

GEPRC MARK5 O4 Pro DC

GEPRC MARK5 O4 Pro DC FPV Drone User Manual

Comprehensive Guide for Setup, Operation, and Maintenance

1. INTRODUCTION

Welcome to the user manual for your new GEPRC MARK5 O4 Pro DC FPV Drone. This document provides essential information to help you safely and effectively set up, operate, maintain, and troubleshoot your drone. Please read this manual thoroughly before your first flight to ensure optimal performance and longevity of your device.

The GEPRC MARK5 O4 Pro DC FPV Drone is engineered for high-performance flight, featuring an integrated O4 Air Unit Pro for crisp 4K/120fps recording and real-time 1080P/100fps transmission. Its robust design includes an aluminum camera mount with silicone damping, a TAKER F722 BT 50A flight controller, and powerful 2107.5 1960KV motors, all contributing to precise thrust and stability. Quick-release arms and dedicated internal compartments enhance usability and reliability.

2. PRODUCT OVERVIEW

The GEPRC MARK5 O4 Pro DC FPV Drone is designed for enthusiasts seeking advanced flight capabilities and high-quality aerial videography. Below are its primary features:

- **Integrated O4 Air Unit Pro:** Features a 1/1.3-inch sensor for crisp 4K/120fps recording and real-time 1080P/100fps transmission. Optimized for sharp visuals and improved performance in dim lighting.
- **Advanced Camera Mounting:** Aluminum camera mount with silicone damping absorbs vibrations and reduces resonance, ensuring smooth footage during high-speed maneuvers.
- **High-Performance Flight System:** TAKER F722 BT 50A flight controller and 2107.5 1960KV motors deliver precise thrust and stability. Bluetooth-enabled mobile app simplifies real-time tuning.
- **User-Friendly Design:** Quick-release arms allow tool-free swaps in seconds. Dedicated compartments for capacitor and buzzer reduce wiring clutter and enhance reliability.
- **Frame Versatility:** Choose between DC or wide-X frame designs to match agility or stability preferences. Reinforced damping protects internal components from vibration damage.



Figure 2.1: Front-top view of the GEPRC MARK5 O4 Pro DC FPV Drone, showcasing its emerald green frame and propellers.



Figure 2.2: Side-rear view of the GEPRC MARK5 O4 Pro DC FPV Drone, highlighting the quick-release arms and internal component layout.

3. SETUP GUIDE

Follow these steps to prepare your GEPRC MARK5 O4 Pro DC FPV Drone for its first flight:

1. **Unboxing and Inspection:** Carefully remove all components from the packaging. Inspect the drone for any visible damage during shipping. Ensure all included accessories are present as listed in Section 6.
2. **Propeller Installation:** Attach the Gemfan 5136 propellers to the motors. Ensure correct rotation direction for each propeller (CW and CCW) as indicated on the motor mounts or in the quick-start guide. The package includes 2CW and 2CCW propellers.
3. **Battery Preparation:** Charge your LiPo 6S 1050mAh-1550mAh battery using a compatible LiPo charger (not included). Always use a fire-safe charging bag and monitor the charging process.

4. **Battery Installation:** Secure the charged battery to the drone's top plate using the provided 15*250mm or 20*250mm straps. Use the included battery anti-slip pads to prevent movement during flight. Connect the battery to the XT60EW-M power connector.
5. **Receiver Binding (if applicable):** If you have the ELRS 2.4G or TBS NanoRX version, bind your receiver to your compatible radio transmitter according to the receiver's specific instructions. For PNP versions, connect your preferred receiver.
6. **Initial Software Configuration:** Connect the drone to your computer via USB. It is highly recommended to use BetaFlight Configurator to verify and adjust settings. Ensure all motor directions, flight modes, and failsafe settings are correctly configured before flight. Refer to BetaFlight documentation for detailed instructions.
7. **Antenna Check:** Ensure all antennas, including the O4 Air Unit Pro Antenna and any receiver antennas, are securely mounted and positioned correctly for optimal signal reception. *Note: Some users have reported DJI antennas being unsecured; ensure yours are firmly in place.*



Figure 3.1: Top-down view of the GEPRC MARK5 O4 Pro DC FPV Drone, showing propeller orientation and battery strap placement.

