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› AERO SELFIE H743 Flight Controller & 60A 32-bit ESC Stack Instruction Manual

AERO SELFIE H743 + 60A 32 bit ESC Stack

AERO SELFIE H743 Flight Controller & 60A 32-bit ESC Stack Instruction Manual

Model: H743 + 60A 32 bit ESC Stack

Brand: AERO SELFIE

1. INTRODUCTION

The AERO SELFIE H743 Flight Controller Stack is a high-performance 30x30mm stack designed for drone pilots requiring advanced control features. This combination includes the AERO SELFIE H743 Flight Controller and a 60A 4-in-1 32-bit ESC, providing responsive flight dynamics and robust power delivery for various drone applications. It features an STM32H743 processor, dual IMUs (BMI088 and BMI270), a barometer, and a compass for stability and navigation. The 4-in-1 ESC supports 2S to 6S LiPo input and delivers 60A continuous current per channel. This stack is compatible with Betaflight, PX4, Ardupilot, and INAV firmware.

2. SAFETY INFORMATION

- Always ensure proper insulation of all electrical connections to prevent short circuits.
- Verify correct polarity when connecting power sources. Incorrect polarity can cause severe damage to components.
- Handle with care to avoid electrostatic discharge (ESD) damage. Use anti-static precautions when working with electronic components.
- Do not operate the ESC without motors connected.
- Ensure adequate ventilation for the ESC during operation to prevent overheating.
- Keep away from water and moisture.
- This product is intended for experienced users. Improper installation or use can lead to equipment damage or personal injury.

3. WHAT'S IN THE BOX

The package includes the following components:

- AERO SELFIE H743 Flight Controller x 1

- AERO SELFIE 60A 4-in-1 ESC 32 bit x 1
- 35V Fixed Capacitor x 1
- 8PIN 1.0mm Cable 80mm Length x 1
- 8PIN 1.0mm Cable 30mm Length x 1
- GPS 6 pin Cable 150mm in Length x 1
- Nuts, Grommets, Screws and O-rings (various sizes)
- XT60 Male Power Cable 150mm Length x 1

