

## HGLRC F722

# HGLRC Zeus F722 Flight Controller User Manual

Model: F722 | Brand: HGLRC

## 1. INTRODUCTION

This manual provides detailed instructions for the installation, configuration, operation, and maintenance of the HGLRC Zeus F722 Flight Controller. Designed for FPV racing drones, this flight controller integrates advanced features to enhance flight performance and user experience. Please read this manual thoroughly before use to ensure proper setup and safe operation.

## 2. PRODUCT OVERVIEW AND FEATURES

The HGLRC Zeus F722 Flight Controller is a high-performance component for FPV drone systems, offering robust control and extensive connectivity. Key features include:

- **Integrated Barometer and 16M Black Box:** For precise altitude holding and flight data logging.
- **Built-in Betaflight OSD:** Allows on-screen display of flight parameters and PID adjustments.
- **Power Output:** Maximum BEC 9V/2A and BEC 5V/3A output for powering peripherals.
- **Simplified Soldering:** Easy direct soldering for TBS NANO VTX, XM+, and TBS CROSSFIRE NANO Receiver (excluding ESC signal pad).
- **Integrated LED Controller:** Quick programming of LEDs with a single button.

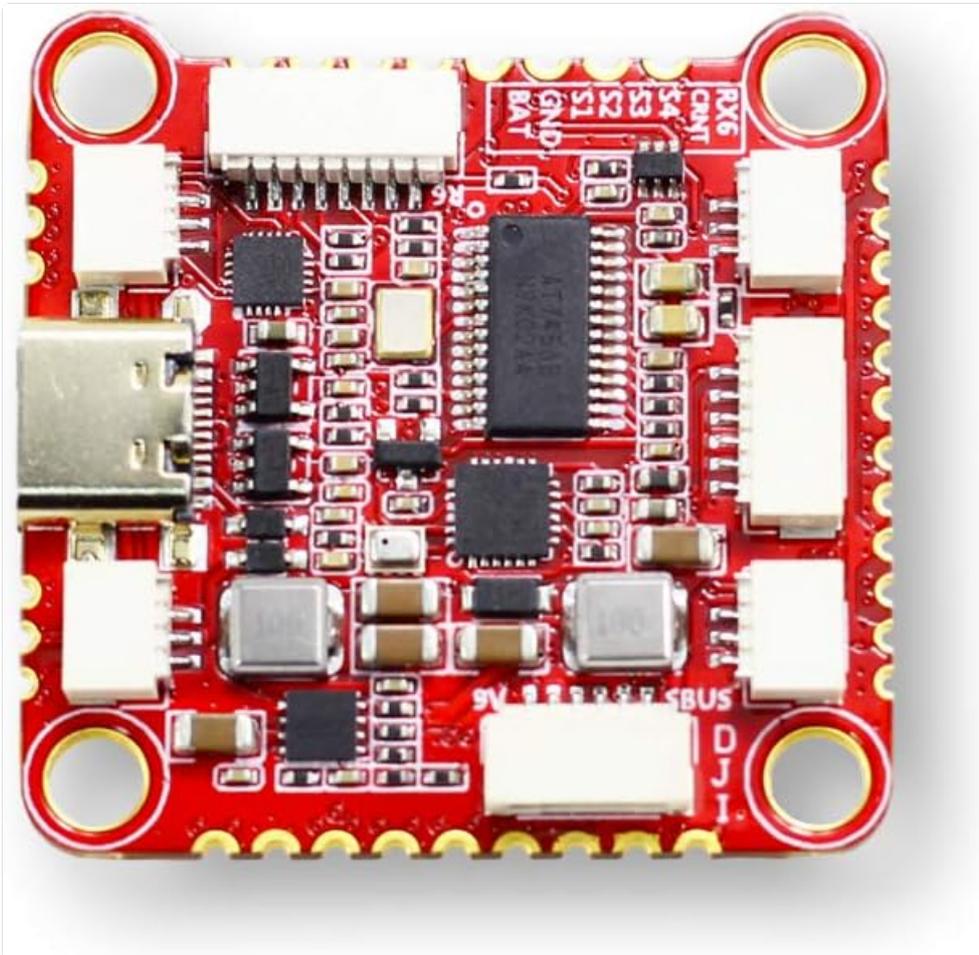


Figure 1: Top view of the HGLRC Zeus F722 Flight Controller, showing the main processor and various solder pads.