4. OPERATING INSTRUCTIONS

Once your drone is set up, follow these guidelines for safe and effective operation:

1. **Pre-Flight Check:** Before each flight, perform a thorough visual inspection. Check propellers for damage, ensure all screws are tight, and confirm battery is fully charged and securely mounted. Verify radio and video signal strength.
2. **Flight Environment:** Operate your drone in open areas, away from people, animals, buildings, and obstacles. Be aware of local regulations regarding drone flight.
3. **Arming the Motors:** With the drone on a stable, level surface, arm the motors using the designated switch or stick command on your radio transmitter. The motors will spin slowly, indicating they are armed.
4. **Takeoff:** Slowly increase the throttle. The drone will lift off the ground. Maintain a steady hover at a safe altitude

before proceeding with maneuvers.

5. **Flight Control:** Use your radio transmitter to control the drone's pitch, roll, yaw, and throttle. Practice gentle movements initially to get accustomed to the drone's responsiveness.
6. **Video Transmission:** The O4 Air Unit Pro provides real-time 1080P/100fps video transmission to your compatible FPV goggles. Ensure a clear line of sight for optimal video quality.
7. **Landing:** Reduce throttle slowly to descend. Aim for a clear, flat landing area. Once on the ground, disarm the motors immediately.
8. **Post-Flight:** Disconnect the battery immediately after landing. Allow motors to cool down before handling. Inspect the drone for any new damage.

Typical flight time for the MARK5 O4 Pro DC is approximately 6-8 minutes, based on slow cruising tests. Actual flight time may vary significantly depending on flying style, environment, and battery condition.

5. MAINTENANCE

Regular maintenance is crucial for the longevity and safe operation of your GEPRC MARK5 O4 Pro DC FPV Drone:

- **Propeller Inspection:** Before and after each flight, check all propellers for cracks, chips, or bends. Replace any damaged propellers immediately. Even minor damage can affect flight performance and safety.
- **Frame and Arm Inspection:** Regularly inspect the carbon fiber frame and quick-release arms for any signs of stress, cracks, or loose connections. The quick-release arms are designed for easy swaps, but ensure they are securely latched before flight.
- **Motor Cleaning:** Keep motors free of dirt, dust, and debris. Use compressed air or a soft brush to clean around the motor bells and shafts.
- **Antenna Security:** Periodically check the security of all antennas, including the O4 Air Unit Pro Antenna and receiver antennas. Ensure they are not loose or damaged, as this can impact signal integrity. If you notice any looseness, a small amount of adhesive or a 3D printing pen can be used for a quick fix, as suggested by some users.
- **Battery Care:** Store LiPo batteries at a storage voltage (around 3.8V per cell) when not in use. Avoid overcharging or over-discharging. Do not store fully charged batteries for extended periods.
- **Screw and Fastener Check:** Over time, vibrations can loosen screws. Periodically check all screws, especially those securing the flight controller, motors, and frame components. The drone includes a spare screw pack and L-shaped screwdrivers for convenience.
- **Software Updates:** Check the GEPRC website or BetaFlight resources for firmware updates for your flight controller and O4 Air Unit Pro. Keeping software updated can improve performance and add new features.



Figure 5.1: Bottom view of the GEPRC MARK5 O4 Pro DC FPV Drone, showing motor mounts and propeller attachment points.

