ROTORAMA

Axisflying C204

Brushless motor 2004 2650Kv
User manual



Read this manual carefully before installation and first start-up, especially the safety instructions. Keep the manual for future reference.

www.rotorama.com

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1. Product description

1.1 Intended use

Axisflying C204 2004 2650Kv is a brushless motor for building and repairing FPV drones. It is intended primarily for 3–3.5" cinewhoops and cinematic drones; it is also suitable for 4" freestyle drones and very light 5" drones. The manufacturer specifies **6S** power.

The motor is screwed onto the frame arm, its three wires are soldered to the electronic speed controller (ESC) and the propeller is attached to the motor bell. The bearings are protected by a design rated **IP53** against dust and spraying water. The propeller is fastened to the bell with screws (T-mount).



Motor bell with shaft and four M2 holes for the propeller

1.2 Specifications and package contents

Parameter	Value
Product designation	Axisflying C204 2004 2650Kv
Manufacturer	Axisflying (www.axisflying.com)
Type	brushless motor
Stator size	2004 (diameter 20 mm, height 4 mm)
KV	2650 KV
Configuration	12N14P
Magnets	N52H, arc
Winding	single-strand wire, high-temperature resistant enamel
Bearings	IP53 protection
Power	6S
Shaft diameter	1.5 mm
Propeller mount	4× M2 on Ø 5 mm circle (T-mount)

Parameter	Value
Mounting holes	4× M2 on Ø 12 mm circle
Dimensions (diameter × height)	Ø 24.7 × 17.4 mm
Wires	20 AWG, length 150 mm
Weight	22 g including wires

▶ **Package contents**

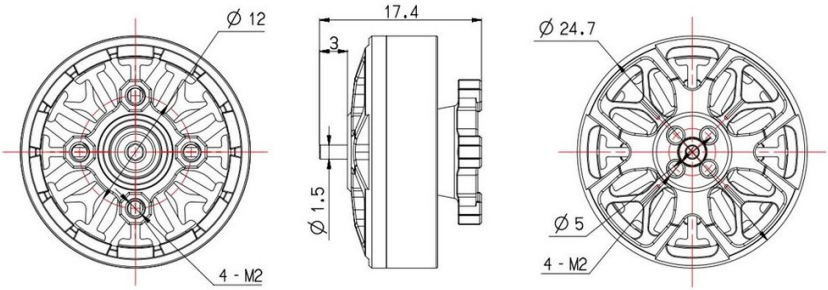
- 1× Axisflying C204 2004 2650Kv motor
- 1× screw set

▶ **Not included**

- propellers, electronic speed controller (ESC), flight controller (FC), frame, battery, connectors or tools.

The data in the table come from the documentation of the manufacturer Axisflying and from the dimensional drawing. Maximum current, power and thrust for this variant are not given in the available documentation.

1.3 Dimensional drawing



Dimensions in mm: left – base with 4× M2 mounting holes (Ø 12), centre – side view (shaft Ø 1.5), right – bell with 4× M2 holes (Ø 5) for the propeller

2. Safety instructions

- The motor is intended for installation in models and drones. Installation requires experience with soldering and building FPV drones. The product **is not a toy** and must be kept away from children.
- **A rotating propeller can cause serious injury.** Remove the propellers whenever you work on the drone (soldering, configuration, bench tests).
- Before connecting the battery, always check that the drone is in Disarm mode (motors off) and that nobody is within reach of the propellers.
- Operate the motor only at the voltage specified by the manufacturer (6S) and with an electronic speed controller (ESC) that can handle the motor current with the chosen propeller.
- The motor heats up during operation. Do not touch it after a flight until it has cooled down. An excessively hot motor is a sign of overload – choose a smaller propeller or adjust the settings.
- The bell contains strong neodymium magnets. Keep metal filings, small steel parts and sensitive objects (cards, pacemakers) away from them.
- Never run the motor with a damaged bell, a bent shaft, damaged wire insulation or loose screws.
- When soldering, work in a ventilated room and protect your eyes. Connect the battery only after all soldering work has been completed.

3. Installation and wiring

3.1 Mounting on the frame

The motor is fastened to the frame arm with four M2 screws into the holes in its base, arranged on a 12 mm diameter circle.



