Skystars KOKO 2275

Brushless motor 2207.5 · 1950 Kv
User manual



Read the entire manual before installation. Always bench-test the motor without a propeller.

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

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1. Product description

1.1 Intended use

Skystars KOKO 2275 1950KV is a 2207.5 size brushless motor for 5" racing and freestyle FPV drones. Compared with common 2207 motors, its stator is half a millimetre taller, giving a little extra power. The motor is intended for use with 5" propellers and a 6S battery.

The motor has a *unibell* design, a hollow titanium alloy shaft with a diameter of 5 mm, curved N52H magnets and NMB 9×4×4 mm bearings. It is sold in packs of two; a four-motor drone (quadcopter) needs two packs.



Skystars KOKO 2275 1950KV

1.2 Specifications and package contents

Product designation	Skystars KOKO 2275 1950KV
Motor size	2207.5 (stator Ø 22 mm, height 7.5 mm)
Kv	1950
Configuration	12N14P
Recommended battery	6S LiPo
Recommended propeller	5"
Shaft	Ø 5 mm, hollow, titanium alloy
Propeller thread	M5
Motor dimensions	Ø 27.9 × 32 mm
Mounting holes	4× M3 on a Ø 16 mm circle
Bearings	NMB 9×4×4 mm
Magnets	N52H, curved
Leads	20 AWG, length 150 mm
Weight	32 g (one motor)

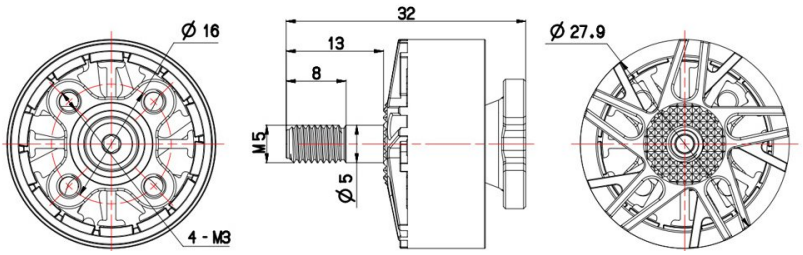
Package contents

- 2× Skystars KOKO 2275 1950KV motor
- 1× screw set

Not included

- propellers and propeller nuts (not listed in the package contents),
- electronic speed controller (ESC), flight controller (FC), frame or battery.

1.3 Dimensions



Manufacturer's dimensional drawing, dimensions in mm. The shaft protrudes 13 mm, of which 8 mm is the M5 thread.

1.4 Manufacturer's performance data

The manufacturer states the following values, measured on a test stand at 24.0 V (6S) with GF5130 and GF6045 tri-blade propellers.

Propeller	Throttle	Thrust (g)	Voltage (V)	Current (A)	Power (W)	Efficiency (g/W)
GF5130 tri-blade	50 %	740	24.0	6.5	156	4.74
	100 %	1855	24.0	31.0	744	2.49
GF6045 tri-blade	50 %	968	24.0	7.5	180	5.38
	100 %	2238	24.0	36.0	864	2.59

Motor temperature during the test: 79 °C with the GF5130 propeller and 85 °C with the GF6045 propeller, at an ambient temperature of 26 °C.

※ These are the manufacturer's laboratory data. Actual values depend on the propeller, battery, ESC and flying style. The GF6045 data are for comparison only – the motor is intended for 5" propellers.

2. Use

2.1 What else you need

- a frame for 5" propellers with motor holes on a Ø 16 mm circle for M3 screws,
- an electronic speed controller (ESC) for 6S batteries that can handle the motor current – up to 36 A at full throttle (chapter 1.4),
- 5" propellers for a Ø 5 mm shaft and propeller nuts with an M5 thread,
- a soldering iron, solder and flux, heat-shrink tubing and a hex key,
- a computer with Betaflight Configurator or with your ESC configurator.

2.2 Mounting to the frame

① Place the motor on the frame arm so that the leads point towards the centre of the drone, towards the ESC.

② Fasten the motor with four M3 screws from the set. Tighten the screws gradually in a cross pattern.

