YJhGFqS Argus ECO Stack 80A F722 F405

YJhGFqS Axisflying Argus ECO Stack 80A F722 F405 Flight Controller User Manual

1. Introduction

This manual provides detailed instructions for the installation, configuration, and operation of the YJhGFqS Axisflying Argus ECO Stack 80A F722 F405 Flight Controller. This integrated unit is designed for 6S-8S FPV drone applications, particularly suitable for 13-inch drones, offering robust performance and advanced features for DIY enthusiasts.
The stack combines an Electronic Speed Controller (ESC) with a Flight Controller (FC), ensuring stable and reliable flight operations. Its compact design and integrated temperature protection contribute to a reliable and efficient FPV setup.

2. Safety Information

- Always disconnect the battery before performing any installation, maintenance, or repair work on your drone.
- Ensure all wiring connections are secure and correctly polarized to prevent damage to components.
- Avoid short circuits. Inspect for loose wires or solder bridges before applying power.
- Operate the drone in a safe environment, away from people, animals, and obstacles.
- Familiarize yourself with local regulations regarding drone operation.
- This product contains sensitive electronic components. Handle with care to avoid electrostatic discharge.

3. Product Features

- Enhanced control for 13-inch FPV drones.
- Wide voltage compatibility: Supports 6S-8S battery configurations.
- Integrated Flight Controller models: F722 and F405 for flexible drone assembly.

- Advanced features for DIY drone enthusiasts, enabling precise tuning and performance.
- Compact design for efficient space utilization in drone builds.
- Customizable parameters for fine-tuning flight experience.
- Robust construction designed to support demanding flight conditions.
- Integrated temperature protection for reliable operation.
- Continuous current rating of 80A with a burst current of 90A.

4. Specifications

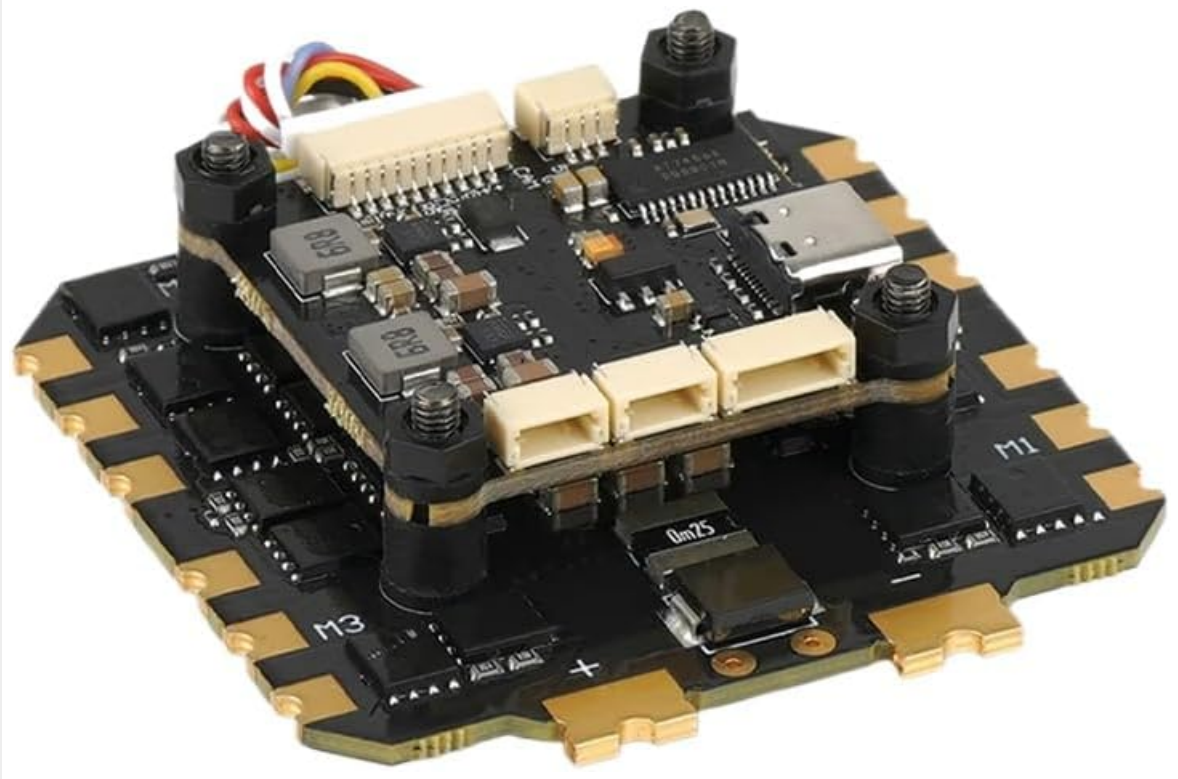

Image 1: The Axisflying Argus ECO Stack 80A F722 F405, showing the stacked flight controller and electronic speed controller boards with various connectors and components.

