Flylens 75 O4 Wide 2S

FPV drone
DJI O4 Wide digital video transmission · ExpressLRS 2.4 GHz receiver

Read the whole manual before first use, in particular chapter 1 (Safety instructions) and chapter 3 (Legal conditions of operation). Keep the manual for future reference.

User manual · Rotorama, s.r.o. · www.rotorama.cz

Contents

1. Safety instructions

1.1 Before you start

The Flywoo Flylens 75 O4 Wide 2S is an **FPV drone** — an electrically powered unmanned aircraft with digital video transmission and video recording. **It is not a toy.** It is not intended for children and is not suitable for persons under 14 years of age. Keep it out of the reach of children.

- Read the whole manual before your first flight. Incorrect operation may cause injury, damage to property or a breach of the law.
- Fly only where the law permits, and keep enough distance from people, animals and property that a loss of control cannot cause damage.
- Never fly under the influence of alcohol, medication or any other substance that affects attention.
- Never modify the drone in a way that affects its safety or its transmitted radio parameters. Do not remove the prop guards (ducts).
- The remote pilot is responsible for every flight. This responsibility cannot be transferred to the manufacturer or the dealer.

1.2 Rotating propellers and mechanical hazards

Rotating propellers can cause cuts. Always disconnect the battery first, before handling the drone in any way.

- Prop guards (ducts) considerably reduce the risk of injury, but they **do not eliminate it**. Do not touch the drone until the propellers have come to a complete stop.
- Never hold the drone in your hand with the motors armed. Do not bring the drone near your face, eyes or unprotected skin.
- Test the motors only with the **propellers removed**, or with the drone placed firmly on a surface and with people at a safe distance of at least 3 m.
- Replace cracked, chipped or deformed propellers immediately. A damaged propeller can disintegrate in flight.
- Before every flight, check that the propellers are pushed fully down onto the shafts and that no duct is cracked.

1.3 Li-Po and LiHV batteries

The battery is **not included**. The drone is designed for two-cell (2S) Li-Po or LiHV batteries. The wrong cell count will damage the drone electronics and may cause a fire.

Battery state	Li-Po 2S	LiHV 2S
Fully charged	8.4 V (4.20 V/cell)	8.7 V (4.35 V/cell)
End the flight	7.0 V (3.5 V/cell)	7.0 V (3.5 V/cell)

Battery state	Li-Po 2S	LiHV 2S
Storage	7.6 V (3.8 V/cell)	7.6 V (3.8 V/cell)

- Charge **only with a charger intended for the given cell chemistry**. A LiHV battery charged in Li-Po mode will not reach full capacity; a Li-Po battery charged in LiHV mode will be overcharged and may catch fire.
- Charge **under supervision**, on a non-flammable surface and preferably in a fireproof bag. Never charge unattended or overnight.
- **Never charge a swollen, damaged, wet or deeply discharged battery.** Never puncture, short-circuit, deform or burn a battery.
- Charge and store batteries at normal room temperature. Let a hot battery cool down after a flight before charging it.
- If you are not going to use the drone for a longer period, bring the batteries to the storage voltage of 3.8 V per cell. Cells left permanently full or completely empty age quickly.
- Always fit a **fully charged** battery before a flight.
- **Do not send a damaged or swollen battery by post or courier** — contact your dealer and agree on how to proceed. Hand it in at a battery collection point.

1.4 Operating environment

The drone is designed for flying indoors and outdoors in good weather. It is neither waterproof nor dust-proof.

- Do not fly in rain, snow or fog, or over water. Moisture will damage the electronics and such a failure is not a product defect.
- Do not fly in strong wind. Because the drone is very light, wind you barely notice on the ground can overcome the thrust of the motors in flight.
- The video transmitter gets hot in operation. **Do not leave the drone powered up on the ground** — without airflow the video transmitter can overheat and be damaged.
- After a flight, do not touch the video transmitter or the motors until they have cooled down.
- The manufacturer states an operating temperature of −10 °C to 40 °C for the video transmitter. Battery capacity drops considerably in the cold; expect shorter flights in freezing weather.

