

## BEECORE FLYSKY F3\_EVO\_Brushed ACRO Flight Control Board quick user guide

This board is designed to work with Inductrix / BeeDuctrix / Tiny Whoop / Eachine E010, just replace the current board with our new BEECORE main board and experience the next level of flight control.

### 1. Specification:

STM32 F303 processor

Six-Axis: MPU6500

Size: 2mm x 26mm

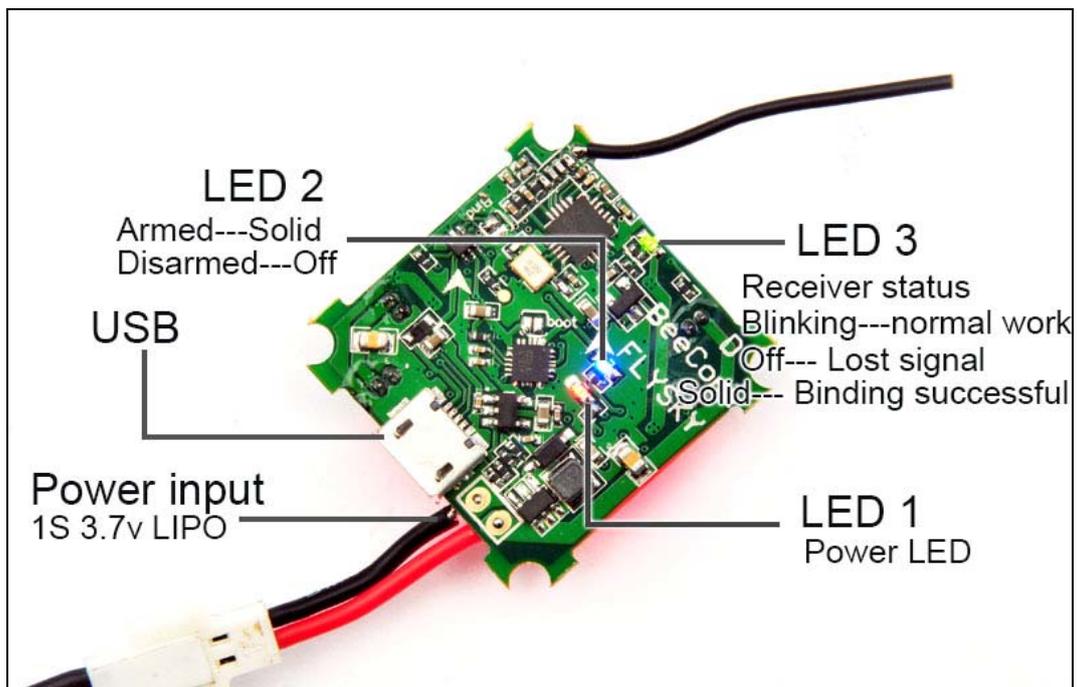
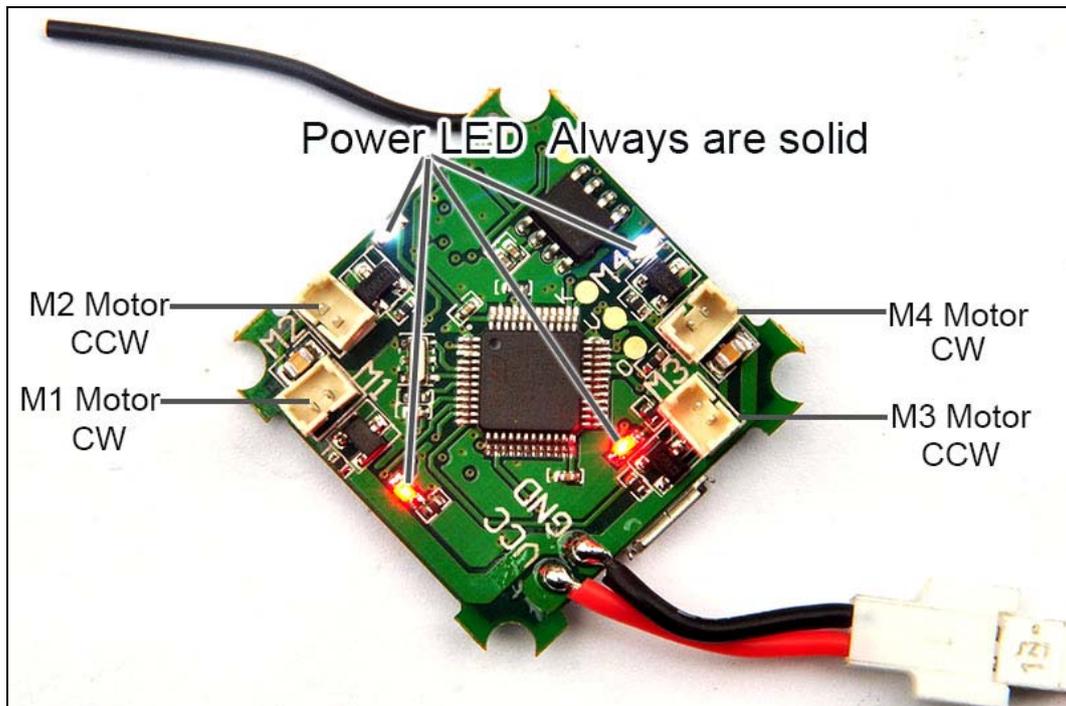
Weight: 3 grams