6. INCLUDED COMPONENTS

Your GEPRC MARK5 O4 Pro DC FPV Drone package includes the following items:

- 1 x GEPRC MARK5 O4 Pro FPV Drone
- 1 x Gemfan 5136 Propellers (2CW 2CCW)
- 1 x 15*250mm Battery Strap
- 2 x 20*250mm Battery Straps
- 2 x Battery Anti-slip Pads
- 1 x 3D Printouts Pack
- 1 x Spare Screw Pack (details below)
- 1 x L-shaped screwdriver 1.5mm
- 1 x L-shaped screwdriver 2mm
- 1 x L-shaped screwdriver 3mm
- 1 x M8 wrench

Spare Screws Included:

- 1 x M5 Flange Nylon Knurled Nut
- 2 x M2 Stainless Steel Press-fit Nuts
- 1 x M5*25 Stainless Steel Button Head Hex Screw
- 4 x M3*10 Button Head Hex Screws
- 4 x M3*8 Button Head Hex Screws
- 2 x M3*8 Countersunk Hex Screws
- 2 x M3*5 Countersunk Hex Screws

7. TROUBLESHOOTING

This section addresses common issues you might encounter with your GEPRC MARK5 O4 Pro DC FPV Drone:

Problem	Possible Cause	Solution
Drone does not arm.	Low battery voltage; throttle not at lowest position; flight controller not calibrated; safety switch engaged; arming angle exceeded.	Charge battery; ensure throttle is at zero; calibrate accelerometer in BetaFlight; disengage safety switch; place drone on a level surface.
Unstable flight / Vibrations.	Damaged or unbalanced propellers; loose motor screws; motor bell damage; incorrect PID tuning; loose camera mount.	Inspect and replace propellers; tighten motor screws; check motors for damage; adjust PID settings in BetaFlight; ensure camera mount is secure.
No video feed or poor video quality.	Loose O4 Air Unit Pro antenna; incorrect VTX settings; interference; damaged camera cable.	Ensure antenna is securely connected and positioned; verify VTX channel/power in BetaFlight; fly away from sources of interference; check camera cable connections.
Short flight time.	Battery degradation; aggressive flying style; heavy payload; cold weather.	Use a healthy, fully charged battery; practice smoother flying; reduce payload if possible; be aware of temperature effects on battery performance.
GPS not locking (if equipped).	Insufficient satellites; GPS module interference; incorrect configuration.	Operate in an open area with clear sky view; ensure GPS module is away from other electronics; verify GPS settings in BetaFlight.

For more advanced troubleshooting or specific technical issues, please refer to the official GEPRC support resources or the BetaFlight documentation.

8. SPECIFICATIONS

Detailed technical specifications for the GEPRC MARK5 O4 Pro DC FPV Drone:

Feature	Detail
Model	MARK5 O4 Pro DC FPV
Brand	GEPRC
Wheelbase	230mm
VTX	O4 Air Unit Pro VTX module
Camera	O4 Air Unit Pro camera module (1/1.3-inch sensor, 4K/120fps recording)
Antenna	O4 Air Unit Pro Antenna
Motor	SPEEDX2 2107.5 1960KV
Propeller	Gemfan 5136
Flight Controller (FC)	GEP-F722-BT-HD V3 (MCU: STM32F722, IMU: ICM42688-P(SPI), OSD: BetaFlight OSD w/ AT7456E chip)
ESC	GEP-BL32 50A 96K 4IN1 ESC

Feature	Detail
Power Connector	XT60EW-M
Optional GPS	GEP-M10 GPS
Receiver Options	PNP / ELRS 2.4G / TBS NanoRX
Recommended Battery	LiPo 6S 1050mAh-1550mAh
Printouts Color	Emerald Green
Weight	433.4g ± 5g (approx. 15.5 ounces)
Flight Time	6-8 minutes (based on slow cruising tests; actual may vary)
Product Dimensions	5"L x 5"W x 5"H

9. WARRANTY AND SUPPORT

GEPRC products are manufactured to high standards and undergo rigorous testing. For specific warranty information regarding your GEPRC MARK5 O4 Pro DC FPV Drone, please refer to the warranty card included in your product packaging or visit the official GEPRC website.

For technical assistance, setup guidance, or troubleshooting beyond this manual, GEPRC offers comprehensive customer support. Our support team is available 24/7 via chat to assist you with any queries or issues you may encounter. You can find contact information and additional resources on the official GEPRC website: www.geprc.com.

Always ensure you are using official GEPRC parts and accessories for repairs and replacements to maintain product integrity and warranty validity.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

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you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question