2. Product description

2.1 Package contents

1× Flylens 75 DJI O4 Wide 2S drone

1× USB data cable for the DJI O4 Air Unit, 90° angled, USB-C

1× TPU battery holder for 2S 550 mAh

1× TPU battery holder for 2S 750 mAh

1× TPU battery holder for 2S 1000 mAh

1× ND filter for DJI O4 Wide

8× 1611-3 propellers

1× screwdriver

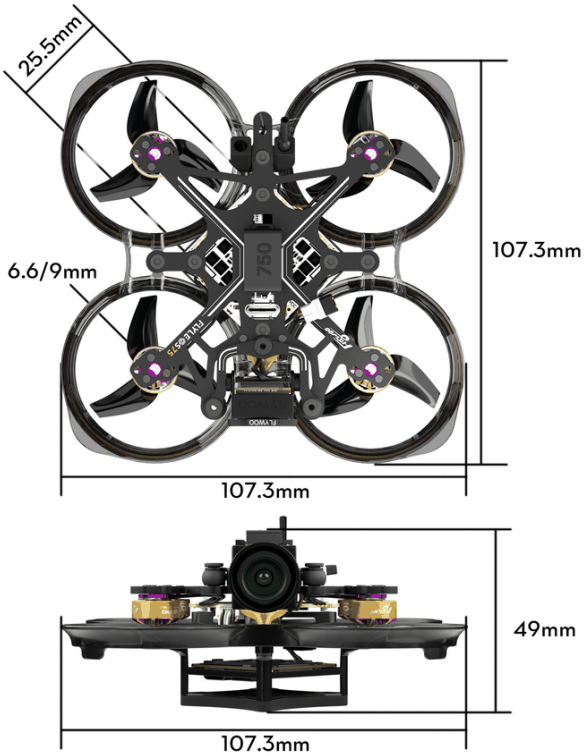
1× hardware set

The battery, charger, radio transmitter and FPV goggles are not included.

2.2 Parts overview

Top view. The camera faces forward — towards the bottom of the picture.

① Prop guard (duct) made of PC+
② 1611-3 propeller, three-blade, 40 mm diameter
③ Flywoo ROBO 1003 14800 Kv motor
④ TPU battery holder (the 750 mAh size is shown)
⑤ USB-C port of the flight controller
⑥ Antenna holder — video antenna and receiver antenna
⑦ DJI O4 Wide Air Unit camera and video transmitter
⑧ Power lead with XT30 connector



Drone dimensions and mounting patterns.

The video transmitter sits in the lower part of the drone in a PC housing. Both the USB-C port of the flight controller and the USB-C port of the video transmitter are accessible without disassembling the drone. The frame comes apart on five screws.

2.3 Specifications

Model	Flylens 75 DJI O4 Wide 2S Whoop FPV Drone
Version	BNF — with ExpressLRS 2.4 GHz receiver
Dimensions (L × W × H)	107.3 × 107.3 × 49 mm
Motor-to-motor diagonal	75 mm
Propeller size	1.6" (40 mm)
Weight without battery	64.2 g
Carbon plate	2 mm thick
Camera damping plate (CNC)	1 mm thick

Prop guard material	PC+ (injection-moulded polycarbonate)
Flight controller and ESCs	Flywoo GOKU F405 HD 1-2S 12A ELRS AIO V2
Motors	Flywoo ROBO 1003 14800 Kv
Propellers	1611-3, three-blade, 1.5 mm shaft
Video transmitter and camera	DJI O4 Wide Air Unit
Video antenna	Flywoo 5.8G, 3 dBi, u.FL connector
Receiver	ExpressLRS 2.4 GHz, integrated
Power connector	XT30 (Flywoo XT30UP)
Recommended batteries	2S Li-Po or LiHV, 550–1000 mAh
Operating temperature	−10 °C to 40 °C

2.4 Flight controller, ESCs and receiver

The drone uses an all-in-one (AIO) board that combines the flight controller (FC), a 4-in-1 ESC and an ExpressLRS receiver.

Board	Flywoo GOKU F405 HD 1-2S 12A ELRS AIO V2
Processor	STM32F405 (BGA package)
Gyroscope	ICM42688-P
Barometer	DPS310 / SPL06
Blackbox memory	8 MB
Voltage regulators (BEC)	5 V / 2 A and 9 V / 2 A
ESC	12 A, 4-in-1, BLHeli_S firmware (Bluejay)
Supported ESC protocols	DShot150, DShot300, DShot600, Oneshot125, Oneshot42, Multishot
Receiver	ExpressLRS 2.4 GHz, serial (CRSF protocol)
Receiver refresh rate	25–500 Hz
Flight controller firmware	Betaflight, target *FLYWOOF405S_AIO*
Firmware for iNav	target *FLYWOOF405HD*
Mounting hole pattern	25.5 × 25.5 mm

The motors are attached to the board with connectors, so replacing one requires no soldering. A separate 9 V / 2 A regulator powers the video transmitter and prevents it from cutting out when the battery voltage sags.

