2006 2030KV

DarwinFPV — brushless motor for FPV drones
User manual



Read this manual before installation. Always keep the propellers removed when working on the drone and testing the motors.

Importer: Rotorama, s.r.o. · www.rotorama.com

Contents

1. Product Description

1.1 Purpose

1.2 Specifications and Package Contents

2. Installation and Use

2.1 Safety Instructions

2.2 Mounting to the Frame

2.3 Connecting to the ESC

2.4 Direction of Rotation and First Start

2.5 Mounting the Propeller

2.6 Maintenance and Troubleshooting

3. Information for the EU and Czech Market

3.1 Importer and responsible person in the EU

3.2 Disposal of electrical equipment

4. Warranty and rights arising from defective performance

1. Product Description

1.1 Purpose

DarwinFPV 2006 2030KV is a brushless motor for FPV drones. According to the manufacturer, it is designed for 3–4" whoops and 4–6" long-range drones, and is particularly suitable for 3.5" cinewhoops carrying a full-size GoPro action camera. Typical use is in 3–3.5" cinewhoops with a 6S battery or in lightweight 5" drones with a 4–5S battery.

The motor has a classic **T-mount** propeller attachment with a 1.5 mm diameter shaft, a titanium alloy stepped shaft that resists pulling out, and frame mounting with M2 screws on a 12 mm hole spacing. It needs an electronic speed controller (ESC), to which it is connected by three wires. The motor is sold individually; a quadcopter needs four.



DarwinFPV 2006 2030KV motors

1.2 Specifications and Package Contents

Parameter	Value
Product designation	DarwinFPV 2006 2030KV (manufacturer code 06.01.0016)
Size	2006
KV rating	2030 KV
Configuration	12N14P
Motor dimensions	Ø 24 × 21.5 mm
Shaft	Ø 1.5 mm, protrudes 3.5 mm; titanium alloy
Propeller mount	T-mount
Frame mounting	12 mm hole spacing, M2 screws
Wires	3 wires, length 150 mm, no connector
Weight	20 g (including wires)
Recommended battery	6S for 3–3.5" cinewhoop; 4–5S for lightweight 5" drone



Motor dimensions and wire length

▶ Package contents (1 piece)

- 1× DarwinFPV 2006 2030KV motor
- 5× M2 × 6 mm hex socket screw (black)
- 1× sticker

▶ Not included

- ESC, flight controller (FC), frame, propellers or battery,
- a connector on the motor wires — the wires are soldered directly to the ESC,
- propeller screws — use the ones supplied with the propeller.

※ The manufacturer has not published the maximum current, maximum power or thrust tables for this motor. Size the ESC based on values verified on your specific build.

2. Installation and Use

2.1 Safety Instructions

- The motor runs at very high speed during operation. A spinning propeller can cause serious injury. Whenever you work on the drone, configure it or test the motors, **keep the propellers removed**.
- Connect the battery only after the installation is complete and always disconnect it before any work on the electronics.
- The motor heats up during operation. After a flight, do not touch the motor bell until it has cooled down.
- The motor contains strong neodymium magnets. Protect the motor from metal filings and small metal objects that the magnets may attract.
- This product is not a toy. Keep it out of the reach of children.
- Drone operation is governed by the laws of the country in which the drone is flown. In the EU, Regulation (EU) 2019/947 applies in particular; national implementing rules differ from country to country.

2.2 Mounting to the Frame

The motor is fastened with the supplied M2 × 6 mm screws into the holes with 12 mm spacing on the underside of the motor.



Underside of the motor — M2 mounting holes on 12 mm spacing

① Check that the frame has holes for the motor on 12 mm spacing for M2 screws.

② Before tightening, check the screw length: the screw must not protrude through the motor hole and touch the windings. A screw that is too long will damage the windings and cause a short circuit. If the frame arm is too thin, use a shorter screw.

③ Tighten the screws evenly and with care — the threads in the motor base are small. We recommend securing them with low-strength threadlocker applied to the screw only, so that it does not get into the bearing.

④ Route the wires along the arm so that they do not interfere with the propeller or rub against the frame edges.

2.3 Connecting to the ESC

The motor has three wires without a connector. Shorten them to the required length and solder them to the three output pads of the ESC for that motor. The order of the wires only determines the direction of rotation.

- Disconnect the battery before soldering.
- Solder quickly with a sufficiently powerful soldering iron so that the wire insulation and the ESC pads do not overheat.
- After soldering, check that adjacent joints do not touch and that the wires are not nicked anywhere.