Work voltage: 3.7v-5v / 1S Lipo battery input

Receiver: 6CH Flysky protocol PPM output AFHDS Mode

Firmware Version: Cleanflight 1.13.0

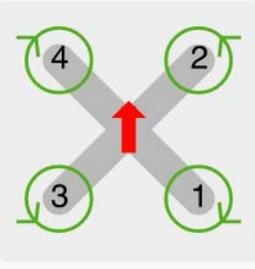
### 2. Connector and LED Definition:



### 3. Installation and Connection diagram:

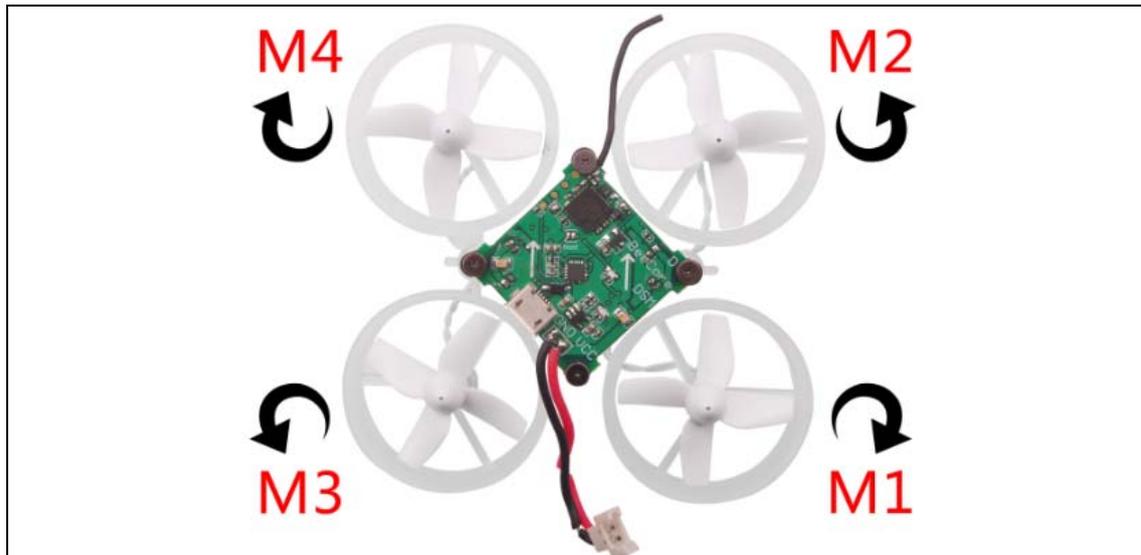
Mixer

Quad X



ESC/Motor Features

- MOTOR\_STOP Do not spin motors when armed
- ONESHOT125 ONESHOT ESC support
- Disarm motors regardless of throttle value (When arming via AUX channel)
- 5 Disarm motors after set delay(Seconds) (Requires MOTOR\_STOP feature)
- 1150 Minimum Throttle
- 2000 Maximum Throttle
- 1000 Minimum Command



Please pay attention to the motor sequence of original Inductrix main board , it's different from BEECORE, Install the motor according to the diagram above.

### 4. Cleanflight / 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 BEECORE Flight controller board according to the bellowing diagram.



Please unplug the motor from the BEECORE when you need to flash firmware and "Full chip erase", otherwise it will can't connect to the Clenflight configurator.