③ **Screw length:** the screw must not pass through the motor base to the windings – a screw that is too long will damage the winding insulation and cause a short circuit. Choose the screws according to the thickness of your frame arms.

④ After mounting, turn the bell by hand. It must rotate freely, without rubbing or clicking.

※ We recommend using medium-strength threadlocker on the motor screws. Do not apply threadlocker to the bearings or inside the motor.

2.3 Connecting to the ESC

- The motor has three leads. The order in which they are connected to the ESC pads does not matter – it only determines the direction of rotation, which can be changed at any time (chapter 2.4).
- Cut the leads to the required length, strip, tin and solder them to the ESC pads. The joint must be shiny and solid.
- The leads must not touch the propeller, sharp edges of the frame or each other. Insulate the joints if necessary and secure the leads to the arm.
- Before connecting the battery for the first time, check that no solder bridge has formed between the pads. We recommend using a smoke stopper.

2.4 Checking and changing the direction of rotation

① **Remove all propellers.**

② Connect the drone to the computer, open the *Motors* tab in Betaflight Configurator, confirm the safety warning and spin up each motor in turn at low throttle.

③ Compare the direction of rotation with the motor layout shown on the *Motors* tab.

④ If a motor spins the wrong way, change the direction in the ESC configurator (*Motor Direction* / *Reversed* option) or swap any two of the three motor leads.

2.5 Fitting the propeller

- Fit the propellers only after checking the direction of rotation.
- The propeller orientation (CW / CCW) must match the motor's direction of rotation – the leading edge of the blade moves in the direction of rotation.
- Fit the propeller on the Ø 5 mm shaft and tighten it firmly with an M5 nut. Hold the motor bell while tightening, not the propeller.
- Check that the propeller does not touch the frame or the leads and that the nut sits flat.

2.6 First start-up

- Carry out the first test without propellers: the motors must run smoothly, without stuttering and without unusual noise.
- Before flying, insert a fully charged 6S LiPo battery: 4.20 V/cell, i.e. 25.2 V (LiHV 4.35 V/cell, i.e. 26.1 V).
- After the first short flight, carefully feel the motors. A motor that is noticeably hotter than the others indicates a problem (chapter 4.3).
- End the flight at the latest at 3.5 V/cell, i.e. 21.0 V for 6S.

3. Safety instructions

- A motor with a propeller is dangerous. A spinning propeller can cause serious injury. **Always remove the propellers** when working on the drone, connecting it to a computer and testing on the bench.
- Connect the battery only just before flying and disconnect it immediately after landing.
- The motor gets very hot during operation. Do not touch it after flying until it has cooled down.
- The motor contains strong magnets. Protect it from metal filings and small metal objects that could get inside the bell.
- Do not use a motor with damaged windings, a bent shaft, a damaged bell or damaged leads.
- The product is not a toy. Keep it out of the reach of children.
- Drone operation is governed by the regulations of the country in which you fly. Regulation (EU) 2019/947 applies in all EU member states, but national implementing rules differ.

4. Maintenance and troubleshooting

4.1 After every flight

- Turn each motor by hand – the bell must rotate freely, without rubbing and without play.
- Remove grass, sand and dirt from the motor. Do not clean the motor with water or solvents.
- Check that the motor screws and the propeller nut are tight.
- Check the motor leads and solder joints.
- A damaged bell can be replaced – Rotorama offers the Skystars KOKO 2275 replacement bell as a separate part.

4.2 Storage

Store the motors in a dry place, away from dust, metal filings and direct sunlight.

4.3 Troubleshooting

Problem	Possible cause and solution
Motor does not spin or only stutters	Cold or broken joint, short circuit between ESC pads, damaged windings. Check the soldering and leads.
Motor spins the wrong way	Change the direction in the ESC configurator or swap two leads (chapter 2.4).
Vibration, unusual noise	Damaged propeller, dirt in the bell, bent shaft or worn bearings. Replace the propeller, clean the motor and check it by turning it by hand.
Motor overheats	Unsuitable propeller, loose propeller nut, damaged windings or a short circuit caused by a screw that is too long. Check the screw length (chapter 2.2).
Bell rubs	Dirt between the magnets and the stator, or a damaged bell. Clean the motor; replace a damaged bell.

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.