AXIS FLYING Argus F7Pro 65A Stack Flight Controller Instruction Manual

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Argus F7Pro 65A Stack Flight Controller

Argus F7Pro/65A Stack

Description of product characteristics

Both the FC and the ESC are designed with CNC full aluminum cover wrapped, which has excellent protection and efficient heat dissipation, it protects internal electronics from grass juice and dirt. The aluminum casing significantly enlarge the radiating surface to quickly dissipates the internal heat for stable performance. The FC adopts a plug-and-play design, and common peripherals such as DJI O3 air unit, GPS, etc. Can be directly connected and used, which is simple and fast. The FC supports up to 8 motor outputs, making it easy to build an X8 drone. In addition, it also integrates 5V/9V dual BEC, and the 9V BEC can provide independent power supply for VTX to ensure stable operation. The FC has 4 LED status indicators, which respectively display the working status in different states. Others such as the F722 main control chip, onboard OSD chip, onboard barometer, and onboard black box chip are also readily available. The ESC adopts large-size MOSFETs with low internal resistance and low heat generation. The high-performance main control chip G071 has a main frequency of up to 64MHz and supports up to 16-96k PWM frequency adjustment. The combination of software and hardware brings a silky flight experience.

Type: ARGUS Pro Stack
Size: 48.6 x 46.6 x 26
Weight: 59g

Type: ARGUS Stack(Regular version)
Size: 48.6 x 44 x 20.8
Weight: 31g

FC Specification:

- **Master Control** STM32F722RET6
- **Gyro** BMI270
- **Barometer** support
- **OSD** support
- **BEC** 9V/2A 5V/2A
- **UART Ports** 6
- **Black box** support 16M Flash Memory
- **Number of supported motors** M1-M8
- **Firmware name** AXISFLYINGF7PRO
  Betaflight INAV Not supported yet
- **Input Voltage** 3-6S Lipo 12-50V MAX
- **Installing Hole** 30.5 x 30.5mm/M3
- **Weight** F7Pro 19.6g/F7(Regular version)8.4g

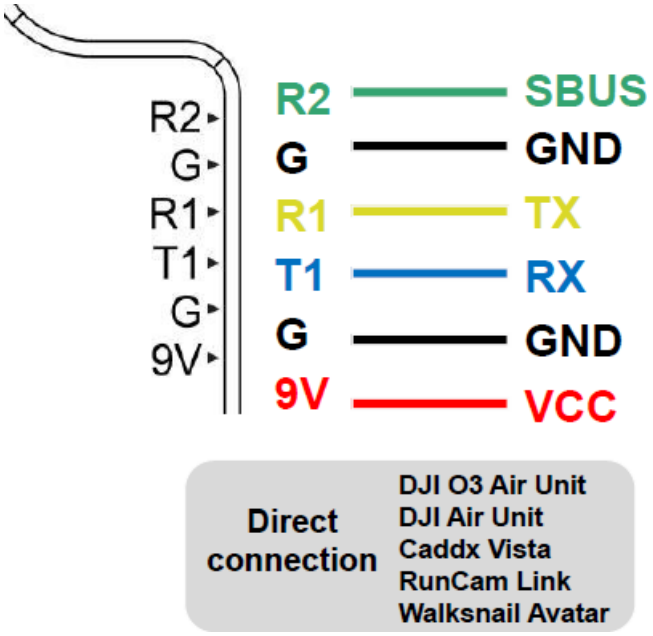
ESC Specification:

- Rated current 55A /65A
- Instantaneous peak current 65A /75A(10s)
- Input Voltage 3-6S Lipo 12-30V MAX
- ESC Target BLHeli_32 ST_G0_04
- Current proportion value Scale=400
- PWM frequency range 16-96khz
- Telemetry support
- Ammeter support
- BEC Nothing

- Installing Hole 30.5 x 30.5mm/M3
- Weight 65A/55APro 4IN1 ESC 32g
  65A/55A 4IN1 ESC 16.2g

