Jupiter 35A

Skystars · electronic speed controller (ESC) 35A, 3–6S LiPo

AM32 firmware · user manual



Read this entire manual before installation and first use, especially the safety instructions in Chapter 2.1. The ESC has no BEC.

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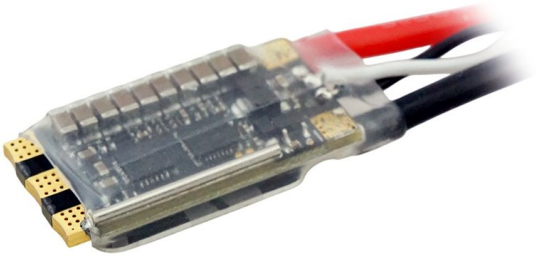
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1. Product description

1.1 What it is for

The **Skystars Jupiter 35A** is a standalone electronic speed controller (ESC) for one brushless (BLDC) motor. It is suitable for airplanes and for freestyle drones that use individual ESCs instead of a 4-in-1 board. The ESC is powered from a **3S to 6S** LiPo battery and handles a continuous current of up to **35 A**.

The ESC is driven by a 32-bit processor running **AM32** firmware, which supports a PWM frequency of up to **128 kHz** for smooth motor operation even at high RPM. The ESC **has no BEC** – it does not power the receiver or servos (see Chapter 2.3).



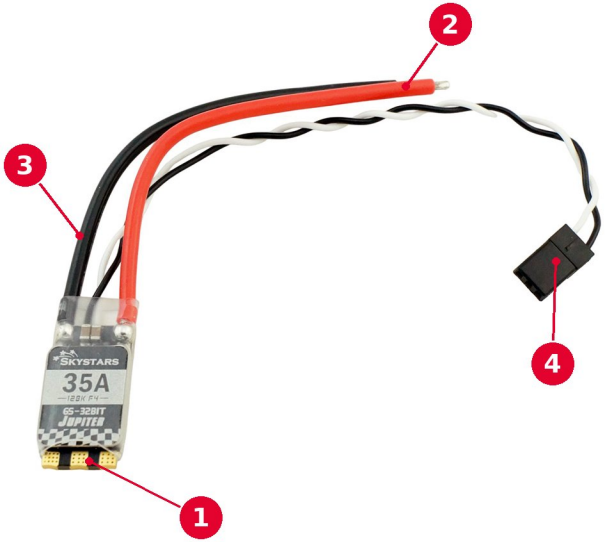
Jupiter 35A ESC – view of the other side of the board

1.2 Specifications and package contents

Parameter	Value
Product designation	Skystars Jupiter 35A 3-6S AM32
Type	standalone electronic speed controller (ESC) for 1 motor
Input voltage	3–6S LiPo
Continuous current	35 A
Processor	32-bit (label marking “128K F4”)
Firmware	AM32
PWM frequency	up to 128 kHz
BEC	none
Dimensions	28.5 × 14.3 × 5.6 mm
Weight	7 g (including cables)
Package contents	1× ESC

Not included: motor, battery, battery power connector, BEC or programming adapter.

1.3 Parts



Jupiter 35A ESC with leads

① **Motor solder pads** – three pads for connecting the three motor phase wires.

② **Power lead +** (red) – battery positive.

③ **Power lead −** (black) – battery negative.

④ **Signal cable with connector** – twisted pair of wires (white and black) for the control signal and signal ground (GND) from the flight controller (FC) or receiver.

2. Use

2.1 Safety instructions

- During any work on the model – soldering, wiring, configuration – **remove the propeller** and disconnect the battery. The motor may start unexpectedly, for example during configuration or on signal loss.
- Power the ESC only from a **3S to 6S** LiPo battery. A higher voltage may destroy the ESC.
- Do not exceed the continuous current of **35 A**. Choose the motor and propeller so that the current draw does not exceed this value, and check the ESC temperature during operation.
- Never reverse the power polarity. Reverse polarity destroys the ESC instantly and such damage is not covered by the warranty.
- Provide the ESC with cooling airflow. Do not wrap it in foam or place it in an enclosed space without airflow.
- Protect the ESC from water, moisture, dust and metal or conductive debris (e.g. from carbon frames). Do not use a damaged ESC.
- Charge LiPo batteries only under supervision, on a non-flammable surface and with a suitable charger. Do not leave a charged battery connected to the model unattended.
- This product is not a toy and is not intended for children.

※ The operation of model aircraft and drones is regulated by the laws of each country. The law of the country in which you operate the model always applies.

2.2 Wiring

The ESC comes with power leads and a signal cable. The motor is connected by soldering directly to pads ①.

