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### iFlight XING-E Pro 2306 2450KV

# iFlight XING-E Pro 2306 2450KV FPV Drone Motor Instruction Manual

Model: XING-E Pro 2306 2450KV

## 1. INTRODUCTION

The iFlight XING-E Pro 2306 2450KV motor is a high-performance brushless motor designed for FPV racing drones. This motor series focuses on delivering strong and durable performance, making it a reliable choice for demanding FPV applications. It features robust construction and optimized design for efficiency and power.



Image 1: Overview of the iFlight XING-E Pro 2306 2450KV FPV Drone Motor.

## Key Features:

- High-strength 4mm steel hollow shaft for enhanced durability.
- N52SH high-temperature magnets for consistent performance.
- NSK bearings for smooth operation and longevity.
- Single strand copper winding for improved efficiency.
- 6061 CNC machined aluminum top and base parts for precision and strength.
- Standard 16x16mm M3 mounting pattern.
- Designed for 2-4S LiPo battery configurations.
- Each motor is dynamically balanced to effectively eliminate vibration.



Image 2: Detailed views highlighting the motor's construction, including the shaft, windings, and mounting base.

## 2. PRODUCT COMPONENTS

Each package typically includes:

- 2 x iFlight XING-E Pro 2306 2450KV Motors
- Mounting screws (M3\*8mm)
- Flange nut (1pc per motor)

## 3. SETUP AND INSTALLATION

### 3.1 Mounting the Motor

1. Ensure your drone frame has a 16x16mm M3 mounting pattern.
2. Align the motor with the mounting holes on the drone arm.
3. Secure the motor using the provided M3\*8mm screws. Do not overtighten to avoid damaging the motor or frame.



Image 3: Bottom view of the motor, highlighting the 16x16mm mounting pattern and wire exit.

### 3.2 Wiring Connection

The motor comes with 160mm long, 20AWG wires. These wires need to be connected to your Electronic Speed Controller (ESC).

1. Connect the three motor wires to the three output pads on your ESC. The order of connection determines the motor's rotation direction.
2. If the motor spins in the wrong direction, you can reverse any two of the three motor wires, or change the direction in your ESC's firmware settings (e.g., BLHeliSuite).
3. Ensure all solder joints are clean and secure to prevent intermittent connections or shorts.

### 3.3 Propeller Installation

1. Place the propeller onto the motor shaft, ensuring it sits flush.
2. Thread the provided flange nut onto the motor shaft.
3. Tighten the flange nut firmly by hand, then use a wrench to secure it without overtightening. Ensure the propeller is securely fastened but can still be removed if needed.

## 4. OPERATING INSTRUCTIONS

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The iFlight XING-E Pro 2306 2450KV motor is designed to operate with 2-4S LiPo batteries. Always ensure your ESC and flight controller are compatible with your chosen battery voltage and motor specifications.

### 4.1 Pre-Flight Check

- Verify all motor screws are tight.
- Check propeller nuts for tightness.
- Ensure motor wires are not frayed or damaged.
- Confirm correct motor rotation direction in your flight controller software.

### 4.2 Powering On

Connect your LiPo battery to the drone. The motors will typically arm after the flight controller initializes. Always arm your drone in a safe environment, clear of people and obstacles.

### 4.3 Flight Considerations

- Monitor motor temperature during and after flights. Excessive heat can indicate issues with propeller choice, ESC settings, or motor damage.
- Listen for unusual noises or vibrations. The dynamic balancing of these motors minimizes vibration, so any new vibrations should be investigated.

## 5. MAINTENANCE

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Regular maintenance helps ensure the longevity and optimal performance of your iFlight XING-E Pro motors.

### 5.1 Cleaning

- After flights, especially in dusty or dirty environments, inspect motors for debris.
- Use compressed air or a soft brush to gently remove dirt, dust, or grass from the motor bell and stator.
- Avoid using liquids directly on the motor.

### 5.2 Inspection

- Check for any physical damage to the motor bell, shaft, or wires.
- Ensure the motor bell spins freely without excessive play or grinding noises. The NSK bearings are designed for durability, but impacts can affect them.
- Verify that all mounting screws are secure.

### 5.3 Bearing Care

While NSK bearings are high-quality, extreme conditions or impacts can affect them. If you notice increased noise or resistance, bearing replacement may be necessary. Consult specialized FPV repair guides for bearing replacement procedures.

## 6. TROUBLESHOOTING

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## 6.1 Motor Not Spinning / Intermittent Operation

- **Check Wiring:** Ensure all three motor wires are securely soldered to the ESC. Inspect for cold solder joints or breaks.
- **ESC Connection:** Verify the ESC is properly connected to the flight controller and receiving signals.
- **Motor Damage:** Inspect the motor for physical damage, such as bent shafts or loose magnets.

## 6.2 Excessive Vibration or Noise

- **Propeller Balance/Damage:** Check propellers for damage (nicks, bends) or imbalance. Replace damaged propellers.
- **Motor Bearings:** Listen for grinding or rough sounds from the bearings. If present, bearings may need cleaning or replacement.
- **Mounting Screws:** Ensure the motor is securely mounted and screws are not loose.

