Turtlebee F3 brushed flight controller built-in Frsky RX/OSD/Current meter Manual

1.Specification:

MCU: STM32F303CCT6

Gyro& Accelerometer: MPU6000

Working Voltage:1s Lipo or LiHV

Firmware Target: Betaflight OMNIBUS

Motor Driver: Texas Instruments DRV8850

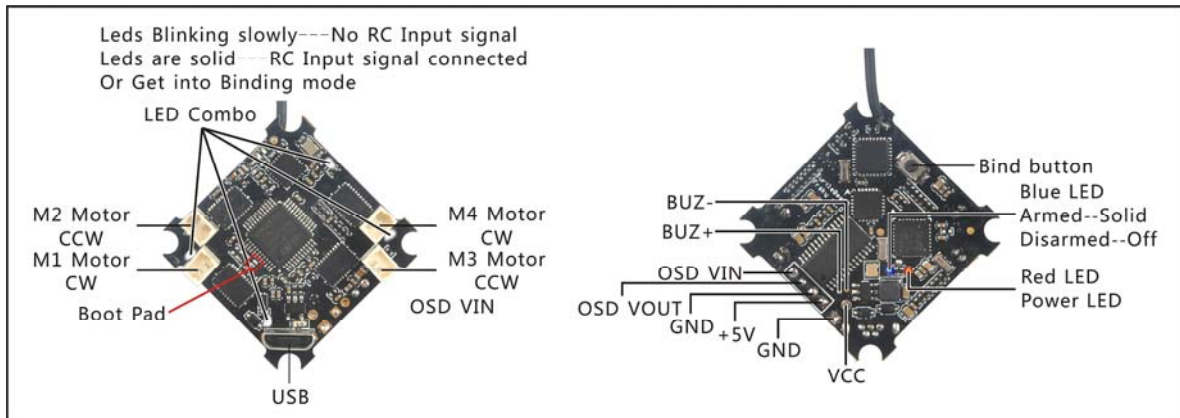Continuous Current: 5A each

Peak Current: 8A each

Receiver mode: Frsky D8/ Flysky AFHDS-2A/ DSM2 DSMX to choose
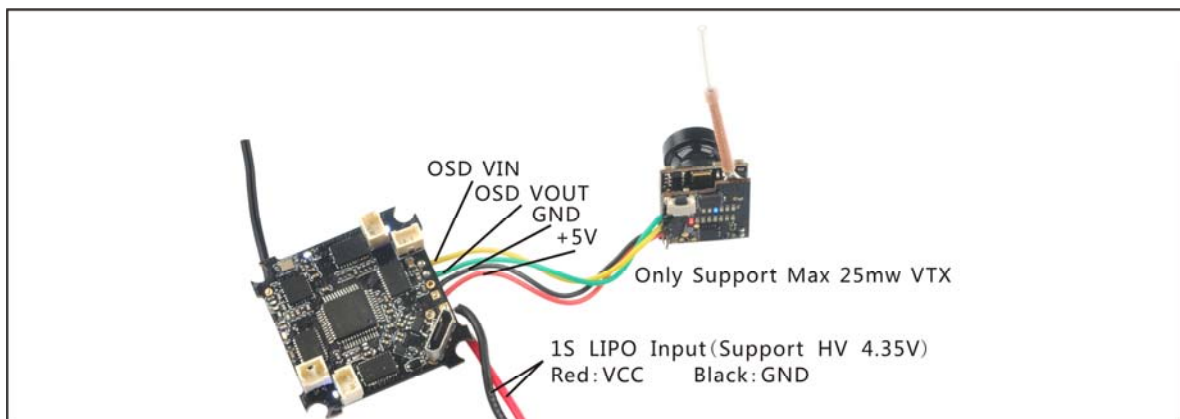
Motor Socket: JST 1.25MM 2pin

Weight:4g
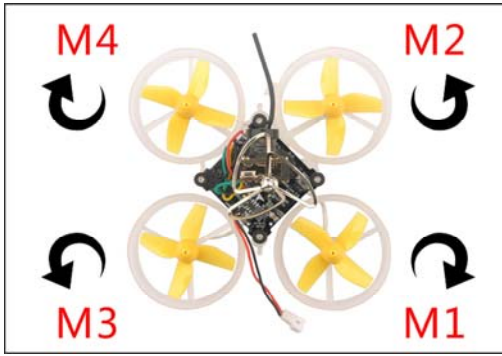
Mounting Hole Distance:25.45*25.45mm

2.Connection and LED

3.Camera connection

4.Mixer type and ESC/Motor protocol

Notes:ESC protocol must set to be Dshot150

5.Receiver configuration

Ports and receiver mode sets like the bellowing diagram: First Enable Seria_RX for uart3 and Set Receiver mode to "RX_SERIAL" , Select SBUS signal in Betaflight configurator . And the default channel map is "TAER1234", please check your RC transmitter channel map, make sure they are matched, otherwise it will not armed. The Aux5 is set to RSSI Channel.