Motor base with four M2 mounting holes

① Check that the holes in the frame arm match the 4× M2 / Ø 12 mm pattern.

② Choose screws of such a length that, when tightened, they **do not reach into the stator windings**. The thread depth in the motor is limited – a screw that is too long will damage the winding insulation and cause a short circuit.

③ Apply a drop of medium-strength threadlocker to the thread and tighten the screws crosswise. Do not overtighten – the threads are small.

④ Route the wires along the arm so that they cannot get into the propeller or chafe against the edges of the frame.

※ After tightening, turn the bell by hand. It must rotate freely without rubbing. If it rubs, a screw is too long.

3.2 Connecting to the ESC

The motor has three wires (20 AWG, 150 mm). Solder them to the three pads of the corresponding ESC output. The order of the wires only determines the direction of rotation, not the function.

- Cut the wires to the required length, strip and tin the ends.
- Solder the joints quickly and with sufficient soldering iron power so that neither the insulation nor the ESC board overheats.
- After soldering, check that adjacent joints do not touch and that no solder balls remain on the board.
- Secure the joints and wires mechanically (cable tie, heat-shrink tubing) so that they do not break off due to vibration.

3.3 Direction of rotation

The direction of rotation of each motor must match the motor layout set in the flight controller (FC), e.g. in Betaflight Configurator on the *Motors* tab.

- You can change the direction by **swapping any two of the three motor wires**, or
- in software – by reversing the direction in the ESC configuration (e.g. in the ESC firmware configurator), or with the *Motor direction is reversed* option in Betaflight (this changes the direction of all motors at once).
- Always check the direction **without propellers** (Chapter 4).

3.4 Mounting the propeller

The motor bell has a T-mount: the propeller is placed on the 1.5 mm diameter shaft and fastened with M2 screws into four holes on a Ø 5 mm circle. Use a propeller with a matching mount.

① Mount the propellers only after checking the direction of rotation of the motors (Chapter 4).

② Check that the propeller orientation (CW / CCW) matches the direction of rotation of the motor.

③ Tighten the propeller screws evenly and crosswise. They must be short enough not to touch the windings under the bell.

④ After mounting, turn the propeller by hand and check that it does not rub against the frame or the duct.

4. First start-up and check

※ Perform all bench tests without propellers.

① Connect the drone to a computer and open the *Motors* tab in Betaflight Configurator.

② Connect the battery and confirm that you understand the risk (propellers removed).

③ Spin up each motor in turn at low speed and check that the correct motor spins in the correct direction.

④ The motor must run smoothly, without jerking, unusual noise or vibration.

⑤ Disconnect the battery, mount the propellers (Chapter 3.4) and before the first flight perform a short hover test in a safe place.

⑥ After the first flights, check the motor temperature. A very hot motor indicates overload or a configuration error.

Choose the drone's power supply according to the manufacturer's specification (6S). Charge Li-Po batteries to no more than 4.20 V/cell (6S: 25.2 V) and end the flight at 3.5 V/cell (6S: 21.0 V) at the latest.

5. Maintenance and troubleshooting

5.1 Maintenance

- After each flight, remove grass, sand and dirt from the motor. The bearings are rated IP53, but the motor is not waterproof – do not immerse it in water and let it dry after flying in wet conditions.
- Regularly check that the mounting screws and propeller screws are tight.
- Turn the bell by hand: rubbing, play or rattling indicate a worn bearing or a foreign object inside.
- After a crash, check whether the shaft is bent or the bell cracked. Do not continue to use a damaged motor.
- Do not use solvents or compressed air containing liquid on the magnets; remove dirt with a dry brush.

5.2 Troubleshooting

Problem	Possible cause and solution
Motor spins in the wrong direction	Swap two motor wires or reverse the direction in the ESC configuration (Chapter 3.3).
Motor jerks or does not start	Cold or broken solder joint – check the soldering of all three wires. Damaged winding – replace the motor.
Bell rubs	Mounting screw or propeller screw too long, foreign object between bell and stator, bent shaft.
Motor very hot after flight	Propeller too large or heavy, unsuitable PID / filter settings, damaged bearing.
Noise, vibration	Worn bearing, damaged or unbalanced propeller, loose screws.

6. Information for the EU and Czech Market

6.1 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

6.2 Disposal



- 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.

7. 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 6.1.
- 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.