Feature	Detail
Brand	YJhGFqS
Model Name (Manufacturer)	YJhGFqS111
Input Voltage (Stack)	6S-8S
Continuous Current (ESC)	80A
Burst Current (ESC)	90A
Microcontroller (ESC)	EFM8BB21F16G
Flight Controller Models	F722, F405 (depending on variant)
Dimensions	57mm x 56mm

Feature	Detail
Weight	28g
Special Features	Integrated Temperature Protection, Advanced DIY Features
Firmware Version (ESC)	Q_H_40_24_V0.19.2

5. Setup

5.1 Mounting

1. Ensure the drone frame has appropriate mounting holes for a 57mm x 56mm stack.
2. Use vibration-damping standoffs if available, or secure the stack firmly to the frame using the provided hardware.
3. Orient the flight controller correctly according to your drone's flight direction. Refer to the flight controller's specific documentation for orientation settings in Betaflight/INAV.

5.2 Wiring

- **Motor Connections:** Connect the motor wires to the corresponding solder pads (M1, M2, M3, M4, etc.) on the ESC board. Ensure correct motor rotation direction will be set in software.
- **Power Input:** Solder the main battery lead (XT60/XT90 connector) to the large positive (+) and negative (-) pads on the ESC. Double-check polarity.
- **Flight Controller to ESC:** The stack is pre-connected. If separated, ensure the ribbon cable or pin headers connecting the FC to the ESC are securely seated.
- **Receiver Connection:** Connect your radio receiver (e.g., SBUS, CRSF, ELRS) to the appropriate UART port on the flight controller. Refer to the FC pinout diagram.
- **Video Transmitter (VTX) & Camera:** Connect the VTX and FPV camera to the designated pads/connectors on the flight controller, ensuring correct voltage and signal connections.
- **GPS/Other Peripherals:** Connect any additional peripherals (GPS, LED, Buzzer) to their respective UARTs or pads as per the flight controller's pinout.

5.3 Initial Configuration

1. **Firmware:** Connect the flight controller to your computer via a USB cable. Use Betaflight Configurator (or INAV Configurator, depending on FC firmware) to flash the latest stable firmware for your F722 or F405 board.
2. **ESC Firmware:** The ESC comes with Q_H_40_24_V0.19.2 firmware. If updating, use BLHeli_32 Configurator.
3. **Basic Setup:** Configure accelerometer calibration, receiver protocol, motor protocols (e.g., DShot600), and PID settings.
4. **Motor Direction:** Verify motor direction in the configurator's motor tab. Adjust as necessary.
5. **Fail-safe:** Configure fail-safe settings to ensure the drone lands safely in case of signal loss.

6. Operating Instructions

- **Pre-Flight Check:** Before each flight, inspect all connections, propeller integrity, and battery charge level.

- **Arming:** Arm the drone using the configured switch on your radio transmitter. Ensure propellers are clear before arming.
- **Flight:** Operate the drone responsibly. Start with gentle maneuvers to verify stability and control response.
- **Disarming:** Disarm the drone immediately after landing or in an emergency.
- **Battery Management:** Monitor battery voltage during flight and land before the voltage drops too low to prevent battery damage or unexpected power loss.

7. Maintenance

- Regularly inspect solder joints and wire connections for signs of wear or damage.
- Keep the flight controller clean and free from dust, dirt, and moisture. Use compressed air or a soft brush for cleaning.
- Check for firmware updates periodically to benefit from performance improvements and bug fixes.
- Store the drone and its components in a dry, cool environment when not in use.

8. Troubleshooting

8.1 No Power to Flight Controller

- Check main battery connection and polarity.
- Inspect for short circuits on the power distribution board or ESC.
- Verify USB cable connection if powering via USB.

8.2 Motors Not Spinning

- Ensure the drone is armed.
- Check motor wiring connections to the ESC.
- Verify motor protocol settings in the flight controller configurator.
- Calibrate ESCs if necessary (though DShot protocols typically do not require this).

8.3 Unstable Flight

- Check propeller balance and ensure they are undamaged.
- Verify flight controller mounting for excessive vibrations.
- Review PID tuning settings. Start with default settings if custom tuning is causing issues.
- Ensure correct flight controller orientation is set in the configurator.

9. Warranty and Support

For warranty information and technical support, please refer to the official YJhGFqS website or contact your retailer. Keep your proof of purchase for warranty claims.
This product is intended for experienced users and DIY enthusiasts. Improper installation or use may void the warranty and cause damage to the product or other components.