6.Binding procedure

a)Press and holding the bind button, then power on for the TURTLEBEE F3 FC, the LED Combo (2 Red and 2 White) will getting to be solid, this means the TURTLEBEE F3 FC is in binding mode,and then release the bind button
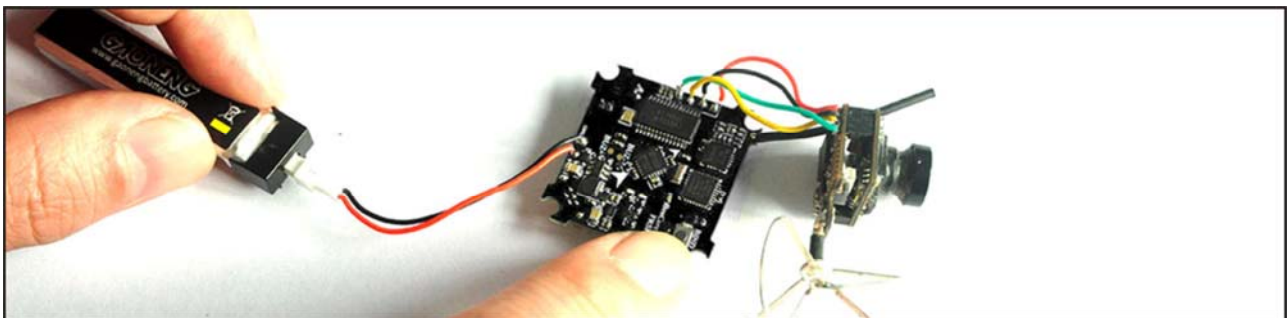
b) Turn on your Frsky Radio and select D8 mode for the Receiver. Then Go to the Receiver [Bind] option, and ENT to Binding with the TURTLEBEE F3 FC. The LED Combo (2 Red and 2 White) will turning off, this indicate binding was successful. Reconnect the battery to the TURTLEBEE F3 FC after Binding successfully.
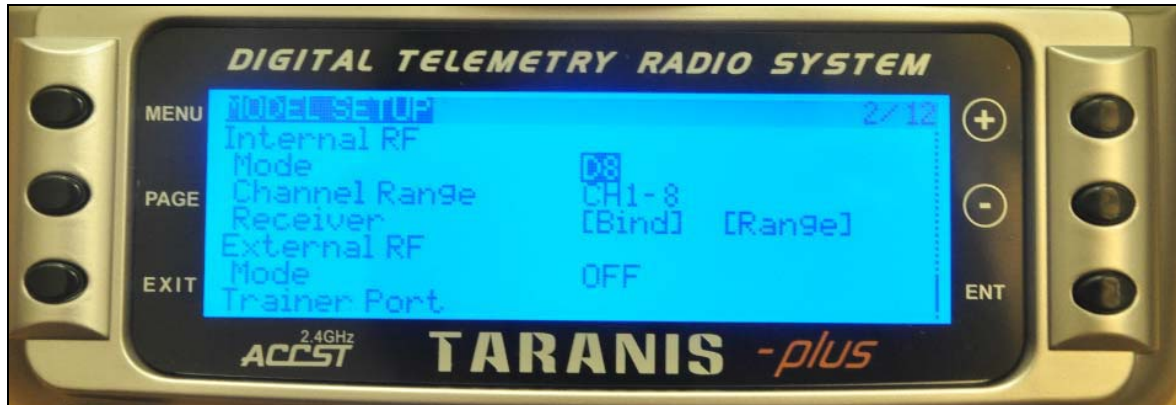
7.Firmware update

1. Install latest STM32 Virtual COM Port Driver http://www.st.com/web/en/catalog/tools/PF257938
2. Install STM BOOTLOAD Driver (STM Device in DFU MODE)
3. Open Betaflight configurator and choose firmware target "OMNIBUS",then select the firmware version.
4. There are 2 ways to get in DFU Mode: 1). solder the boot pad and then plug USB to comuper   2).loading betaflight firmware and hit "flash", then it will getting into DFU Mode automatically.
5. Open Zadig tools to replace the drivers from STM32 Bootloader to WINUSB Driver.
6. Reconnect the flight controller to the computer after replace driver done , and open Betaflight configurator, loading firmware and flash.
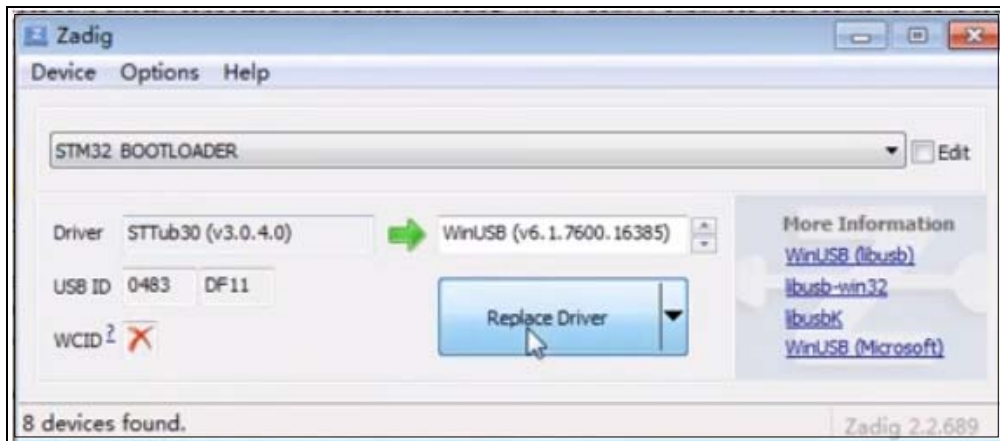
8. "Flip over after crash" procedure

Set one channel of your radio transmitter to activate the Flip over function in the Mode tab of Betaflight configurator