2.4 Direction of Rotation and First Start

Check the direction of rotation in the flight controller configurator (e.g. Betaflight, *Motors* tab) **without propellers**. Each motor must spin in the direction that matches the layout selected in the flight controller.

- If a motor spins the wrong way, reverse the direction in the ESC settings (e.g. in the ESC configurator) or swap any two motor wires.
- The motor should run smoothly without rubbing. Rough running, vibration or an unusual sound indicate a damaged bearing, a bent shaft or debris in the motor.
- Always test Arm (motor start) for the first time without propellers.

2.5 Mounting the Propeller

The motor has a **T-mount** attachment with a 1.5 mm diameter shaft. Use a T-mount propeller and the screws supplied with the propeller.

- Place the propeller on the shaft so that it sits flat on the motor bell, and tighten the screws evenly.
- Watch the propeller direction — it must match the direction of rotation of that motor.
- After every crash, check the propeller blades for damage and make sure the screws are tight.

2.6 Maintenance and Troubleshooting

- After flying in dust or sand, blow the motor out with compressed air. Carefully remove any metal debris caught on the magnets.
- Regularly check that the motor and propeller screws are tight and that the wire insulation is intact.
- Do not expose the motor to water or moisture and store it in a dry place.

Problem	Possible cause and solution
Motor does not spin, only twitches	Cold or broken solder joint on the ESC; resolder it. Check that the wire is not broken.
Motor spins the wrong way	Change the direction in the ESC settings or swap two motor wires.
Motor rubs or vibrates	A mounting screw touches the windings, debris or metal filings in the motor, shaft bent after a crash.
Motor is very hot after flight	Unsuitable propeller and battery combination, damaged propeller, damaged windings. Check the build and the motor condition.

3. Information for the EU and Czech Market

3.1 Importer and responsible person in the EU

The product is placed on the European Union market by the importer stated below, who is at the same time the responsible person within the meaning of Article 16 of Regulation (EU) 2023/988 of the European Parliament and of the Council on general product safety (GPSR).

Importer / responsible person in the EU	Rotorama, s.r.o.
Company ID (IČO)	051 57 692
VAT ID (DIČ)	CZ05157692
Registered office	Okrajová 1351, 674 01 Třebíč, Czech Republic
E-mail	info@rotorama.cz
Phone	+420 252 252 098
Website	www.rotorama.com

3.2 Disposal of electrical equipment



- The crossed-out wheeled bin symbol on the product, its packaging or in the documentation means that at the end of its service life the product **must not be disposed of together with mixed municipal waste**.
- Hand it over at a take-back point for electrical equipment – at a collection yard, at a take-back point of a collective system, or at the retailer when purchasing a new equivalent product. Take-back is free of charge for the end user.
- The obligations under Act No. 542/2020 Coll., on end-of-life products, are fulfilled by the importer through a collective take-back system.
- Proper disposal helps prevent negative impacts on the environment and human health and contributes to the reuse of secondary raw materials.

Through its contractual partner **ASEKOL a.s.**, the company ensures the take-back of waste electrical equipment from households and the separate collection of waste electrical equipment, batteries and accumulators in accordance with the applicable legislation. The customer is entitled to hand over old electrical equipment or a battery or accumulator at any collection point of the above contractual partner. The addresses of these take-back points are listed at www.asekol.cz, www.ecobat.cz and also https://visoh2.mzp.cz/RegistrMistZO/RegistrMistZOPublic/MapaMistZpetOdberu.

4. Warranty and rights arising from defective performance

The rights and obligations of the contracting parties are governed by Czech law, in particular by Act No. 89/2012 Coll., the Civil Code, and Act No. 634/1992 Coll., on consumer protection.

- The seller is liable to the buyer for the product being free of defects on receipt. If the buyer is a consumer, a defect may be notified **within two years of receipt** of the product (Section 2165 of the Civil Code).
- If a defect appears within **one year** of receipt, the product is deemed to have been defective already at the time of receipt (Section 2161(5) of the Civil Code).
- When purchasing online, a consumer has the right to **withdraw from the contract within 14 days** of receiving the goods without giving a reason (Section 1829 of the Civil Code).
- Claims should be made with the retailer from whom you purchased the product. The importer's contact details are given in Chapter 3.1.
- The competent body for out-of-court settlement of consumer disputes is the **Czech Trade Inspection Authority**, Štěpánská 796/44, 110 00 Prague 1, www.coi.cz.