### 3. SETUP AND WIRING

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Careful wiring is essential for the proper function of your flight controller. Refer to the detailed wiring diagram below for all connections. It is recommended to review relevant welding videos or guides before soldering.

# Zeus F722

Usage:for 100mm-450mm Frame Kit  
 FC Firmware:BF HGLRCF722(HGLR)

Item Name:Zeus F722 Flight Controller  
 Built-in LED controller  
 MPU:MPU6000  
 CPU:STM32F722 RET6  
 Input Voltage:3-6S Lipo  
 Built-in Betaflight OSD to adjust PID  
 BEC Output:5V/3A, 9V/2A  
 LED Control:Support  
 BlackBox:16M  
 Size:37.3x37.3mm  
 Installing Hole:30.5X30.5mm.M3

Weight:8.1g

### UARTS:5

UART1:uses the receiver  
 UART2:uses GPS  
 UART3:uses VTX image transmission  
 UART4:uses DJI  
 UART6:ESC telemetry

LED inside the white lines is controlled by button.  
 For Betaflight programming please see the official manual

LED function buttons:  
 1. Short press to switch colors.  
 2. Press and hold for 3 seconds to enter the  
 blinking mode switch(LED status light is always on)  
 Blinking mode:  
 Steady / Fast Flash / Breathing Light / Colorful Slow Flash

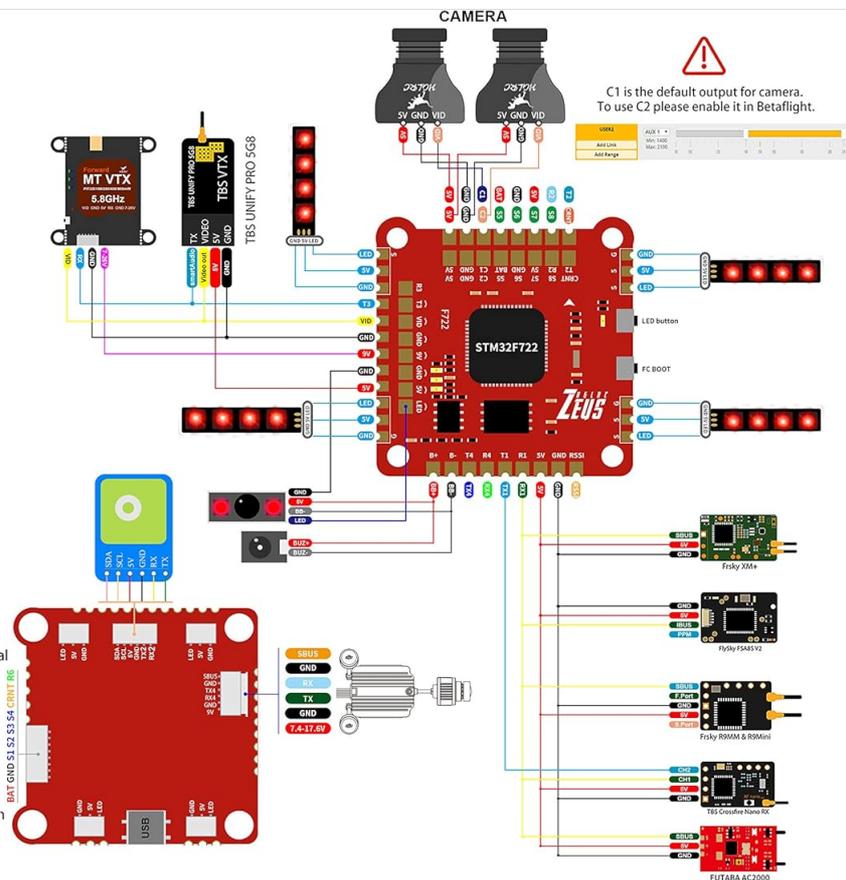


Figure 2: Comprehensive wiring diagram illustrating connections for the HGLRC Zeus F722 Flight Controller, including UART assignments for receiver, GPS, VTX, and DJI systems.