❇ The power supply to the video transmitter can be switched off in flight using a switch assigned to the USER1 or USER2 mode in Betaflight (USER2 by default). This protects the video transmitter from overheating when the drone is left powered up on the ground for a longer time.

2.5 Video transmitter and camera

Video transmission and recording are handled by the **DJI O4 Wide Air Unit**. It is a DJI O4 unit with an ultra-wide lens — instead of 117.6° it offers a 159° field of view, which is useful in tight spaces. All other transmission and recording parameters are identical to the standard DJI O4 Air Unit. The data in this chapter is stated by DJI and Flywoo.

Sensor	1/2" CMOS
Field of view (FOV)	159°
Recording resolution	up to 4K/60 fps, MP4 format
Internal storage	23 GB; the unit does not support microSD cards
Live video to the goggles	1080p/100 fps, bit rate up to 60 Mbps
Lowest latency	20 ms (Racemode, with DJI Goggles 3)
Stabilisation	RockSteady; Gyroflow is also supported
Input voltage	3.7–13.2 V
Transmitter module dimensions	30 × 30 × 6 mm
Weight	13 g including the coaxial cable

The unit is intended for use with DJI Goggles 3 or DJI Goggles N3 goggles and the DJI FPV Remote Controller 3.

The unit can also be used with DJI Goggles 2 or DJI Integra goggles and the DJI FPV Remote Controller 2. In that case Racemode is not available and the transmission has higher latency. This drone is supplied with an ExpressLRS receiver, so it is flown with a **radio transmitter fitted with an ExpressLRS 2.4 GHz module**; in such a set-up the DJI controller only operates the goggles.

The video link supports **Canvas mode**, which shows the OSD from the flight controller directly in the goggles.

※ DJI O4 cameras use a new generation of gyroscopes that are more sensitive to vibration. This can affect how well RockSteady and Gyroflow stabilisation work. The camera mount is therefore held on rubber damping grommets — check them for tears after a crash.

3. Legal conditions of operation in the Czech Republic and the EU

3.1 The law of the country you fly in applies

Regulation (EU) 2019/947 and Regulation (EU) 2019/945 apply in all EU Member States, but national implementing rules differ from country to country — registration portals, the minimum age of the remote pilot, geographical zones, compulsory insurance, permitted frequency bands and maximum transmit powers. The information in this chapter describes the situation in the Czech Republic as of the date this manual was issued. **If you operate the drone in another country, you must follow the rules of the state in which you fly.**

Rules change. Before each flight, check the current situation with the Czech Civil Aviation Authority (Úřad pro civilní letectví) (www.caa.gov.cz), or with the equivalent authority in the country of operation.

3.2 Drone classification and operational category

The drone **does not carry a C0 to C4 class label** under Regulation (EU) 2019/945. It is therefore operated as a **privately built unmanned aircraft system**. As long as its maximum take-off mass stays below **250 g**, it falls into the open category, subcategory **A1**.

※ Work out the maximum take-off mass yourself — add the weight of the battery and of anything else you fit to the drone's own weight of 64.2 g.

▶ Subcategory A1 — below 250 g

- You may fly over uninvolved persons, but keep any overflight as brief as strictly necessary.
- **Flying over assemblies of people is prohibited.**
- The general open-category limits in chapter 3.5 apply — in particular the 120 m height limit and keeping the drone in visual line of sight.

▶ Subcategory A3 — 250 g and above

If you add equipment so that the take-off mass reaches 250 g or more, the operation falls into subcategory **A3**. There you must fly in an area where no uninvolved person will be endangered, and at least **150 m horizontally** from residential, commercial, industrial and recreational areas.

Subcategory **A2** is intended for class C2 drones and is not available for this drone.

※ Operation inside buildings is outside the scope of Regulation (EU) 2019/947. Operational categories, geographical zones and remote pilot requirements do not apply to it.

3.3 UAS operator registration

The drone is fitted with a camera, that is, a sensor able to capture personal data. Under Article 14(5) of Regulation (EU) 2019/947, **UAS operator registration is therefore mandatory regardless of the fact that the drone weighs less than 250 g**. This is the most commonly overlooked obligation.

