Mamba TOKA 2808 1100KV

Brushless motor for FPV drones
User manual



Read the entire manual before mounting and first start-up. Always test the motor without the propeller.

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1. Product description

1.1 Intended use

Diatone Mamba TOKA 2808 1100KV is a brushless motor of size 2808 – the stator is 28 mm in diameter and 8 mm high. It is intended for FPV drones with 7-inch propellers powered by a 4S to 6S battery, typically for long-range flying and camera-carrying drones (cinelifters). The manufacturer also lists it as a replacement motor for the Diatone Roma F7 drone.

The motor is bolted to the frame arm, its three wires are soldered to the electronic speed controller (ESC) and a propeller is fitted to the shaft. The motor speed is controlled by the ESC according to commands from the flight controller (FC). The motor is sold individually; a quadcopter needs four.



Mamba TOKA 2808 1100KV



Motor parts

① **Threaded shaft** for mounting the propeller

② **Bell (rotor)** with magnets – rotates during operation

③ **Base** with M3 mounting holes for bolting to the frame arm

1.2 Technical data and package contents

Manufacturer	Diatone
Product designation	Mamba TOKA 2808 1100KV
Stator size	2808 (diameter 28 mm, height 8 mm)
KV	1100 KV
Configuration	12N14P
Power supply	4S–6S (16.8–25.2 V)
Recommended propeller	7"
Maximum power	862.5 W
Peak current	38.7 A
No-load current	1.2 A
Internal resistance	68 mΩ
Dimensions	Φ35.1 × 40.3 mm
Mounting holes	16 × 16 mm, M3
Shaft	diameter 6.0 mm; propeller mount 5 mm
Bearings	bottom 13 × 6 × 5 mm, top 10 × 6 × 4 mm
Winding	enamelled wire rated to 240 °C
Weight	63.5 g
Colour	green
Package contents	1× motor, 1× screw set
Not included	propeller, electronic speed controller (ESC), frame, battery, tools

※ The manufacturer does not state the length of the screws in the set. Before mounting, always check that the screw does not reach the motor windings (Chapter 2.2).

2. Use

2.1 Safety instructions

- The product is intended for building and repairing radio-controlled models. It is not a toy – keep it out of the reach of children.
- **A spinning propeller can cause serious injury.** Disconnect the battery whenever you work on the drone. Always carry out motor tests and setup **without the propeller**.
- Do not exceed a 6S (25.2 V) power supply and do not use a larger propeller than recommended. A higher voltage or a larger propeller overloads and overheats both the motor and the ESC.
- The motor heats up during operation. After a flight, do not touch it until it has cooled down.
- The magnets in the bell attract metal filings, screws and tools. Do not place the motor on metal dust and do not put your fingers into the bell.
- Do not continue to use a damaged motor (bent shaft, damaged winding or wire insulation, rough bearing).

2.2 Mounting on the frame

- Bolt the motor to the frame arm with four M3 screws through the holes on a 16 × 16 mm pattern.
- **The screw must not reach the stator windings.** Choose the screw length according to the thickness of the arm. After tightening, turn the motor by hand – it must rotate freely and without rubbing. If you feel resistance or hear scraping, the screw is too long; remove it immediately and use a shorter one.
- Tighten the screws carefully; the thread in the motor base strips easily if overtightened. A medium-strength threadlocker can be used to prevent loosening due to vibration.
- Route the wires along the arm and secure them so that they cannot get into the propeller or chafe against the edges of the frame.

2.3 Connecting to the ESC and direction of rotation

- Solder the three motor wires to the solder pads of the electronic speed controller (ESC) for the respective arm. The order of the wires only determines the direction of rotation.
- Shorten the wires to the required length, strip only a short section and solder with a sufficiently powerful soldering iron. The joint must be shiny and solid; do not overheat the pads or the windings.
- **The direction of rotation** can be changed by swapping any two wires, or in software – in the ESC configuration program (depending on its firmware, e.g. BLHeli_S, Bluejay or AM32).

- The required direction of rotation of each motor is defined by the flight controller (FC) settings – in Betaflight Configurator you will find it on the *Motors* tab.

2.4 Fitting the propeller

- Fit the propellers only after checking the direction of rotation of all motors (Chapter 2.5).
- Use a 7" propeller with a 5 mm shaft hole. Fit the propeller so that its leading edge matches the motor's direction of rotation.
- Secure the propeller with the nut and tighten it firmly but not excessively. Check that the nut is tight before every flight.

2.5 First start-up

① Remove the propellers. If possible, connect the battery through a current limiter (smoke stopper) – it protects the ESC in the event of a short circuit in the wiring.

② In Betaflight Configurator, open the *Motors* tab, confirm the safety notice and spin up each motor in turn at low throttle.

③ Check that the motor rotates in the correct direction, starts up smoothly and runs quietly without vibration.

④ Only then fit the propellers. After the first short flight, check the temperature of the motors – all of them should be roughly equally warm.

2.6 Maintenance and storage

- After every flight, check the bell for grass, sand, small stones or metal filings and carefully remove them if necessary.
- Turn the motor by hand. Rough, rubbing or noisy running indicates a worn or contaminated bearing. The bearing sizes are given in Chapter 1.2.
- Check that the shaft is not bent and that the bell has no play. Do not use a motor with a bent shaft – the vibrations damage the bearings and the flight controller.
- Check the wire insulation and the soldered joints, especially after a crash.
- Do not clean the motor with water or solvents. Store it in a dry place, away from metal dust.

2.7 Troubleshooting

Problem	Possible cause and solution
The motor does not spin up, only twitches or beeps	Broken wire or cold solder joint – check the soldering. A screw reaches the winding – replace it with a shorter one.
The motor spins in the wrong direction	Swap two motor wires or change the direction in the ESC configuration program.
After a flight the motor is noticeably hotter than the others	Damaged winding or bearing, propeller too large, voltage too high or unsuitable flight controller settings. Do not use the motor until the cause has been eliminated.
Noisy running, vibration	Worn bearing, bent shaft, damaged propeller or dirt in the bell.
The motor rubs when turned by hand	Dirt or a metal filing between the bell and the stator, mounting screw too long.

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

Rights of the buyer under Czech law

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.