KOKO 1404 3800Kv

Skystars brushless motor
User manual



Read this manual before installation and first use and keep it for future reference.

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1. Product description

1.1 Intended use

The Skystars KOKO 1404 3800Kv is a brushless electric motor for driving the propeller of an FPV quadcopter. The product is intended primarily for 2.5–4" quadcopters (e.g. lightweight toothpick-style frames) powered by a 4S battery. The package contains two motors.

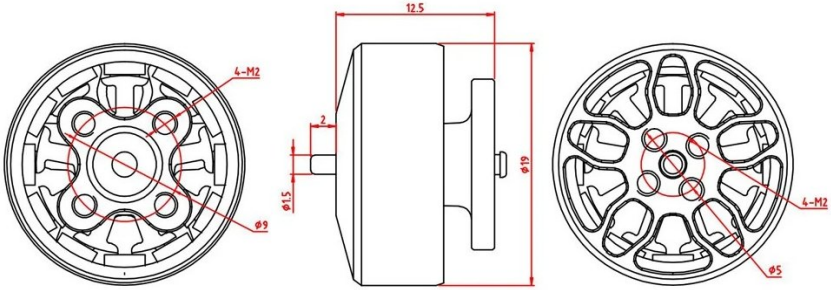
The motor is screwed to the underside of the frame arm, its three wires are connected to the output of the electronic speed controller (ESC) and the propeller is fitted on the shaft. The motor speed is controlled by the ESC according to commands from the flight controller (FC). The motor itself requires no setup – the direction of rotation is selected by the wiring order or in the ESC settings.

1.2 Specifications and package contents

Manufacturer	Skystars
Product designation	KOKO 1404 3800Kv (marked on the motor: **1404 KV3800**)
Size	1404
Kv	3800
Battery	4S LiPo
Intended for	2.5–4" quadcopters
Configuration	9N12P
Shaft diameter	1.5 mm
Dimensions (drawing)	Ø 19 × 12.5 mm (without shaft), shaft protrusion 2 mm
Frame mounting	4× M2, 9 mm spacing
Threads in the bell	4× M2 on a 5 mm diameter
Weight	9 g (one motor)
Wires	24AWG, length 120 mm
Package contents	2× motor, 2× screw set
Not included	propellers, electronic speed controller (ESC), flight controller (FC), frame, battery, tools



KOKO 1404 motor with the 1404 KV3800 marking on the bell



Dimensional drawing (dimensions in mm)

2. Safety instructions

- With a propeller fitted, the motor spins at very high speed. A rotating propeller can cause serious injury. **Always remove the propellers when working on the quadcopter (soldering, setup, checking the direction of rotation).**
- Connect the battery only after installation is complete and only when nobody is near the propellers. After a flight or before working on the quadcopter, disconnect the battery first.
- The motor heats up during operation. Do not touch it after a flight until it has cooled down.
- The frame mounting screws must not be too long. A screw that passes through the arm and reaches the stator windings will damage the windings and may short-circuit the motor and the ESC.
- The motor contains strong permanent magnets. Protect it from metal filings, sand and small metal objects that could get between the stator and the bell.
- Do not use a motor with damaged wire insulation, a bent shaft, a damaged bell or rough-running bearings.
- This product is not a toy. Keep it out of the reach of children; small parts (screws) could be swallowed.

3. Installation and use

3.1 Mounting the motor to the frame

The motor base has four **M2 threads with 9 mm spacing**. The frame arm must have matching holes.

① Place the motor against the underside of the arm so that the wires run along the arm towards the centre of the frame.

② Insert M2 screws of a suitable length (e.g. from the supplied set) through the arm into the threads in the motor base. Before tightening, make sure the screw does not reach the windings: once screwed in, there must be a gap between the end of the screw and the windings.

③ Tighten the screws gradually in a cross pattern with moderate force – M2 threads strip easily. We recommend securing them with a medium-strength threadlocker.

④ After tightening, turn the bell by hand: it must rotate freely without rubbing.



Motor base with the threads for frame mounting

3.2 Connecting to the electronic speed controller (ESC)

The motor has three wires that are connected to the three output pads of the corresponding ESC channel. The wiring order determines the direction of rotation – swapping any two wires reverses it.

- Shorten the wires to the required length so that they run without tension and cannot get into the propeller.
- Solder cleanly and quickly with enough flux. Check that adjacent joints do not touch and that no solder balls are left on the board.
- Route the wires along the arm and secure them (with heat-shrink tubing, tape or a cable tie) so that they do not rub against the edges of the frame.

- Before connecting the battery for the first time, we recommend using a protective current limiter (a so-called smoke stopper).

3.3 Checking the direction of rotation

The direction of rotation of each motor must match the motor layout selected in the flight controller (FC). **Always carry out this check without propellers.**

① Connect the quadcopter to a computer and open the *Motors* tab in the flight controller configuration program (e.g. Betaflight Configurator).

② After confirming the safety warning, spin the individual motors at low speed and compare their order and direction of rotation with the layout.

③ If a motor spins the wrong way, change its direction in the ESC settings (ESC configuration program) or swap two of its wires.

3.4 Mounting the propeller

The motor shaft has a diameter of **1.5 mm**; use a propeller whose centre hole matches this diameter and choose the propeller size according to the frame (2.5–4" quadcopters). Fasten the propeller as specified by its manufacturer.

- Pay attention to the correct propeller direction – propellers for counter-clockwise and clockwise motors differ.
- Fit the propellers only after checking the direction of rotation and setting up the quadcopter, never with the battery connected.
- Before every flight, check that the propellers are firmly attached and undamaged.

4. Maintenance and troubleshooting

- After every flight, especially after a crash, check the motor mounting, the condition of the wires and the free rotation of the bell.
- Remove dirt, grass and sand from the motor, for example with compressed air. Do not wash the motor with water.
- Regularly check that the frame screws are tight and that the propeller is securely attached.
- Store in a dry place, away from metal objects and heat sources.

Problem	Possible cause and solution
Motor spins the wrong way	Change the direction in the ESC settings or swap two motor wires (Chapter 3.3).
Motor does not spin, only twitches or beeps	Cold or broken solder joint, short circuit between wires, damaged winding. Check the soldering and the condition of the wires.
Motor rubs or is noisy	Dirt between the stator and the bell, worn bearings, bent shaft. Clean the motor; do not use it if the shaft is damaged.
Motor is excessively hot after a flight	Unsuitable or damaged propeller, obstruction to rotation, faulty motor. Check the propellers and the quadcopter setup.
Strong vibrations	Damaged or unbalanced propeller, loose screws, bent shaft.

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.