Where to register	dron.caa.gov.cz — Czech Civil Aviation Authority (Úřad pro civilní letectví)
Fee	registration, training and the test are free of charge
Legal basis	§ 54a of Act No. 49/1997 Sb.
Marking the drone	the registration number must be displayed on every drone you operate
Change of details	must be reported to the authority within 15 days
Registration abroad	a UAS operator may register in one state only

It is the **UAS operator** who is registered, not the individual drone. One registration number covers all drones of the same operator.

3.4 Remote pilot competency

The remote pilot must be familiar with this manual and must have **passed the test for subcategories A1 and A3**.

- The online training and the test are provided **free of charge** by the Czech Civil Aviation Authority at www.caa.gov.cz.
- The test has 40 multiple-choice questions; at least 75 % correct answers are needed to pass.
- The proof of competency is valid for **5 years**; it is renewed by retaking the test or by refresher training.
- The minimum age of a remote pilot in the Czech Republic is **16 years**. A younger person may fly only under the direct supervision of a remote pilot who meets the requirements.

3.5 Operational limits and geographical zones

- The maximum flight height is **120 m** above the closest point of the surface of the earth.
- You must keep the drone in **visual line of sight** (VLOS) throughout the flight. The exception is flying with an observer — see chapter 3.6.
- Flying **over assemblies of people** is prohibited. Keep a safe distance from uninvolved persons.
- Do not carry dangerous goods and do not drop any material in flight.
- At night the drone must be fitted with an **active green flashing light**.

- Flying at the site of an ongoing emergency services operation without their consent is prohibited.
- You must be able to take over control and land the drone immediately at any time.

▶ Geographical zones

Geographical zones restricting the operation of unmanned aircraft systems apply over part of the territory of the Czech Republic — areas around airports, densely populated areas, protected areas, railways, power lines, water sources, national defence areas and others. The zones change over time.

Check the current situation on the **DroneMap** digital map at dronemap.gov.cz. The older DronView portal was shut down in 2025 and links to it are out of date.

❊ For drones below 250 g the conditions in many zones are less strict than for heavier aircraft, but the zones still apply. Always check your flight in advance.

3.6 Flying with FPV goggles

With FPV goggles on you cannot meet the requirement to keep the drone in direct visual line of sight. Under Article 4(1)(d) of Regulation (EU) 2019/947, an **unmanned aircraft observer** is therefore required for FPV flight.

- The observer **stands next to the remote pilot**, not at some other location.
- The observer watches the drone with the **naked eye** — binoculars and other optical aids must not be used.
- The observer must have clear and effective communication with the remote pilot so as to be able to say immediately that a landing is needed.
- **The remote pilot remains responsible for the safety of the flight**, not the observer.

3.7 Radio frequencies and transmit power

The drone contains radio equipment. The following table gives the frequency bands and maximum transmit power as stated by the manufacturers.

Device	Frequency band	Maximum power (EU)
Video transmitter DJI O4 Air Unit	5725–5850 MHz	< 14 dBm e.i.r.p.
Receiver ExpressLRS	2400–2483.5 MHz	see the text below

The video transmitter figures are published by DJI for the DJI O4 Air Unit. The manufacturer does not publish the maximum transmit power of the ExpressLRS receiver, which also sends telemetry; that figure is given in the EU declaration of conformity available from the importer (chapter 8.1).

▶ **Limits in the Czech Republic**

- **5725–5875 MHz** band: no more than **25 mW e.i.r.p.** under general authorisation VO-R/10 of the Czech Telecommunication Office (ČTÚ). The limit is expressed as radiated power, that is **including antenna gain**, and must not be exceeded in any operating mode.
- **2400–2483.5 MHz** band: under general authorisation ČTÚ VO-R/12 no more than 100 mW e.i.r.p. for wideband data transmission; for short-range devices under VO-R/10 the limit is 25 mW e.i.r.p.
- The equipment may only be operated with the antenna specified by the manufacturer. Amplifiers and repeaters must not be used.

Switching the video transmitter to FCC mode raises the transmit power above the permitted limit and is a breach of the Electronic Communications Act in the Czech Republic. In the settings of the goggles and the video transmitter, always select the region matching the country you are flying in.

