AlfaRC Eyas100

2.5" carbon toothpick frame
User manual



Read the entire manual before assembly and the first flight, and keep it for future reference.

www.rotorama.com

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1. Product description

1.1 Intended use

The AlfaRC Eyas100 is a small carbon toothpick frame for building an FPV drone with 2.5" (65 mm) propellers. The motor wheelbase is 100 mm and the arms are arranged in a True X layout. The bottom plate with the arms is cut from 3 mm thick carbon fibre, which makes the small, light frame durable. The camera is protected by a 3D-printed canopy for nano-size cameras (14 mm wide).

The frame is supplied **without any electronics** – it is the base on which you mount the flight controller (FC), electronic speed controllers (ESC), motors, camera, video transmitter (VTX) and receiver yourself. The flight controller can be mounted with 16×16, 20×20 or 25.5×25.5 mm hole spacing.



AlfaRC Eyas100 – frame without electronics

1.2 Specifications and package contents

Product designation	AlfaRC Eyas100
Motor wheelbase	100 mm
Frame weight	14 g
Material	3K carbon fibre, 3D-printed parts
Bottom plate thickness	3 mm
Flight controller (FC) mounting	16×16, 20×20, 25.5×25.5 mm, M2
Motor mounting	9 mm spacing, M2
Recommended motors	11XX–12XX class
Propellers	max. 2.5" (65 mm)
Camera	nano, 14 mm wide
Package contents	1× frame with 3D-printed camera canopy

❖ The package does NOT include electronics, propellers, a battery or tools.

2. Assembly and use

2.1 Parts overview



Main parts of the frame

① **Camera canopy** – 3D-printed cover with space underneath for the flight controller and other electronics.

② **Motor mount** – holes for M2 screws with 9 mm spacing at the end of each arm.

③ **Bottom plate with arms** – 3 mm thick carbon fibre.

④ **Camera opening** – for nano-size cameras (14 mm).

2.2 What else you need

- a flight controller (FC) and electronic speed controllers (ESC), separate or as an AIO board, with 16×16, 20×20 or 25.5×25.5 mm mounting pattern,
- 4 motors of the 11XX–12XX class with 9 mm / M2 mounting,
- propellers with a diameter of no more than 2.5" (65 mm),
- a nano-size FPV camera (14 mm), a video transmitter (VTX) and an antenna,
- a receiver compatible with your radio,
- a battery whose voltage and connector match the electronics used, and a battery strap,
- M2 hardware of suitable length, a soldering iron, hex keys and a computer with a configurator (e.g. Betaflight).

2.3 Assembly procedure

① Check all parts before assembly. The carbon must not be cracked or delaminated.

② Screw the motors onto the ends of the arms. The screws must not be so long that they touch the motor windings – this would damage the motor and could cause a short circuit.

③ Mount the flight controller (FC) and ESC in the centre of the frame so that the arrow on the board points forward (towards the camera). Use rubber dampers if the board has them.

④ Solder the motor wires, the power lead with the battery connector, the receiver, VTX and camera according to the documentation of the electronics manufacturer.

⑤ Insert the camera into the canopy, set its tilt and screw the canopy on. Route the wires so that they cannot get into the propellers.

⑥ Fix the VTX and receiver antennas out of reach of the propellers.

2.4 Commissioning

- Always carry out all setup and first motor tests **with the propellers removed**.
- In the flight controller configurator, set the board orientation, receiver, motor direction and the *Arm* (motors on) / *Disarm* (motors off) switch, and verify the failsafe function.
- Fit the propellers last according to the motor direction and tighten the nuts firmly.
- Before each flight, insert a **fully charged** battery and secure it firmly with the strap.

2.5 Safety

- Spinning propellers can cause serious injury. Arm only in a safe place, away from people and animals, and never hold the drone in your hand.
- Carbon edges may be sharp. Carbon dust is harmful to health – wear a respirator when sanding or drilling and work wet.
- Charge Li-Po batteries under supervision on a non-flammable surface. A fully charged cell has 4.20 V (LiHV 4.35 V), end the flight at 3.5 V per cell, and leave 3.8 V per cell for storage. The voltage of the whole battery is a multiple of the number of cells (e.g. 2S: 8.40 / 7.0 / 7.6 V).
- The frame is not a toy. The assembled drone must be kept away from children.

2.6 Rules for operating the assembled drone

Regulations (EU) 2019/947 and 2019/945 apply in all Member States of the European Union, but national implementing rules differ from country to country – registration portals, minimum pilot age, geographical zones, compulsory insurance, permitted frequency bands and maximum transmit power. The information in this chapter describes the situation in the Czech Republic. If you operate the drone in another country, you must follow the regulations of the country in which you are flying.

- A drone built on this frame is a **privately built unmanned aircraft system** without a C0–C4 class. It can be operated in the open category, subcategory A1 (with a take-off mass below 250 g including the battery), otherwise A3.
- A drone with a camera requires **operator registration** (in the Czech Republic with the Civil Aviation Authority) regardless of its mass; display the registration number on the drone.
- Fly no higher than 120 m above the ground, never over assemblies of people, and respect geographical zones. When flying with FPV goggles, an observer must stand next to you and keep the drone in direct visual line of sight.
- Set the power and frequencies of the video transmitter according to the regulations of the country of operation – the user is responsible for the settings.

2.7 Maintenance

- After every flight, and especially after a crash, check the arms for cracks or delamination. Do not use a damaged frame.
- Check that the motor and flight controller screws are tight and inspect the camera canopy.
- Clean the frame with a dry or slightly damp cloth.

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

- The frame itself contains no electronics or battery. Hand in the carbon and plastic parts at a collection yard or dispose of them according to the waste management rules of your municipality.
- Remove the electronics mounted on the frame (FC, ESC, motors, camera, VTX, receiver) and the batteries before disposing of the frame. They do not belong in mixed waste – hand them in at a take-back point for electrical equipment and batteries.
- Sort the packaging according to the type of material.

4. 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 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.