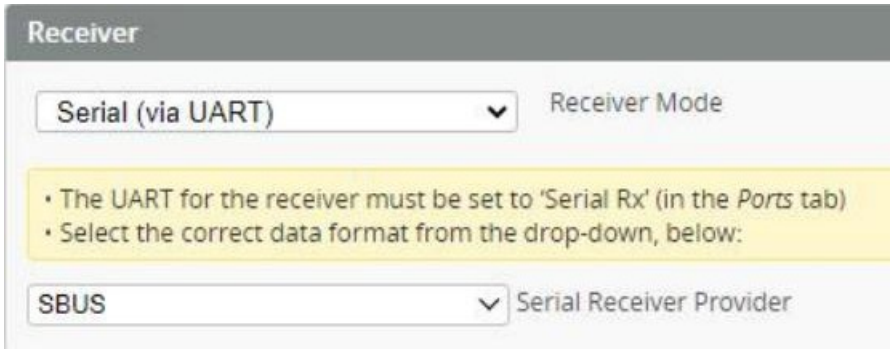
Interface Definition Peripheral Connection Diagram

DJI Air unit

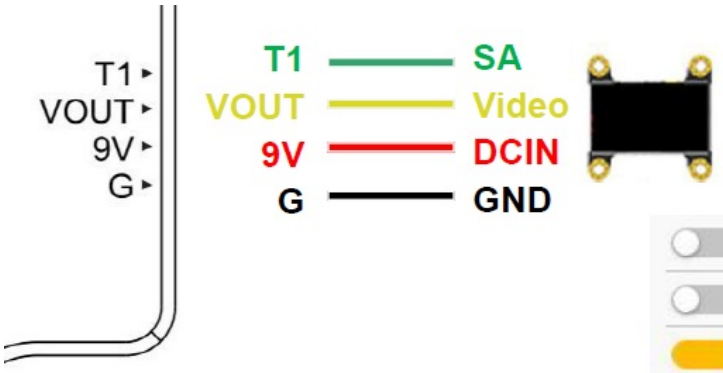


Note: Use DJI FPV remote controller

*Safety tips: Please remove all propellers when connecting to the Betaflight configuration software!
Beta flight is an open source software, flashing the firmware by yourself may cause the product to work unstable.



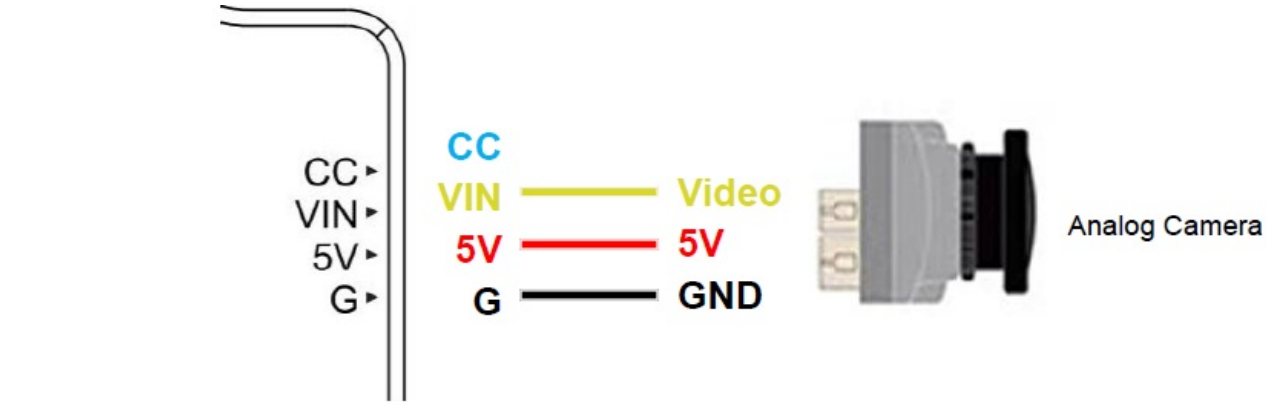
Analog VTX



TRANSPONDER	Race Transponder
AIRMODE	Permanently enable Airmode
OSD	On Screen Display

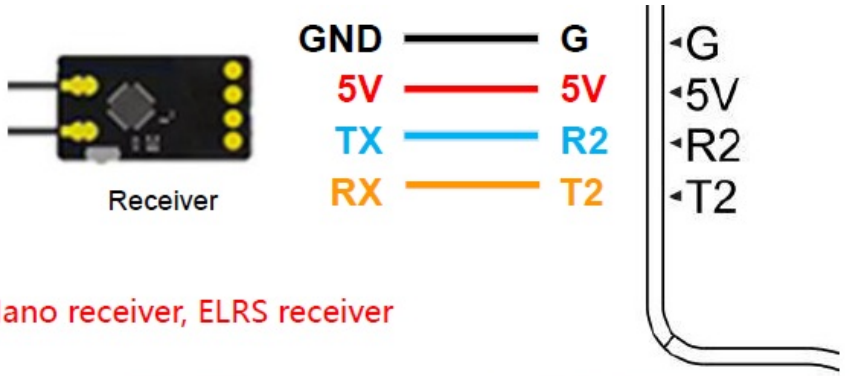
Identifier	Configuration/MSP	Peripherals	
USB VCP	115200	Disabled	AUTO
UART1	115200	VTX (TBS Sm	AUTO