Package

H743 FC with 60A ESC 32bit Stack

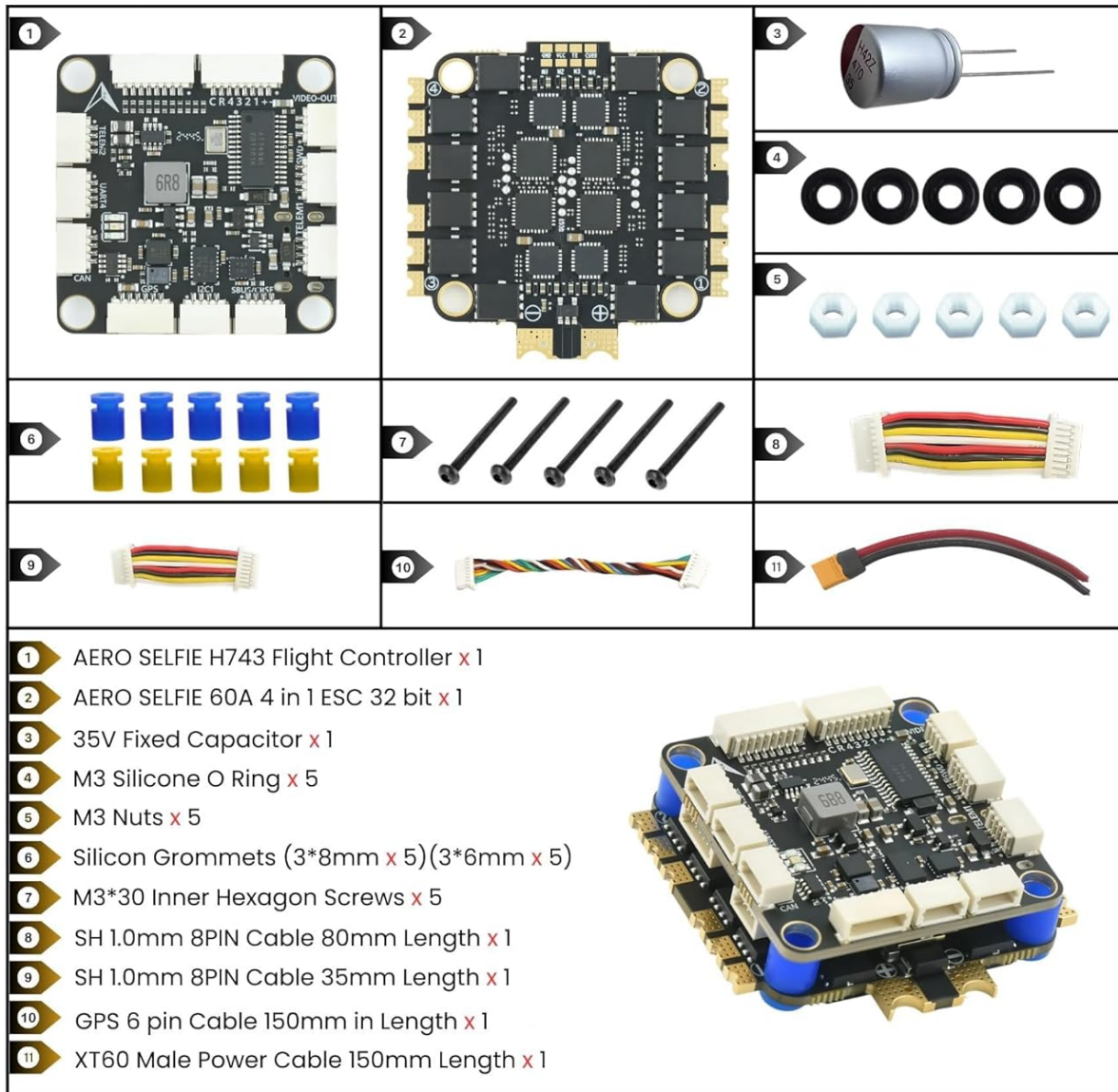


Image: Detailed view of all components included in the AERO SELFIE H743 Flight Controller and 60A ESC Stack package.

