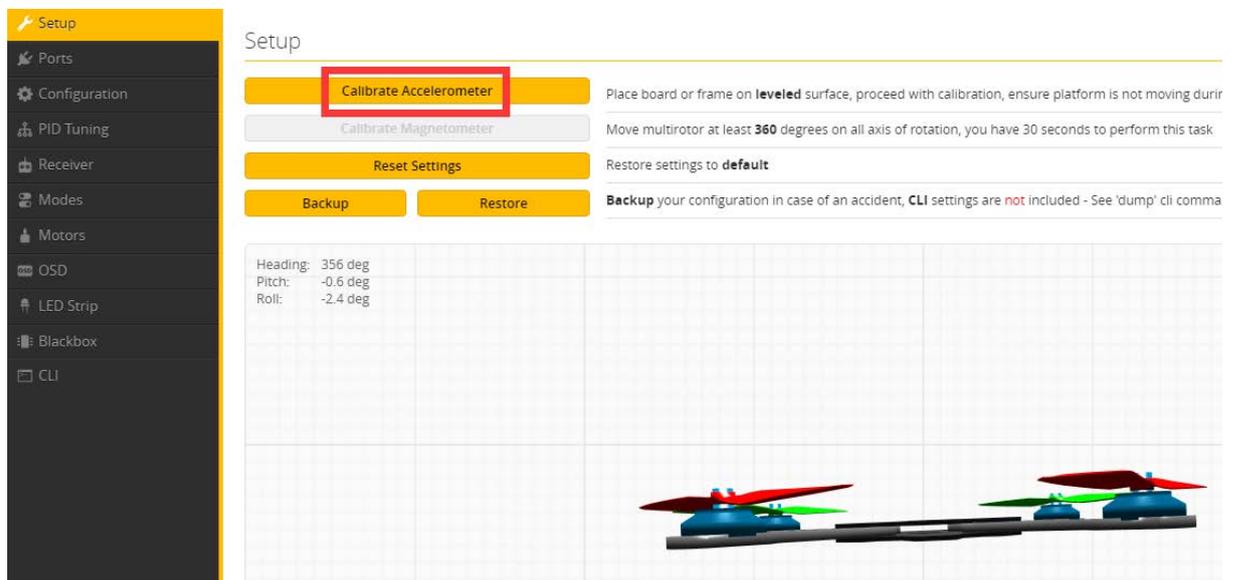
2、2.4G sbus receiver:open UART1 RX option, then click "save and reboot"(Each set needs to be saved)

Note: click save after will jump to the startup screen, reconnect!

3.choice of receiver SBUS mode

Open the voltage current detection

Open the black box, osd, article LED lights set (choose) as required

After set up parameters on this page, save the Settings.

4、set up the function of remote control switch across the channel

(below are for reference only)

5.the OSD Settings, according to the need to choose, drag the OSD

schematic diagram of the parameters can be adjusted.
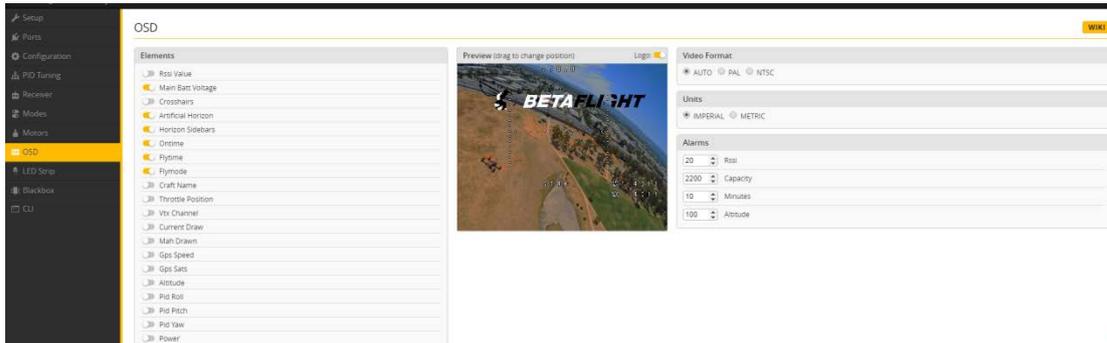
6.LED Strip configuration, set according to need
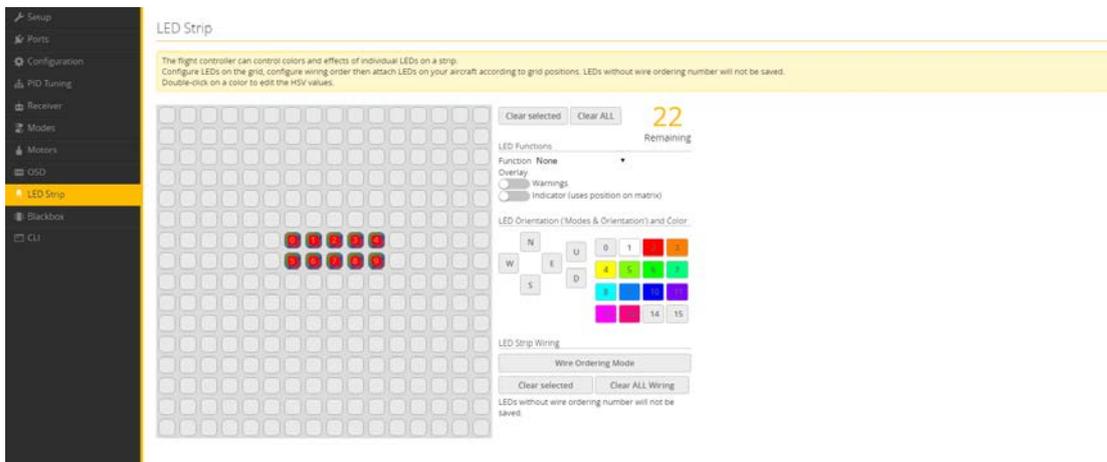
So far, flight control basic setup to finish.

F4 FC test

1, can connect the computer to download firmware & adjustable

parameters

2, good connection test, after testing all functions

buzzer sound

OSD display is normal

Have a camera

The remote control can be unlocked

4 if motor rotation

LED light