Analog Camera



TRANSPONDER	Race Transponder
AIRMODE	Permanently enable Airmode
OSD	On Screen Display

Receiver



Note: Use TBS Nano receiver, ELRS receiver

Identifier	Configuration/MSP	Serial Rx
USB VCP	115200	
UART1	115200	
UART2	115200	

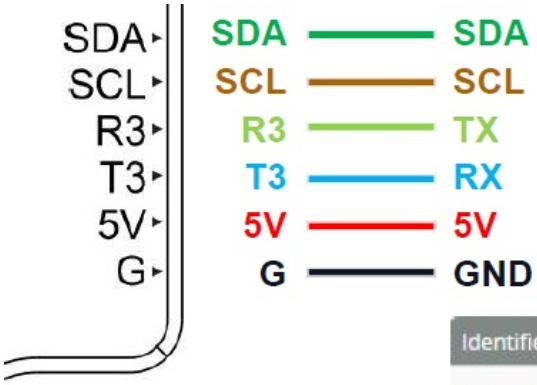
Receiver

Serial (via UART) — Receiver Mode

- The UART for the receiver must be set to 'Serial Rx' (in the *Ports* tab)
- Select the correct data format from the drop-down, below:

CRSF — Serial Receiver Provider

GPS



GPS

GPS — GPS for navigation and telemetry

Note: Remember to configure a Serial Port (via Ports tab) when using GPS feature.

NMEA — Protocol

Auto Baud

Auto Config

Set Home Point Once

Note: Use Axisflying M80Q GPS

Identifier	Configuration/MSP	Sensor Input
USB VCP	115200	Disabled AUTO
UART1	115200	Disabled AUTO
UART2	115200	Disabled AUTO
UART3	115200	GPS 115200

Beeper LED LED Light belt

SONAR	Sonar
LED_STRIP	Multi-color RGB LED strip support
DISPLAY	OLED Screen Display