3.8 Personal data protection and insurance

▶ **Privacy**

- Recording video in which individuals can be identified is processing of personal data. The exemption for personal and household activity is very narrow — **publishing footage on the internet is no longer covered by it**.
- Do not film into windows, onto fenced land or into other private areas.
- Review your recordings after the flight and delete any unwanted footage.
- In addition to data protection rules, the protection of personality under the Civil Code (§ 84 to § 90) also applies — independently.

▶ **Insurance**

In the Czech Republic, liability insurance is compulsory in subcategory A2, in subcategory A3 for drones above 4 kg, and in the specific category. **No statutory insurance obligation therefore applies to this drone.** That does not limit your liability for damage caused under the Civil Code in any way, so we recommend taking out insurance anyway.

※ Many European states require liability insurance regardless of the weight of the drone — Germany and Austria, for example. Check the conditions in your destination country before you travel.

4. Preparing for the first flight

4.1 What else you need

The drone is supplied as a BNF — assembled and with a built-in receiver, but without controls and without a power source. To fly you also need:

- **A radio transmitter with an ExpressLRS 2.4 GHz module.** The receiver in the drone uses the CRSF protocol. A radio using a different system (Frsky, TBS Crossfire, DJI) will not work with this drone.
- **DJI FPV goggles** — Goggles 3, Goggles N3, Goggles 2 or Integra.
- **2S Li-Po or LiHV batteries, 550–1000 mAh, with an XT30 connector.**
- **A charger for 2S batteries** with LiHV mode support if you use LiHV batteries.
- A computer with Betaflight Configurator and with DJI Assistant 2 for activating and updating the video transmitter.

※ A 1000 mAh battery gives the longest flight, but it makes the drone heavier and less agile. For indoor flying a 550 or 750 mAh battery is usually more pleasant.

4.2 Choosing and connecting the battery

The package contains three TPU battery holders — for 550, 750 and 1000 mAh batteries. Fit the one that matches your battery; a loosely held battery will shift in flight and change the centre of gravity.

① Place the unpowered drone on a flat surface and fit the matching battery holder on the top of the frame.

② Slide a fully charged battery into the holder so that its lead points towards the drone's power connector.

③ Check that neither the battery nor its lead reaches into the path of the propellers.

④ Connect the XT30 connector. The drone powers up immediately.

Connect the battery as the last step of your preparations — after switching on the radio transmitter, after fitting the propellers and after everyone has moved away from the drone.

- Always separate the connector by pulling **on the connector body**, never on the wires.
- Never connect a battery with more than 2 cells. The drone electronics are designed for the voltage of 1–2 cells.
- **Always disconnect the battery** after a flight. A connected battery slowly discharges even with the drone switched off and can be damaged by deep discharge.

4.3 Fitting the propellers

The 1611-3 propellers push onto a 1.5 mm motor shaft; no nut is used. One set is included — four propellers turning clockwise (CW) and four counter-clockwise (CCW). Adjacent propellers must turn in opposite directions, otherwise the drone will not take off.

Motor numbering seen from above. The camera points towards the bottom of the picture.

Motor	Position on the drone	Direction of rotation
M1	rear right	counter-clockwise (CCW)
M2	front right	clockwise (CW)
M3	rear left	clockwise (CW)
M4	front left	counter-clockwise (CCW)

The directions of rotation are given as seen from above. This layout follows the manufacturer's diagram in the common manual for the Flylens 75 and 85 series.

Before your first flight, verify the directions of rotation in Betaflight Configurator on the *Motors* tab — with the propellers removed. A propeller fitted in the wrong position will make the drone flip over as soon as you add throttle.

① Disconnect the battery.

② Place the propeller on the shaft and press it down evenly until it seats fully. Hold the motor by its base while doing so, not by the bell.

③ Check that the propeller sits level and does not rub against the prop guard.

④ To remove a propeller, pull it straight up. Do not lever it sideways — the shaft bends easily.

4.4 Camera filter

An ND filter for the lens of the DJI O4 Wide unit is included. The filter reduces the amount of light reaching the sensor, so the camera can use a longer exposure time. The footage then looks smoother and avoids the choppy motion that very short exposures produce in bright sunshine.

- Fit the filter when flying in **bright daylight**.
- **Remove the filter** at dusk, indoors and at night — otherwise the image will be dark and noisy.
- Fit and remove the filter carefully, straight onto the lens. Hold it by the edge so that you do not leave fingerprints on the optics.
- Clean the filter only with a soft lens cloth. Do not use solvents.

