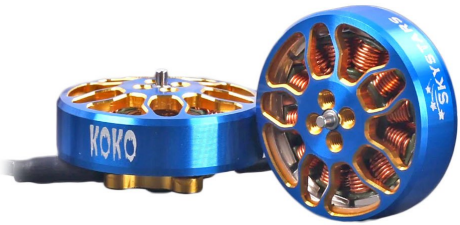
KOKO 2004 1800KV

Skystars brushless motor for FPV drones
User manual · pack of 2



Read this manual and the safety instructions carefully before installation and first use. Keep this manual for future reference.

Rotorama, s.r.o. · www.rotorama.com

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1. Product description

1.1 Intended use

The Skystars KOKO 2004 1800KV is a size 2004 brushless motor designed for FPV drones. It is particularly suitable for powerful 4-inch drones and ultralight 5-inch builds. The 1800 KV motor is intended to be powered from a **6S** battery.

The motor is screwed onto the frame arm and its three phase wires are soldered to the electronic speed controller (ESC). The propeller is fastened to the motor bell with screws. The pack contains two motors, so a quadcopter requires two packs.



Skystars KOKO 2004 with motor wires

1.2 Technical data and package contents

Parameter	Value
Product designation	Skystars KOKO 2004 1800KV
Motor size	2004
KV	1800 KV
Configuration	12N14P
Power supply	6S LiPo battery
Recommended propellers	3–5 inch
Dimensions (diameter × height)	25.8 × 12 mm
Shaft diameter	1.5 mm
Frame mounting	12 mm hole spacing, M2 thread
Weight	approx. 15.8 g (1 motor)
Wires	22 AWG, 150 mm long

▶ Package contents

- 2× Skystars KOKO 2004 1800KV motor
- 2× screw set

▶ Not included

Electronic speed controller (ESC), flight controller (FC), propellers, frame, battery and tools. These parts must be purchased separately.

2. Safety instructions

- The motor is intended exclusively for hobby use in FPV drones. Installation and wiring require experience with soldering and configuring FPV equipment.
- Always **disconnect the battery** whenever you work on the drone (installation, soldering, propeller replacement).
- Spinning propellers can cause serious injury. Always perform bench tests of the motors and configuration on a computer **with the propellers removed**.
- Power the motor only via a suitable electronic speed controller (ESC) and from the battery the motor is designed for (6S). Never connect the motor directly to a battery.
- The motor heats up during operation. Do not touch it after a flight until it has cooled down.
- The motor contains strong permanent magnets. Protect it from metal shavings, dust and sand – they can get caught inside the bell and damage the windings or bearings.
- Do not continue to use a damaged motor (bent shaft, damaged wire or winding insulation, rough bearing).
- When operating the drone, comply with the regulations of the country in which you fly.

3. Installation and wiring

3.1 Mounting the motor on the frame

① Check that the hole spacing on the frame arm matches the motor (12 mm, M2 thread).

② Place the motor on the arm so that the wires run along the arm towards the centre of the frame.

③ Fasten the motor with screws into the mounting holes. Choose the screw length according to the thickness of the arm – the screw **must not reach into the stator windings**. A screw that is too long will damage the winding insulation and cause a short circuit.

④ Tighten the screws gently and evenly in a crosswise pattern. We recommend securing them with a medium-strength thread locker.

※ After tightening the screws, turn the motor bell by hand to check that it rotates freely and does not rub anywhere.

3.2 Connecting to the electronic speed controller (ESC)

① Cut the wires to the required length and strip the ends.

② Tin the wire ends and the ESC solder pads.

③ Solder the three phase wires of the motor to the three pads of the corresponding ESC output. The order of the wires does not matter – it only affects the direction of rotation.

④ Check that no solder bridge has formed between adjacent pads and that the wires are not under tension or rubbing against the edges of the frame.

3.3 Checking the direction of rotation

The direction of rotation of each motor must match the motor layout configured in the flight controller (FC). Perform the check **without propellers**, for example in Betaflight Configurator on the *Motors* tab.

- If a motor spins in the wrong direction, change the direction in the ESC configuration or swap any two of the three phase wires.
- During the check, make sure the motor runs smoothly, without stuttering or unusual noise.

3.4 Mounting the propeller

The propeller is fastened with screws into the threaded holes in the motor bell; the shaft centres the propeller. Use a propeller whose mounting matches the motor bell and make sure the propeller's direction of rotation corresponds to the motor's position on the frame.



Motor bell with threaded holes for mounting the propeller

- The propeller screws must not be so long that they touch the windings or the stator of the motor.
- Fit the propellers only after checking the direction of rotation and just before flying.

4. Maintenance and troubleshooting

4.1 Regular inspection

- Before every flight, check that the motor and propeller screws are tight.
- Turn the bell by hand to check that the motor rotates freely and the bearings do not feel rough.
- After flying in dusty, sandy or grassy terrain, remove dirt from the bell (e.g. with compressed air). Do not spray water or solvents into the motor.
- Check the wire insulation and the solder joints on the ESC.
- After a crash, check that the shaft is not bent and the bell is not deformed.

4.2 Troubleshooting

Problem	Possible cause and solution
Motor does not spin	Check the solder joints, whether any wire is broken and whether the drone is armed (Arm – motors enabled). Check the ESC and FC settings.
Motor spins in the wrong direction	Change the direction in the ESC configuration or swap two phase wires (Chapter 3.3).
Motor stutters or does not start	Cold solder joint or broken phase wire, damaged winding. Check the joints and insulation; replace a damaged motor.
Motor overheats	Damaged or unbalanced propeller, unsuitable propeller size, rough bearing, dirt in the bell. Check the propeller and the motor.
Vibration, unusual noise	Damaged propeller, bent shaft, worn bearings or loose screws. Replace the faulty parts and tighten the screws.

5. Information for the EU and Czech Market

5.1 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

5.2 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.

6. 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 5.1.
- 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.