BEEPER

Add Link

Add Range

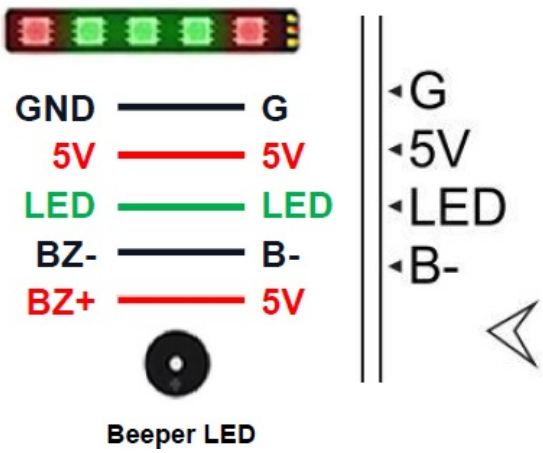
AUX 4

Min: 900

Max: 1100

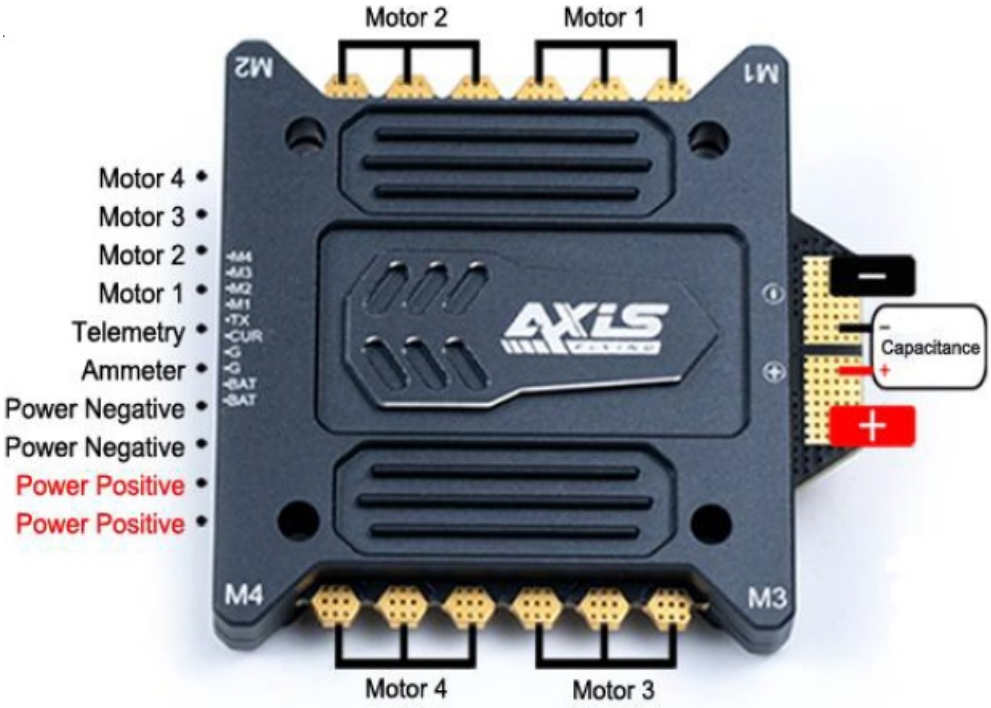
900 1000

LED Light belt



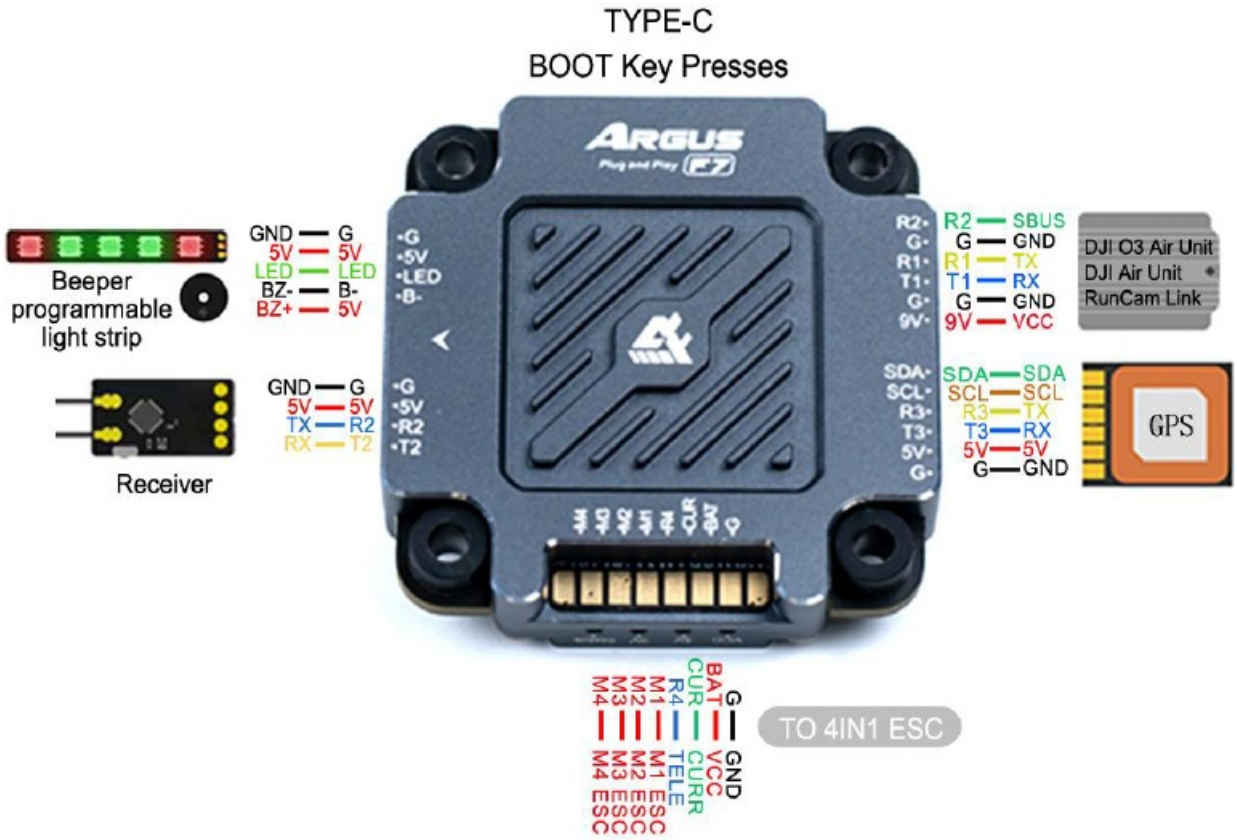
Beeper LED

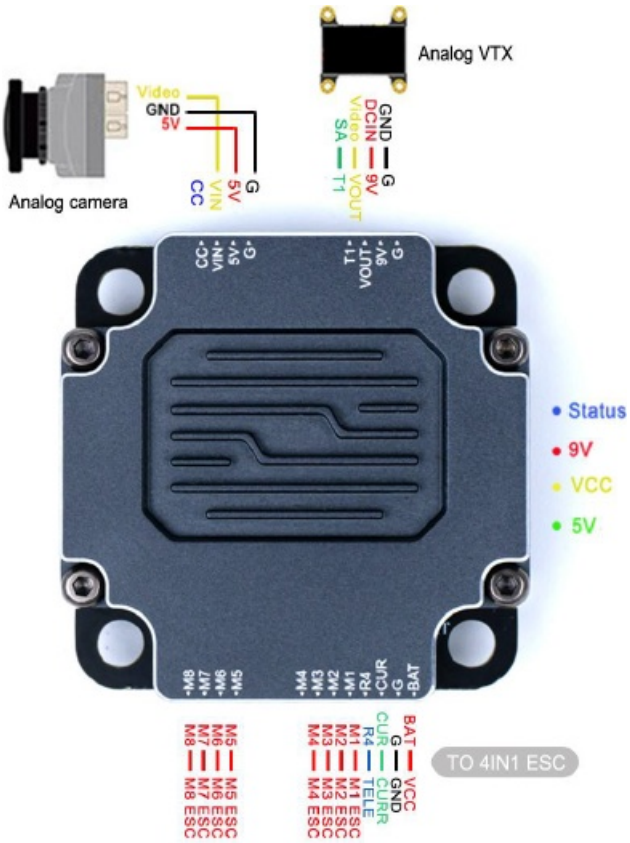
ESC



Note: It is recommended to pay attention to the positive and negative poles when soldering the capacitors included in the installation package.

FC:





Betaflight Instruction about setting

About FC

1.Factory default port settings (will be reset after reflashing the firmware)