Reconfigure steps:

1. Cleanflight: Go to the CLI tab, type "Set motor\_pwm\_rate=1000" ,then enter save

```
Entering CLI Mode, type 'exit' to return, or 'help'  
  
# set motor_pwm_rate=1000  
motor_pwm_rate set to 1000  
# save
```

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

ESC/Motor Features

BRUSHED ESC/Motor protocol

- Motor PWM speed Separated from PID speed
- MOTOR\_STOP Don't spin the motors when armed
- Disarm motors regardless of throttle value (When arming via AUX channel)

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

- Ports and receiver mode sets like the bellowing diagram: Set receiver mode to be RX\_PPM in Cleanflight or Betaflight Configurator

Ports DOCUMENTATION FOR 1.13.0

**Note:** not all combinations are valid. When the flight controller firmware detects this the serial port configuration will be reset.  
**Note:** Do NOT disable MSP on the first serial port unless you know what you are doing. You may have to reflash and erase your configuration if you do.

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
UART3	<input type="checkbox"/> MSP 115200	<input type="checkbox"/> Blackbox 115200	Disabled AUTO	<input type="checkbox"/> Serial RX	<input type="checkbox"/> 57600

### Receiver Mode

- RX\_PPM PPM RX input
- RX\_SERIAL Serial-based receiver (SPEKSAT, SBUS, SUMD)
- RX\_PARALLEL\_PWM PWM RX input (one wire per channel)
- 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.

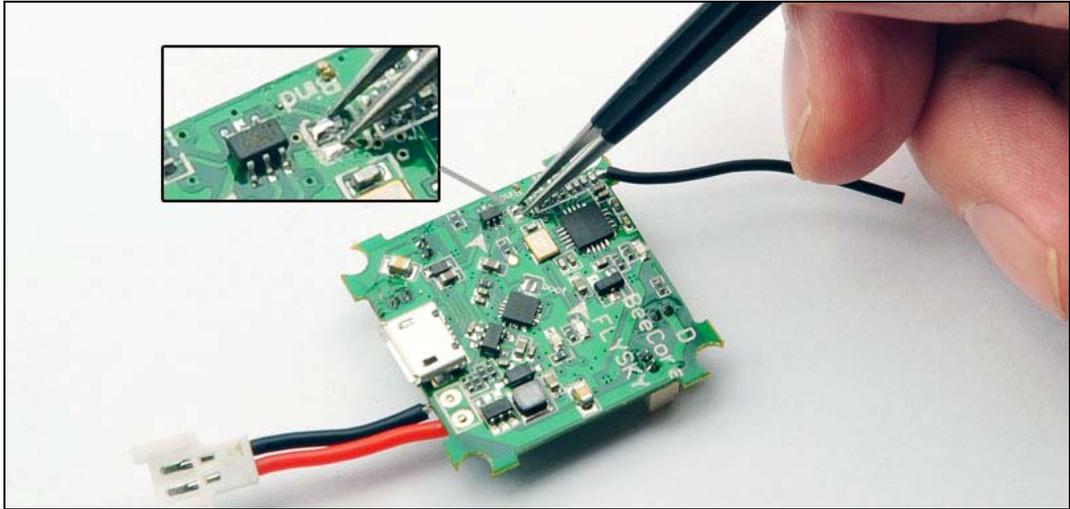
- SPEKTRUM1024**
- SPEKTRUM2048
- SBUS
- SUMD
- SUMH
- XBUS\_MODE\_B
- XBUS\_MODE\_B\_RJ01
- IBUS

- Binding Procedure:

- a) Turn on your radio and Set receiver mode to AFHDS, then get your radio into binding mode (Take Flysky I6 as an example)



- b) Connect the battery to the BEECORE while Jumpered the two "Bind pins" on the board, the Green LED will get to be solid first and turn off for a second, then it will get to be solid again, this indicates binding successfully



c) You should Disconnect the two “Bind” Pins after binding successfully. Please repeat the above operation if binding not success.

- 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 Cleanflight Configurator or Betaflight Configurator.

<b>ARM</b>	AUX 1	Min: 1450 Max: 2100	900 1000 1200 1400 1500 1600 1800 2000 2100
<b>ANGLE</b>	AUX 1	Min: 1175 Max: 2100	900 1000 1200 1400 1500 1600 1800 2000 2100

- Turn on the transmitter and move to the AUX. Channels interface, Set “SWA” or “SWB” switch etc. for CH5 to ARM/DISARM the motor, Take FLYSKY I6 as an example.



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