① **Motor** – solder the three motor wires to the three pads ①. The order of the phases determines the direction of rotation; it can also be changed later in the settings (Chapter 3.3).

② **Power** – solder a power connector matching your battery to the ends of the red ② and black ③ leads. We recommend fitting a capacitor at the power input, especially on 6S builds – it reduces voltage spikes and noise.

③ **Signal** – connect the signal cable ④ to a motor output on the flight controller (FC) or to the throttle channel of the airplane receiver. Make sure the connector is oriented correctly – signal to signal, ground to ground.

- Solder with a quality, sufficiently powerful soldering iron and keep it short so that the board is not damaged. Check the joints for short circuits between neighbouring pads.

- Insulate bare joints with heat-shrink tubing and secure the wires so that they do not rub against frame edges or get into the propeller.
- Before connecting the battery for the first time, check the polarity and use a multimeter to verify that there is no short circuit between power + and −.

2.3 Powering the receiver and servos

The Jupiter 35A ESC **has no BEC** – the signal cable does not supply power. In an airplane, power the receiver and servos from a separate BEC or another source of suitable voltage. In a drone, the receiver is powered by the flight controller (FC).

2.4 First start

① Make sure the **propeller is removed** and set the throttle on the radio to minimum.

② Connect the battery. After the ESC initialises, the motor emits an audible signal.

③ Slowly increase the throttle and check that the motor spins up smoothly and in the correct direction.

④ If the motor does not run, stutters or spins the wrong way, disconnect the battery and follow Chapters 3 and 4.2.

⑤ Only after a successful check, fit the propeller and test the model in a safe place.

3. Settings and AM32 firmware

3.1 Control signal

According to the AM32 project documentation, the AM32 firmware supports these control signals:

- **Servo PWM** – standard signal from a receiver, typically in airplanes,
- **DShot300** and **DShot600** – digital protocol from a drone flight controller (FC),
- **bidirectional DShot** – transmits motor RPM back to the flight controller (FC), e.g. for RPM filtering in Betaflight.

Set the protocol in the flight controller (FC), e.g. in Betaflight on the *Configuration* → *ESC/Motor Features* tab.

3.2 Configuration and firmware update

ESC parameters (direction of rotation, PWM frequency, timing, startup behaviour etc.) are changed in a configuration program. According to the AM32 documentation, you can use:

- **AM32 Configurator** – am32.ca, configuration and firmware updates directly in the browser,
- **ESC Configurator** – esc-configurator.com, in a browser with Web Serial support.

The ESC is connected to the computer either **through a flight controller (FC) running Betaflight** (passthrough mode – ESC wired in the drone, FC connected by USB cable and battery connected), or **through a USB-serial adapter modified for one-wire communication** connected to signal cable ④ (suitable for airplanes).

❊ The propeller must be removed during configuration. Do not interrupt a firmware update or disconnect power – an incomplete update may leave the ESC unusable.

3.3 Motor direction

If the motor spins the wrong way, you have two options: swap any two motor wires on pads ①, or change the direction in the configuration program (reversed direction option). In a drone, the direction can also be changed in Betaflight on the *Motors* tab when using DShot.

4. Maintenance and troubleshooting

4.1 Maintenance and storage

- After each use, check the solder joints, wire insulation and the ESC heat-shrink cover.
- After a crash, check whether the board is cracked or burnt or whether any components are damaged. Do not continue using a damaged ESC.
- Remove dirt with a dry brush or compressed air. Never rinse the ESC with water.
- Store in a dry place, out of direct sunlight, with no battery connected.
- Store LiPo batteries at a storage voltage of **3.8 V/cell** (3S 11.4 V, 4S 15.2 V, 6S 22.8 V).

4.2 Troubleshooting

Problem	Possible cause and solution
Motor does not spin, ESC does not respond	Check the power supply and polarity, the signal cable connection (signal/ground) and the protocol set in the FC. Check the motor solder joints.
Motor spins the wrong way	Swap two motor wires or change the direction in the settings (Chapter 3.3).
Motor stutters or does not start smoothly	Cold joint or broken motor phase – resolder the joints. Check the motor and the startup settings in the configurator.
Configurator does not find the ESC	Connect the battery (passthrough requires the ESC to be powered), check the port and cable, close other programs using the serial port.
ESC overheats	The current draw of the motor and propeller is too high or there is no airflow. Use a smaller propeller and provide cooling.
Servos and receiver do not work in the airplane	The ESC has no BEC – connect a separate BEC (Chapter 2.3).

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

6.1 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 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.