5. Commissioning

5.1 Connecting to a computer

The drone has two separate USB-C ports: one on the flight controller (on the top side, see chapter 2.2) and one on the video transmitter (in the lower housing). Each has a different purpose and they cannot be used interchangeably.

Flight controller port	settings in Betaflight Configurator, firmware updates for the flight controller, the ESCs and the receiver
Video transmitter port	activating and updating the DJI O4 Wide unit in DJI Assistant 2, downloading recorded video

Always remove the propellers before connecting the drone to a computer. The flight controller is powered over USB and the motors may start spinning.

Use the supplied angled USB-C cable for the video transmitter — a straight connector would foul the frame. The flight controller is powered over USB, but the motors and the video transmitter are not; full function requires the battery to be connected.

5.2 Activating the video transmitter

The DJI O4 Wide unit must be **activated** before first use. Without activation the transmit power is limited and the menu in the goggles cannot be operated.

① Download **DJI Assistant 2 (Consumer Drones Series)** from the manufacturer's website.

② Connect a battery to the drone and connect the USB-C port of the video transmitter to the computer.

③ Start DJI Assistant 2 and log in with your DJI account.

④ Select the device and carry out the activation as instructed on screen.

The unit is updated in the same way. Restart all devices once the update is complete.

5.3 Binding the ExpressLRS receiver

The receiver in the drone and the transmitter module in the radio should run **the same ExpressLRS firmware version**. If they differ, binding may fail — in that case update both sides using ExpressLRS Configurator.

① Put the receiver into bind mode: **power the drone up and down three times in a row** (battery or USB cable).

② The receiver LED starts flashing rapidly with a double blink — the receiver is in bind mode.

③ Put the radio into bind mode as well (select *Bind* in the ExpressLRS menu).

④ Once the receiver LED is lit continuously, the bind is done.

※ The radio and the drone must be at least 0.5 m apart while binding. Too short a distance overloads the receiver and binding fails.

After binding, check on the *Receiver* tab in Betaflight Configurator that all channels move in the right direction and that the radio is set to **Mode 2** or to whichever mode you are used to.

5.4 Pairing the video transmitter with the goggles

Before pairing, update the goggles, the controller and the video transmitter to the latest firmware.

① Switch on the video transmitter (by connecting a battery), the goggles and the DJI controller.

② In the goggles menu select *Status* and choose the matching product in the top right corner.

③ Check that the pairing LED on the video transmitter is lit red. Briefly press the pairing button — the LED starts flashing red.

④ Press the pairing button on the goggles. The goggles start beeping repeatedly.

⑤ After a successful pairing the LED on the video transmitter turns green, the goggles stop beeping and show the camera image.

Keep the drone and the goggles within 0.5 m of each other while pairing. Pair the DJI controller with the goggles separately, following the goggles manual.

※ The video antenna must be at least 5 cm away from the transmitter module, the camera and any carbon parts. Do not bend the antenna and do not point it straight down.

5.5 Accelerometer calibration

Calibrate before the first flight and again after every crash or any work on the frame.

① Remove the propellers and connect the drone to the computer.

② Place the drone on a **level surface** — ideally one checked with a spirit level.

③ In Betaflight Configurator open the *Setup* tab and click *Calibrate Accelerometer*.

④ Do not move the drone during calibration.

If the calibration is done on a sloping surface, the drone will drift sideways on its own in Angle mode.

5.6 Checking the motors and propellers

Carry out the following check only with the propellers removed.

① Remove the propellers, then connect the drone to the computer and to a battery.

② In Betaflight Configurator open the *Motors* tab and confirm the safety warning.

③ Spin up motors M1 to M4 one at a time at the lowest speed and check that each turns in the direction given in the table in chapter 4.3.

④ If a direction is wrong, reverse it in the ESC configurator, or in Betaflight on the *Motors* tab using the direction toggle.

⑤ Listen for grinding or rubbing. A bearing damaged in a crash can be heard even at low speed.

5.7 Arm, Disarm and failsafe

Arm enables the motors, **Disarm** switches them off. Assign them to a switch on the radio transmitter — never to a button that can be pressed by accident.

① In Betaflight Configurator open the *Modes* tab.

② For the *ARM* mode select *AUTO* and flip the switch on the radio that you want to use. The indicator moves.

③ Drag the yellow range onto the indicator position and save the settings.

④ Test that the drone arms and disarms with the propellers removed.