1. Uart1 MSP
2. Uart2 Receiver
3. Uart3 GPS
4. Uart4 ESC
5. Uart5 Default
6. Uart6 Default

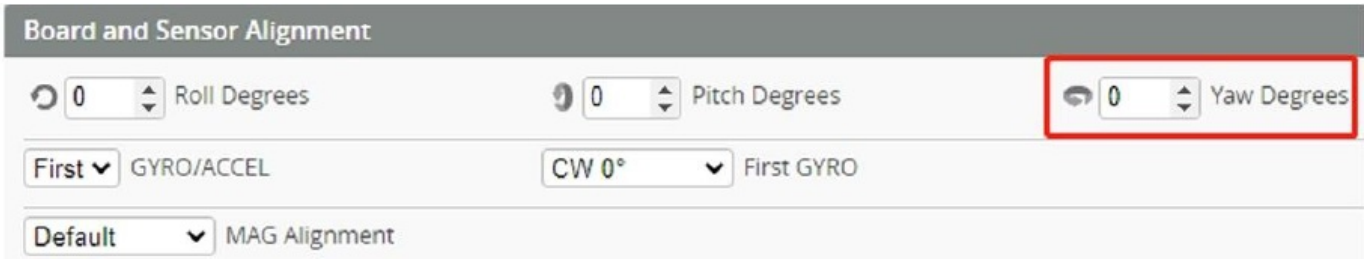
Ports

Ports

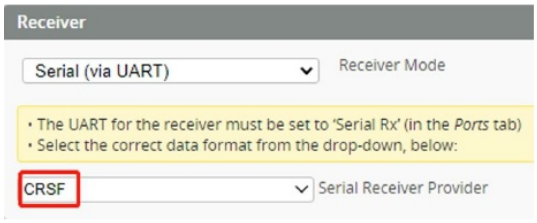
Note: not all combinations are valid. When the flight controller firmware detects this the serial port configuration will be reset.
Note: Do **NOT** disable MSP on the first serial port unless you know what you are doing. You may have to reflash and erase your configuration if you do.