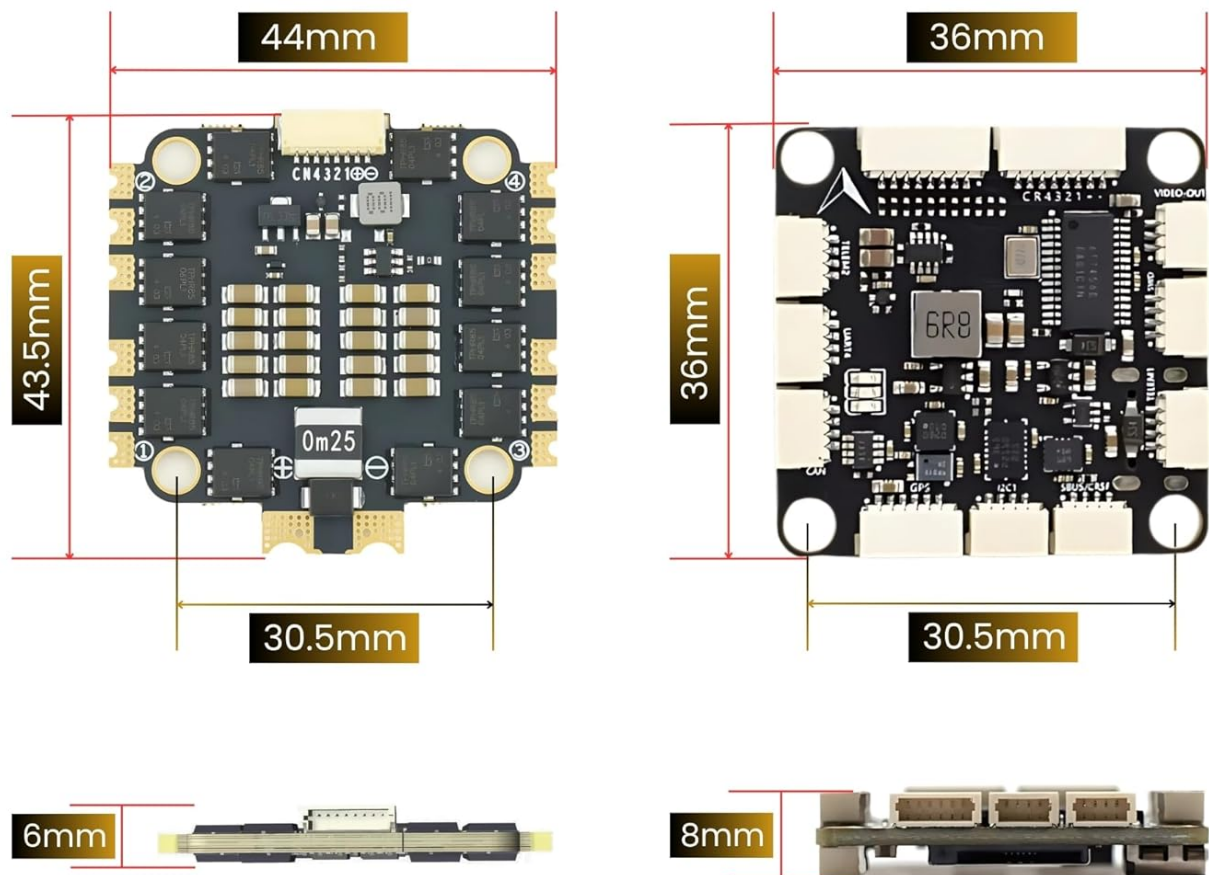
4. SPECIFICATIONS

Feature	Detail
Brand	AERO SELFIE
Model Name	H743 + 60A 32 bit ESC Stack

Processor	STM32H743 (480MHz, 2MB Flash)
IMUs	Dual IMUs (BMI088 and BMI270)
Sensors	Barometer, Compass
ESC Continuous Current	60A per channel
ESC Burst Current	Over 80A
LiPo Input	2S-6S
UART Ports	7
PWM Outputs	10
Connectivity	CAN, I2C, USB Type-C, OSD
Mounting Pattern	30.5x30.5mm
Total Weight (FC + ESC)	23.2g
Firmware Compatibility	Betaflight, PX4, INAV, Ardupilot

Dimensions

Dimensions



Weight: 22.80g

Image: Technical drawing showing the dimensions of the AERO SELFIE H743 Flight Controller and 60A ESC.

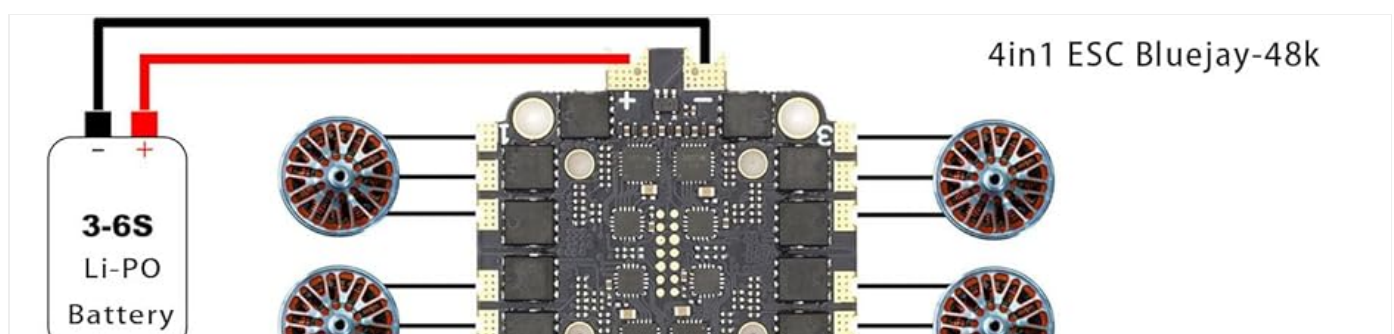
5. SETUP

5.1 Physical Installation

The AERO SELFIE H743 Flight Controller and 60A ESC Stack features a standard 30.5x30.5mm mounting pattern, ensuring compatibility with most drone frames. Use the provided nuts, grommets, and screws for secure installation. Ensure proper vibration dampening using the included grommets to protect the IMUs from excessive vibration.

5.2 Wiring Diagram

Refer to the following diagram for connecting motors, power, and peripherals to the Flight Controller and ESC.