## 3.1. Key Connections

- **UART1:** Dedicated for receiver connection.
- **UART2:** Dedicated for GPS module connection.
- **UART3:** Dedicated for VTX image transmission.
- **UART4:** Dedicated for DJI FPV system.
- **UART6:** Dedicated for ESC telemetry.
- **LED Control:** Connect compatible LEDs to the designated pads.

## 3.2. Package Contents

Verify that all components are present in your package:



Figure 3: Image showing the HGLRC Zeus F722 Flight Controller and accompanying accessories, including cables and mounting hardware.

## 4. OPERATING INSTRUCTIONS

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### 4.1. Betaflight Configuration

The Zeus F722 Flight Controller is compatible with Betaflight firmware. Connect the flight controller to your computer via USB and use the Betaflight Configurator software for initial setup, firmware flashing, sensor calibration, and PID tuning. The built-in OSD allows for in-flight adjustments.

### 4.2. LED Control Functions

The integrated LED controller allows for easy programming of connected LEDs:

- **Short Press:** Switches between different LED colors.
- **Press and Hold for 3 Seconds:** Enters blinking mode (LED status light remains on).
- **Blinking Modes:** Steady / Fast Flash / Breathing Light / Color Slow Flash.

## 5. MAINTENANCE

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To ensure the longevity and optimal performance of your HGLRC Zeus F722 Flight Controller, follow these maintenance guidelines:

- Regularly inspect all solder joints and 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.
- Avoid exposing the flight controller to extreme temperatures or direct sunlight for prolonged periods.
- Ensure proper ventilation when installed in your drone frame to prevent overheating.

## 6. TROUBLESHOOTING

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If you encounter issues with your HGLRC Zeus F722 Flight Controller, consider the following troubleshooting steps:

- **No Power/No Lights:** Verify all power connections are secure and correctly polarized. Check for shorts or damaged components. Ensure the USB cable is functional and properly connected to both the FC and your computer.
- **Connection Issues (Betaflight):** Ensure the correct COM port is selected in Betaflight Configurator. Install necessary USB drivers (e.g., STM32 Virtual COM Port Driver, Zadig for DFU mode). Try a different USB cable or port.
- **Sensor Malfunction (Barometer/Gyro):** Check for physical damage to the sensors. Recalibrate sensors in Betaflight. Ensure the FC is mounted securely and isolated from excessive vibrations.
- **Flight Instability:** Review PID settings in Betaflight. Check for loose propellers or motors. Ensure ESCs are properly calibrated and synchronized.
- **LEDs Not Working:** Verify LED connections and power. Check LED settings in Betaflight.

For persistent issues, consult online forums, community groups, or contact HGLRC customer support.

## 7. SPECIFICATIONS

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Item Name	Zeus F722 Flight Controller
CPU	STM32F722 RET6
MPU	MPU6000
Input Voltage	3-6S Lipo
BEC Output	5V/3A, 9V/2A
Integrated Barometer	Yes
Black Box	16M
Built-in Betaflight OSD	Yes
LED Control	Support
UARTs	5
Dimensions	37.3 x 37.3 mm
Mounting Holes	30.5 x 30.5 mm, M3
Weight	8.1g

## 8. WARRANTY AND SUPPORT

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For warranty information, technical support, or service inquiries, please refer to the official HGLRC website or contact your retailer. Keep your proof of purchase for any warranty claims.