We recommend assigning another switch to the *USER2* mode — it lets you switch off the power to the video transmitter in flight and prevent it from overheating when the drone is left powered up on the ground for a longer time.

▶ Failsafe

- Failsafe is how the drone reacts to a loss of the radio signal. The drone has no GPS module, so an **automatic return to the launch point is not possible**.
- Leave the default setting *Drop*, which cuts the motors immediately. The drone falls where it is instead of flying on out of sight.
- Test the function on the ground: with the propellers removed, arm the drone and switch off the radio. The motors must stop immediately.
- Also check the *stage 1* and *stage 2* settings on the *Failsafe* tab.

5.8 Firmware updates

Update the firmware only when you have a reason to — a new version may require the settings to be redone. **Always back up your configuration** before updating (on the *Presets* tab in Betaflight Configurator or with the *diff all* command in the CLI).

Flight controller	Betaflight, target *FLYWOOF405S_AIO*
Alternative firmware	iNav, target *FLYWOOF405HD*
ESC	via an ESC configurator; BLHeli_S / Bluejay firmware
Receiver	ExpressLRS Configurator, target *FLYWOO 2.4Ghz EL24P*, method *BetaflightPassthrough*

Video transmitter	DJI Assistant 2

When updating the receiver, connect the flight controller to the computer but **do not connect to Betaflight Configurator** — the port must stay free for ExpressLRS Configurator.

❊ The ESCs ship with Bluejay firmware. We do not recommend reflashing them to a higher switching frequency — it may cause the motors not to spin up after arming. Do not reflash the ESC firmware repeatedly in quick succession.

The default configuration (CLI dump) and other files for this model are provided by the manufacturer at flywoo.net/pages/flylens-75-drone-download-center.

6. Flying

6.1 Pre-flight check

① Inspect the drone. The frame, the prop guards and the propellers must be free of cracks. Replace any damaged part.

② Check that the propellers are pushed fully down and turn in the correct direction.

③ Check that the motor screws and the prop guard screws are tight.

④ Fit a **fully charged** battery and check its voltage: 8.4 V for 2S Li-Po, 8.7 V for 2S LiHV.

⑤ Switch on the radio transmitter. Check that the Arm switch is off and the throttle stick is fully down.

⑥ Connect the battery and check that the drone has linked up with the radio.

⑦ Switch on the goggles and check the image — look for interference, dropouts and droplets on the lens.

⑧ Check the battery voltage and the signal strength in the OSD.

⑨ Move at least 3 m away, and only then arm the drone and briefly check that the motors respond.

⑩ Check that there are no uninvolved persons or animals in the flight area.

Do not leave the drone standing powered up for a long time. Without airflow the video transmitter overheats.

6.2 Take-off and basic control

Practise your first flights in a spacious room or outdoors in calm air, ideally over a soft surface. Only start flying with FPV goggles once you can confidently keep the drone under control in direct visual line of sight.

- Place the drone on a flat surface **with the camera pointing away from you** and step back.
- After arming, add throttle smoothly until the drone lifts to about half a metre. Adding throttle abruptly leads to an uncontrolled take-off.
- Indoors, keep at least one drone width away from walls, the ceiling and the floor. Turbulence builds up near obstacles and throws the drone around.
- The drone has no GPS module and no position hold. It will not hold its place without pilot input.
- If you are flying for the first time, use *Angle* mode, in which the drone levels itself out.

Because of the ultra-wide lens, obstacles look further away in the image than they really are. Leave yourself more clearance than the image suggests during your first flights.

6.3 Monitoring voltage and ending the flight

Watch the battery voltage in the OSD throughout the flight. Deep discharge damages a battery permanently.

- Once the voltage drops below **7.0 V (3.5 V per cell)**, end the flight and land.
- Voltage sags briefly under load and recovers when you ease off the throttle. What matters is the reading **in steady flight**, not a short dip during acceleration.
- We recommend landing with a small reserve — the last few tenths of a volt disappear very quickly.
- After landing, disarm the drone and **disconnect the battery**.
- Let a hot battery cool down before charging it.

6.4 Locating the drone after a crash

The drone has no GPS module and no self-powered buzzer. After a crash, go by the last image from the camera.

- Memorise the last frame before the signal was lost and the direction the drone was flying in.
- If the drone is still powered, the image in the goggles often comes back once you get closer.
- If you have a switch assigned to the buzzer, use it — the buzzer runs off the main battery and only works if the battery is still connected.
- If you cannot find the drone before the battery runs out, search the area systematically. A dark drone is practically invisible in grass.
- Once you find it, **disconnect the battery** first and only then inspect the drone.