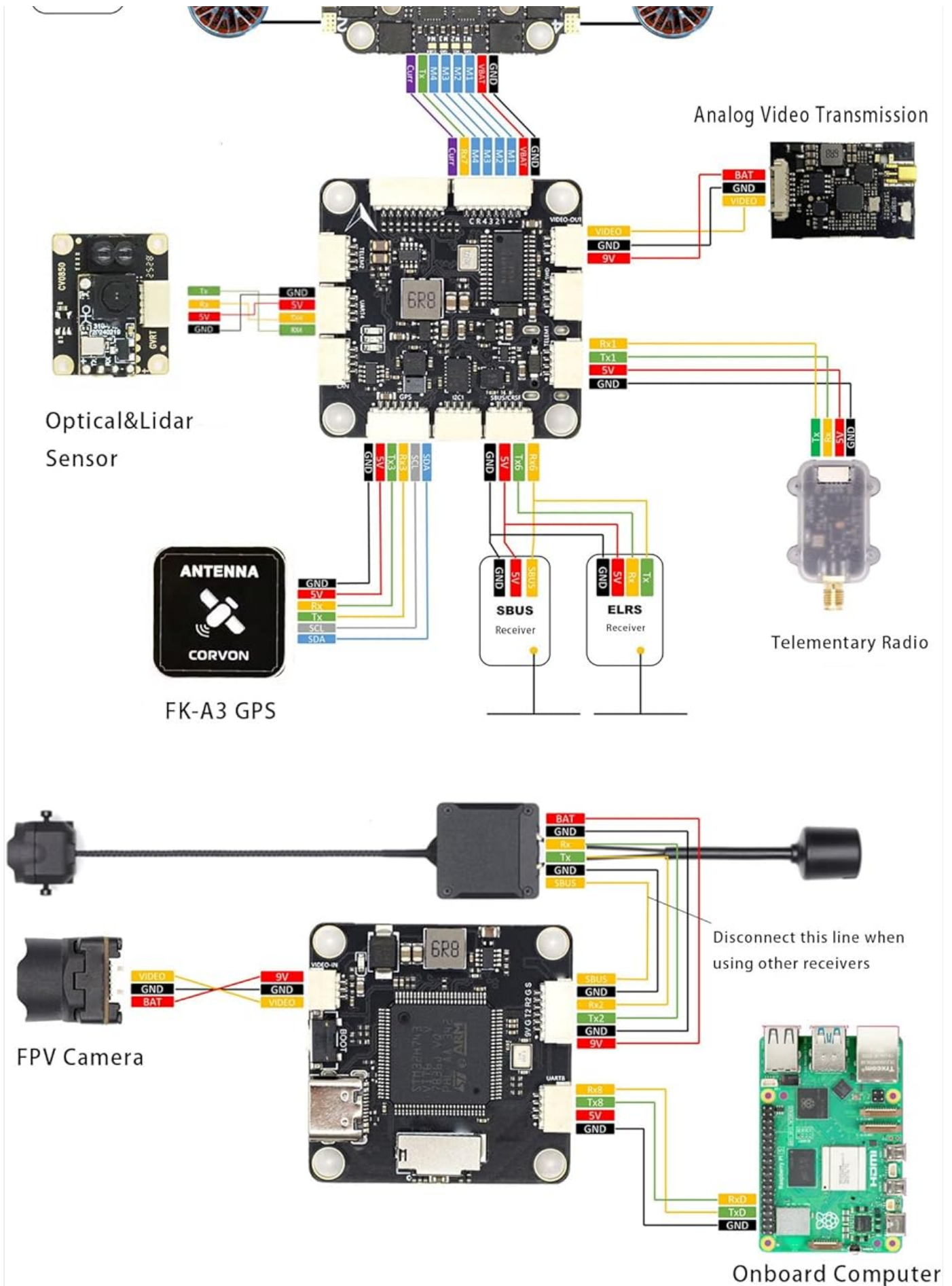


Image: Detailed wiring diagram illustrating connections for motors, battery, GPS, FPV camera, O3 Air Unit, and other peripherals.

5.3 Component Layout Details

Understand the placement of key components and ports on the flight controller for accurate connections.

