

## AIOF3\_BRUSHED Flight Control Board Built-in OSD Flyky Receiver

The AIOF3\_BRUSHED flight controller is a Highly integrated F3 flight controller both for Indoor FPV flight and outdoor FPV.

The flight controller integrate OSD and Receiver, run Betaflight firmware. It's amazing, you only just get ready your VTX and camera, it's simple to DIY a whole FPV racing Quadcopter with brushed motor .

### 1. Specification:

Brand Name: Eachine

Size: 38mm\*19mm

Weight: 3g

Processor: STM32 F303 MCU

Sensor: SPI Sensor MPU6000

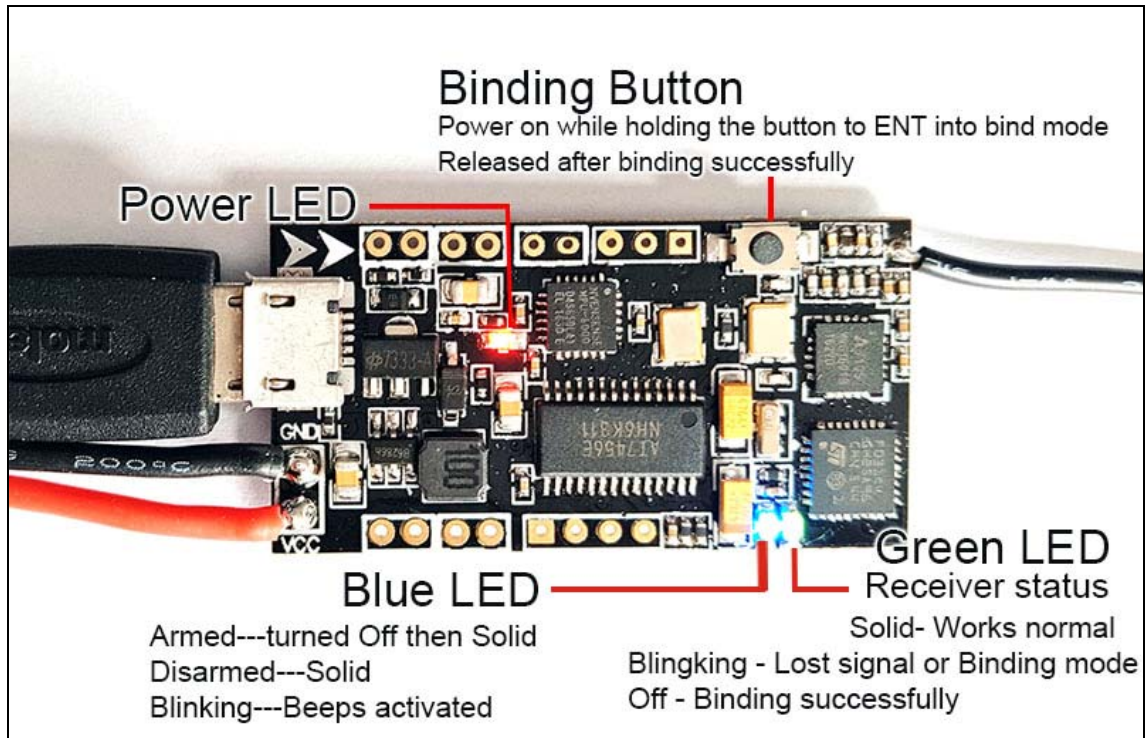
Target: Omnibus

Firmware Version: Betaflight 3.0.1

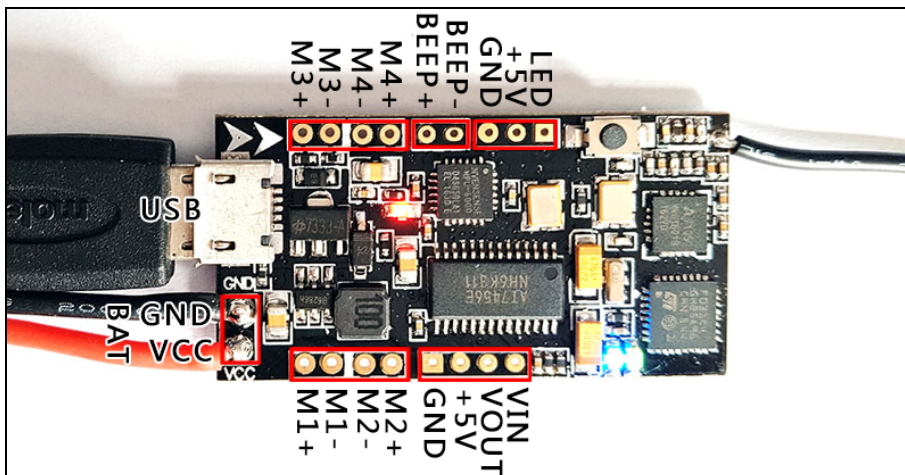
Receiver: Flysky compatible 8CH PPM receiver