Identifier	Configuration/MSP	Serial Rx	Telemetry Output	Sensor Input
USB VCP	115200		Disabled AUTO	Disabled AUTO
UART1	115200		Disabled AUTO	Disabled AUTO
UART2	115200		Disabled AUTO	Disabled AUTO
UART3	115200		Disabled AUTO	GPS 115200
UART4	115200		Disabled AUTO	ESC AUTO
UART5	115200		Disabled AUTO	Disabled AUTO
UART6	115200		Disabled AUTO	Disabled AUTO

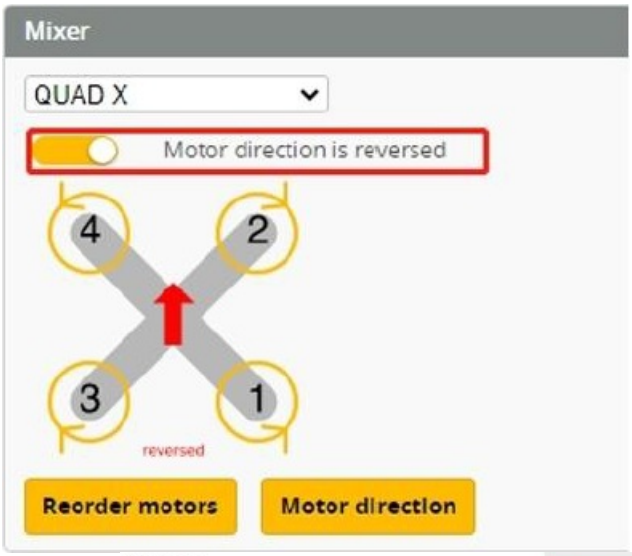
2.If you change the default installation direction of the FC (the default is that the arrow is facing forward), for example, if the arrow is facing backward, you need to change the default yaw from 0° to 180° on the “Flight Control and Sensor Orientation” page. After changing, click Save and reboot.



3.If you use TBS receiver, ELRS receiver, please select the receiver protocol in the “Receiver” page as CRSF, if you use DJI FPV remote controller, DJI FPV remote controller 2, and other SBUS receivers, please select SBUS.

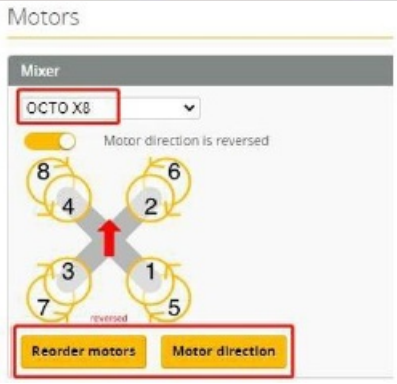


Motors



4.The factory default motor rotation direction has been set to “reverse motor rotation”, which is
Motor No. 1: Rotate counterclockwise
Motor No. 2: Clockwise rotation
Please pay attention to the direction and front and back when installing the propeller. Incorrect installation will cause the drone to fail to take off.