Layout Details

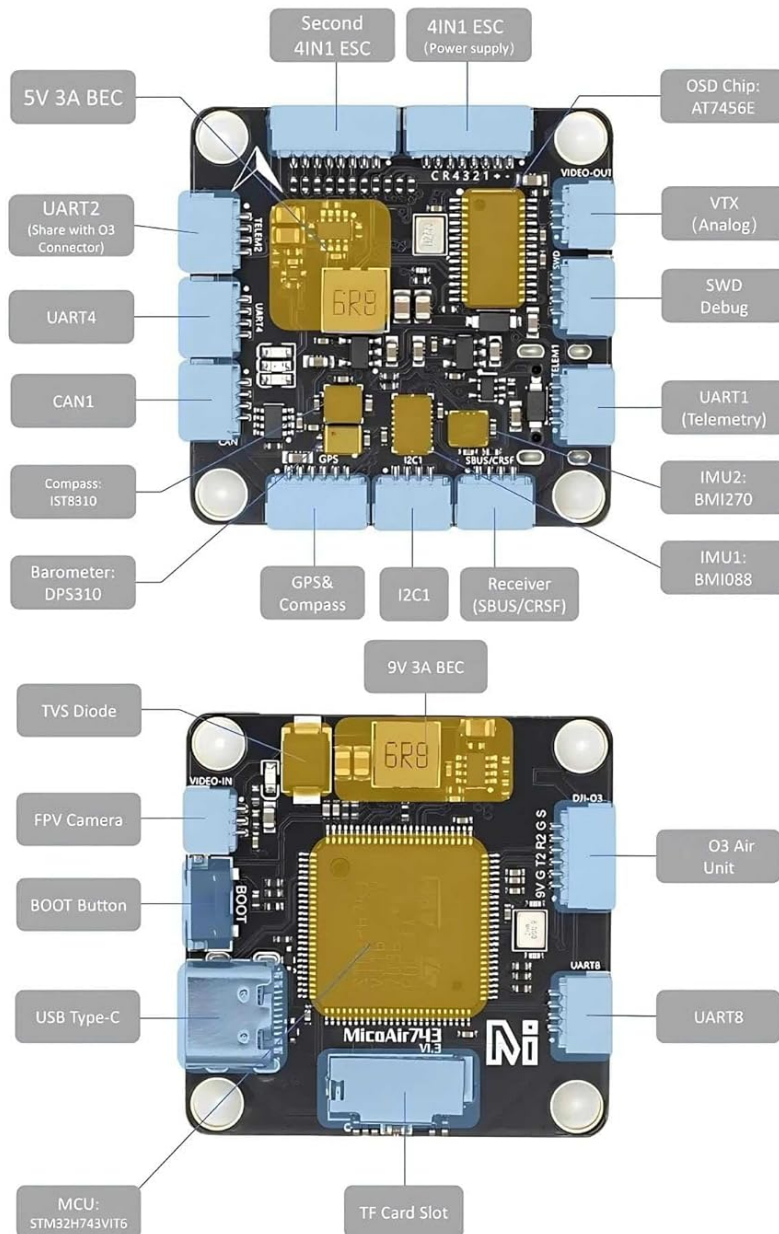


Image: Diagram showing the layout of UART ports, IMUs, BECs, OSD chip, USB Type-C, and other features on the AERO SELFIE H743 Flight Controller.

5.4 Software Configuration

The AERO SELFIE H743 Flight Controller supports various firmware platforms including Betaflight, PX4, INAV, and Ardupilot. Connect the flight controller to your computer via the USB Type-C port and use the respective configurator software to flash firmware, calibrate sensors, and configure flight parameters.

For mobile connectivity and configuration, an OTG adapter can be used with compatible mobile applications.

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Video: Instructions on how to connect the Flight Controller to a mobile device using an OTG adapter for configuration.

6. OPERATING INSTRUCTIONS

After successful installation and configuration, ensure all connections are secure before powering on your drone. Always perform pre-flight checks, including propeller direction, motor spin direction, and control surface responses. Fly in open areas away from people and obstacles. Familiarize yourself with your chosen flight control software's modes and safety features.

The 60A 4-in-1 ESC provides advanced motor control with support for DSHOT, ONESHOT, and PWM protocols. It is designed for

high-thrust motors and demanding flight profiles. Monitor battery voltage and current draw during flight to ensure safe operation within the ESC's limits.

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Video: Overview of the 45A 4-in-1 ESC, demonstrating its features and potential applications in drones.

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Video: A short demonstration on how to use the product, highlighting key operational aspects.

7. MAINTENANCE

- Regularly inspect all solder joints and connections for signs of wear or damage.
- Keep the flight controller and ESC clean and free from dust, dirt, and debris. Use compressed air or a soft brush for cleaning.
- Check for any loose screws or mounting hardware and tighten as necessary.
- Ensure the vibration dampeners are in good condition and replace them if they show signs of degradation.
- Periodically check for firmware updates for your chosen flight control software (Betaflight, INAV, PX4, Ardupilot) to ensure optimal performance and access to new features.

8. TROUBLESHOOTING

- **No Power:** Check battery connections, XT60 cable, and ensure the flight controller is receiving power. Verify the 35V fixed capacitor is correctly installed.
- **Motors Not Spinning:** Ensure ESC is armed. Check motor connections to the ESC. Verify motor direction in the flight control software. Check for proper signal protocol (DSHOT, ONESHOT, PWM) configuration.
- **Unstable Flight:** Recalibrate IMUs (accelerometer and gyroscope) in your flight control software. Check for loose components or excessive vibrations. Ensure propellers are balanced and undamaged.
- **Connectivity Issues (USB/Mobile):** Ensure correct drivers are installed on your computer. For mobile connections, verify the OTG adapter is functional and the mobile app is compatible.
- **GPS Not Locking:** Ensure the GPS module is connected correctly and has a clear view of the sky. Allow sufficient time for satellite acquisition.

9. WARRANTY AND SUPPORT

AERO SELFIE products are designed for reliability and performance. For warranty information and technical support, please refer to the official AERO SELFIE website or contact your retailer. Keep your proof of purchase for warranty claims.