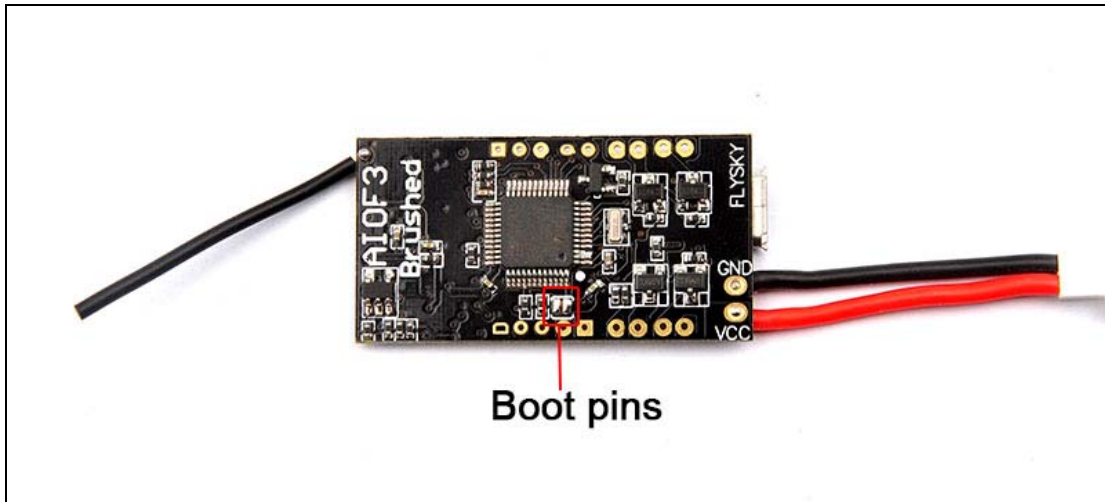
Protocol: AFHDS-2A

### 2. Connector and LED Definition:




### 3. Installation and Connection diagram:





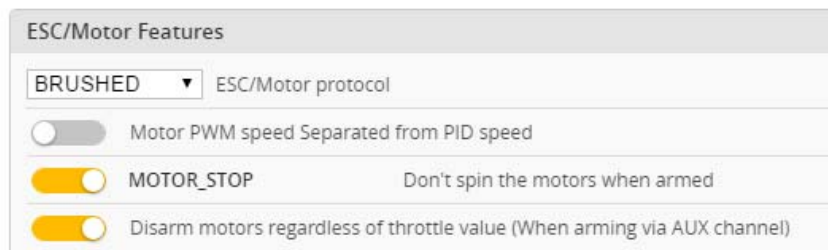
#### 4. Betaflight configuration:

All the configuration was set up before shipping, if you need to flash firmware and select "Full chip erase", you should reconfigure for the AIOF3 Flight controller board according to the bellowing diagram.

 After you flashed firmware and do the "Full chip erase" option, Please remove the propeller from the motor and plug your battery ,otherwise it maybe can't connected to the Betaflight configurator.

Reconfigure steps:

Go to Configure Tab and set ESC/Motor protocol to BRUSHED



\*This step is in order to avoid motor auto-spinning when connect the battery

1. Ports and receiver mode sets like the bellowing diagram: Set Receiver mode RX\_PPM , Ignore the Serial Receiver Provider

Identifier	Data	Logging	Telemetry	RX	GPS
USB VCP	<input checked="" type="checkbox"/> MSP 115200 ▼	<input type="checkbox"/> Blackbox 115200 ▼	Disabled ▼ AUTO ▼	<input type="checkbox"/> Serial RX	<input type="checkbox"/> 57600 ▼
UART1	<input checked="" type="checkbox"/> MSP 115200 ▼	<input type="checkbox"/> Blackbox 115200 ▼	Disabled ▼ AUTO ▼	<input type="checkbox"/> Serial RX	<input type="checkbox"/> 57600 ▼
UART2	<input type="checkbox"/> MSP 115200 ▼	<input type="checkbox"/> Blackbox 115200 ▼	Disabled ▼ AUTO ▼	<input type="checkbox"/> Serial RX	<input type="checkbox"/> 57600 ▼

**Receiver Mode**

<input checked="" type="radio"/> RX_PPM	PPM RX input
<input type="radio"/> RX_SERIAL	Serial-based receiver (SPEKSAT, SBUS, SUMD)
<input type="radio"/> RX_PARALLEL_PWM	PWM RX input (one wire per channel)
<input type="radio"/> RX_MSP	MSP RX input (control via MSP port)