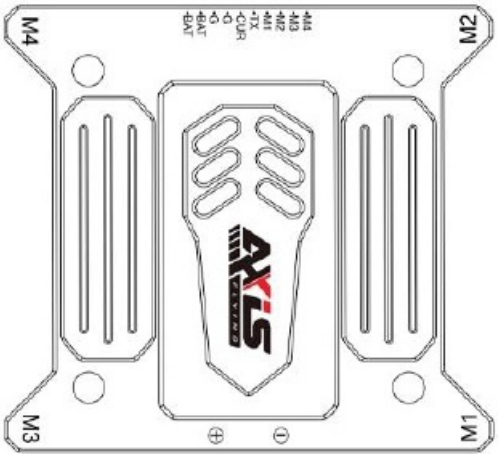
5.Steps for X8 FC parameter setting



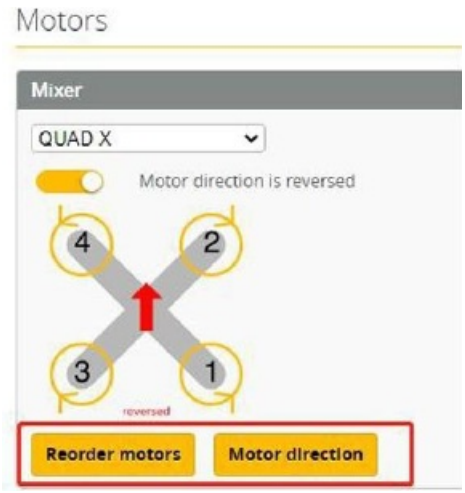
Step 1: On the “Motor” page, change the default QUAD X to OCTO X8, and then click Save and restart.
Step 2: After step 1 is completed, eight motors will appear on the right side of the motor page. Please adjust and verify the rotation direction of the eight motors according to the arrow on the left schematic diagram. The actual rotation direction and definition of the motor must be consistent with the left schematic diagram. All propellers must be removed before connecting the battery!
Step 3: Read carefully and tick “I have understood the risk”, slowly push the main control to about 1100, observe the motor rotation direction, if it is found that it is inconsistent with the schematic diagram on the left, click “Motor directlon” to adjust according to the wizard, if it is found that the motor sequence is inconsistent with the schematic diagram, click “Reorder motors” to adjust according to the wizard, and click Save and Restart after each

adjustment.

About ESC



1.Recommended keep right side up when installed ESC



2.When installed face up, the default motor sequence has been changed if the XT60 power lead are in the front of the drone. At this time, you need to re-adjust the motor sequence and motor steering according to the wizard in the “Motor” page.(All propellers must be removed when connecting the Betaflight!)

3.Current Proportion Scale=400
(Click this parameter to obtain relatively accurate real-time osd current data)

FC Shipping List

ARGUS 55A/65APro 4IN1 ESC or
ARGUS 55A/65A 4IN1 ESC (Regular version) X1

Wire accessories:

1. ESC to FC Cables Xi
2. Rubber ring X8
3. XT60 power cord X1
4. Ruby 35V 470 Capacitor X1
5. SH1.0 8P Plastic case (to FC Line) X1

ESC Shipping List

ARGUS F7Pro FC/ARGUS F7 FC(Regular version) X1

ARGUS 65A/55APro Stack or
ARGUS 65A/55A Stack (Regular version) X1

Wire accessories:

1.FC ESC Cable X1
2.GPS Cable X1
3.DJI Air unit wire X1
4.Receiver wire X1
5.Beeper LED wire X1
6.Analog camera cable X1
7.Analog VTX wire X1
8.5678 Motor wire X1
9.Avatar VTX wire X1
10.XT60 Power cord X1
11.0 Rubber ring X4
12.High damping rubber ring (FC)) X4
13.Low damping rubber ring (separated) X4
14.M3*34 Cup head screw X4
15.Ruby 35V 470 Capacitor X1
16.SH1.0 6P Plastic case (GPS) X1
17.SH1.0 4P Plastic case (GPS) X1

1.FC to ESC Cables X1
2.GPS Cable X1
3.DJI Air unit wire X1
4 Receiver wire X1
5.Beeper LED wire X1
6.Analog camera cable X1
7.Analog VTX wire X1
8.8hock absorbing rubber ring X4
9.5678Motor wire X1
10.Avatar VTX wire X1
11.8H1.0 8P Plastic case (ESC Cable) x1
12.5H1.0 10P Plastic case (ESC Cable) x1
13.SH1.0 6P Plastic case (GPS) X1

14.SH1.0 4P Plastic case (GPS) X1

Stack Shipping List

ARGUS 65A/55APro Stack or
ARGUS 65A/55A Stack (Regular version) X1

Wire accessories:

1.FC ESC Cable X1
2.GPS Cable X1
3.DJI Air unit wire X1
4.Receiver wire X1
5.Beeper LED wire X1
6.Analog camera cable X1
7.Analog VTX wire X1
8.5678 Motor wire X1
9.Avatar VTX wire X1
10.XT60 Power cord X1
11.0 Rubber ring X4
12.High damping rubber ring (FC)) X4
13.Low damping rubber ring (separated) X4
14.M3*34 Cup head screw X4
15.Ruby 35V 470 Capacitor X1
16.SH1.0 6P Plastic case (GPS) X1
17.SH1.0 4P Plastic case (GPS) X1

Documents / Resources

	AXIS FLYING Argus F7Pro 65A Stack Flight Controller [pdf] Instruction Manual F7Pro, F7, Argus F7Pro, Argus F7Pro 65A Stack Flight Controller, 65A Stack Flight Controller, Flight Controller, Controller