## 6.3 Overheating Motors

- **Propeller Choice:** Using propellers that are too aggressive or have too high a pitch for the motor's KV and battery voltage can cause overheating. Consider smaller or lower-pitch propellers.
- **ESC Settings:** Incorrect ESC timing or other settings can lead to inefficiency and heat.
- **Obstruction:** Ensure no debris is impeding the motor's rotation.

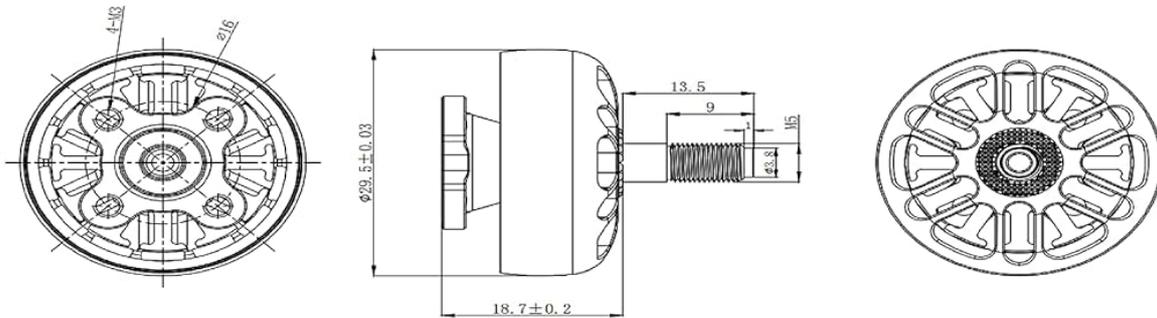
## 7. SPECIFICATIONS

Detailed technical specifications for the iFlight XING-E Pro 2306 2450KV motor:

Specification	Value
Configuration	12N14P
Stator Diameter	24mm
Magnets	N52SH Curved
Bearing Size	9x4x4 (NSK)
Shaft Diameter	4mm (Steel)
Base Mounting Pattern	16x16mm M3 Thread
Motor Dimension	29.5mm x 18.7mm
Weight (with 160mm wires)	33.1g
Idle Current @12.6V (I <sub>0</sub> )	2.1A
Cells (LiPo)	2-4S
Max Burst Current (<10s)	55.22A
Max Power (W) 60s	885.4W
Internal Resistance (R <sub>m</sub> )	40.6mΩ

Specification	Value
Motor Wire Length	160mm / 20AWG
Material	Aluminum

XING-E Pro 2306 2450KV	
KV	2450KV
Weight ( included wire ) :	33.6g
Dimension :	φ29.5*18.7mm
Interphase resistance :	55.6mΩ
Input Volts :	16.8V
Peak Current :	43.38A
Max Watt :	712.7W
Mounting Holes :	16*16-φ3mm
Rotor specifications :	Unibell
Shaft Diameter :	5mm
Shaft Protruding Length :	13.5mm
Lead :	160mm/20AWG
Magnet :	N52H Curved
Configuration :	12N14P
Bearing type :	NSK
Bearing specs :	φ9*φ4*4
Winding :	Single Strand Copper Winding
Package included :	M3*8mm screw (4PCS) / M5 Flange Nut (1PC)



Datasheet								
Type	Prop ( inch )	Throttle (%)	Voltages ( V )	Load Curren	Pull ( g )	Power ( W )	Efficiency ( g/W )	Temperature
XING-E Pro 2306 2450KV	Nazgul 5140	50%	16.9	9.2	485	155.5	3.120	87°C
		60%	16.83	13.57	646	228.4	2.826	
		70%	16.75	19.61	797	328.5	2.426	
		80%	16.73	25.24	946	422.3	2.241	
		90%	16.61	34.58	1095	574.4	1.906	
		100%	16.43	43.38	1254	712.7	1.760	
	GEMFAN 51466	50%	16.92	8.38	500	141.8	3.524	92°C
		60%	16.97	12.51	680	212.3	3.204	
		70%	16.85	18.45	885	310.9	2.846	
		80%	16.73	25.38	1067	424.6	2.512	
		90%	16.57	32.89	1248	545.0	2.291	
		100%	16.38	42.03	1447	688.5	2.102	

Image 4: Comprehensive datasheet and dimensional diagrams for the XING-E Pro 2306 2450KV motor, including performance data with various propellers.

## 8. WARRANTY AND SUPPORT

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### 8.1 Warranty Information

Specific warranty details for the iFlight XING-E Pro 2306 2450KV motor are not provided in this manual. Please refer to the retailer or manufacturer's official website for the most current warranty policy.

### 8.2 Technical Support

For technical assistance or further inquiries, please visit the official iFlight website or contact their customer support channels. Contact information is typically available on the manufacturer's product pages or support sections.

## 9. OFFICIAL PRODUCT VIDEOS

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No official product videos from the seller were provided for this item. Please check the manufacturer's official channels for any available video content related to this motor.