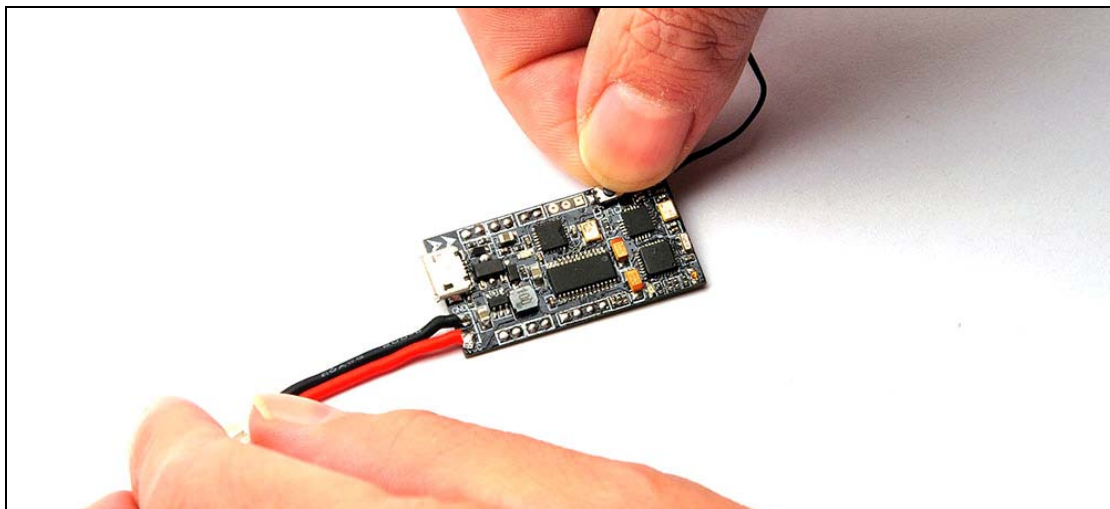
**Serial Receiver Provider**

**Note:** Remember to configure a Serial Port (via Ports tab) and choose a Serial Receiver Provider when using RX\_SERIAL feature.

SPEKTRUM1024  
 SPEKTRUM2048  
**SBUS**  
 SUMD

2. Binding Procedure:

a) Power for the AIOF3\_Brushed board while holding the Bind button, the Green LED will getting to be blinking, this means the AIOF3\_Brushed is in binding mode, then release the button.



b) Please Ensure the RX setup of your Flysky Radio is in AFHDS 2A Mode. Then Turn on your radio while holding the binding button to Binding with the AIOF3\_Brushed board. The Green LED will turning off, this indicates binding successfully. Reconnect the battery to the AIOF3\_Brushed board after Binding successfully.



- The default receiver channel map is AETR1234, please ensure your transmitter is matched with it, otherwise it can't be armed.

Channel Map	RSSI Channel
AETR1234	Disabled

- The Default Arm/Disarm switch is AUX1(Channel 5),and you can also customize it with Betaflight Configurator.

Modes WIKI

Use ranges to define the switches on your transmitter and corresponding mode assignments. A receiver channel that gives a reading between a range min/max will activate the mode. Remember to save your settings using the Save button.

ARM	AUX 1	Min: 1300 Max: 2100
AIR MODE	AUX 2	Min: 1300 Max: 1600
ANGLE	AUX 2	

- Set Arm/Disarm switch for your Flysky Radio: Move to the Aux.channels interface, Set "SWA" or "SWB" switch etc. for Ch5 to ARM/DISARM the motor.



- Toggle the AUX1 Switch and the blue LED on the board will first turning off and get be solid soon, this indicate the motor was armed. Be careful and enjoy your flight now!

### 5. OSD configuration:

Connect the AIOF3 board to the computer , open Betaflight Configurator , move to the OSD option

OSD WIKI

<p>Elements</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Rssi Value</li> <li><input type="checkbox"/> Main Batt Voltage</li> <li><input type="checkbox"/> Crosshairs</li> <li><input type="checkbox"/> Artificial Horizon</li> <li><input type="checkbox"/> Horizon Sidebars</li> <li><input type="checkbox"/> Ontime</li> <li><input type="checkbox"/> Flytime</li> <li><input type="checkbox"/> Flymode</li> <li><input type="checkbox"/> Craft Name</li> <li><input type="checkbox"/> Throttle Position</li> </ul>	<p>Preview (drag to change position) <span style="float: right;">Logo: <input type="checkbox"/></span></p>	<p>Video Format</p> <p><input checked="" type="radio"/> AUTO <input type="radio"/> PAL <input type="radio"/> NTSC</p> <p>Units</p> <p><input checked="" type="radio"/> IMPERIAL <input type="radio"/> METRIC</p> <p>Alarms</p> <table> <tr><td>20</td><td>Rssi</td></tr> <tr><td>2200</td><td>Capacity</td></tr> <tr><td>10</td><td>Minutes</td></tr> <tr><td>100</td><td>Altitude</td></tr> </table>	20	Rssi	2200	Capacity	10	Minutes	100	Altitude
20	Rssi									
2200	Capacity									
10	Minutes									
100	Altitude									

Font Manager Save

Craft Name set in configuration option

1460	3D Neutral
0	3D Deadband Throttle
Misc	
<u>Eachine AIOF3</u>	Craft name