7. Maintenance and troubleshooting

7.1 After every flight

- Disconnect the battery and let the drone and the battery cool down.
- Remove dirt and hair wound around the motor shafts — they increase drag and shorten motor life.
- Check the propellers against the light — look for hairline cracks around the hub.
- Check the rubber damping grommets of the camera mount. A torn grommet shows up as shaky footage.
- Check that the screws are tight. Vibration gradually loosens them.
- Clean the drone with a dry brush or compressed air. Do not use water or solvents.

7.2 Replacing propellers and prop guards

Propellers are a consumable part. Replace them whenever they are damaged, and as a precaution after any heavier crash even if no damage is visible.

- Spare 1611-3 propellers are supplied in sets of eight — four CW and four CCW.
- The prop guards are screwed to the frame. When replacing one, make sure no wire is trapped between the guard and the frame.
- Replace a cracked guard — vibration makes the crack spread and a piece breaking off can hit a propeller.
- Tighten the screws gently — threads strip easily in both plastic and carbon.

7.3 Replacing a motor

The motors are attached to the board with connectors, so replacing one requires no soldering.

① Disconnect the battery and remove the propeller from the motor you are replacing.

② Unscrew the motor from the frame arm (three M1.4 screws).

③ Unplug the motor connector from the board. Pull on the connector body, not on the wires.

④ Plug in the new motor, screw it down and route its wires the same way as the original.

⑤ Check the direction of rotation as described in chapter 5.6 before fitting the propeller.

※ Use only the screws supplied with the motor. A longer screw can damage the windings inside the motor.

7.4 Storage

- Store the drone dry, in a clean environment and at room temperature.

- Store batteries **separately from the drone**, at the storage voltage of 3.8 V per cell (7.6 V for 2S), in a non-flammable container.
- Check the state of the batteries at least once every three months and recharge them as needed.
- Clean any dirt out of the motors before a longer period of storage.

7.5 Troubleshooting

Problem	Possible cause	Solution
The drone will not arm	The Arm switch is not assigned or is in the wrong position	Check the *Modes* tab in Betaflight
	The throttle stick is not fully down	Adjust the trims and end points on the radio
	The drone is not level	Place the drone on a level surface, or calibrate the accelerometer
	Low battery voltage	Fit a fully charged battery
The radio does not link up with the drone	Not bound	Repeat the procedure in chapter 5.3
	Different firmware versions on the transmitter and the receiver	Match the firmware using ExpressLRS Configurator
No image in the goggles	Not paired	Repeat the procedure in chapter 5.4
	The unit has not been activated	Activate it as described in chapter 5.2
	The video transmitter has been switched off by a switch	Check the USER1 or USER2 mode switch
The drone flips over when throttle is added	CW and CCW propellers swapped	Check the directions of rotation against chapter 4.3
The footage is shaky	Damaged rubber damping grommets on the camera mount	Replace the grommets
	Damaged or unbalanced propeller	Replace the whole set of propellers
Short flight time	Worn-out battery	Measure the internal resistance and retire the battery
	Clogged or damaged motor bearing	Clean the motors, replace a damaged one

Problem	Possible cause	Solution
The video transmitter shuts down	Overheating while standing on the ground for a long time	Do not leave the drone powered up on the ground

If you cannot solve the problem, contact the dealer you bought the product from. The importer's contact details are given in chapter 8.1.

8. Information for the EU and Czech Market

8.1 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.cz

8.2 Product conformity

CE

- The product bears the **CE** marking and complies with the requirements of the applicable European Union harmonisation legislation.
- A copy of the **EU Declaration of Conformity** is available from the importer at the address stated above or at the e-mail address info@rotorama.cz.
- **Product identification:** the type designation is **Flylens 75 DJI O4 Wide 2S Whoop FPV Drone**, manufacturer code FW19005290. Because of the size of the product, the marking is placed on the packaging and in this documentation.

▶ Simplified EU declaration of conformity

Hereby, FLYWOO declares that the radio equipment type **Flylens 75 DJI O4 Wide 2S Whoop FPV Drone** is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available from the importer at the address given above.

8.3 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.

9. 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 manufacturer's warranty terms set out below (Chapter 9.2) **do not in any way limit** the buyer's rights arising from these regulations.

- 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 8.1.
- 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.