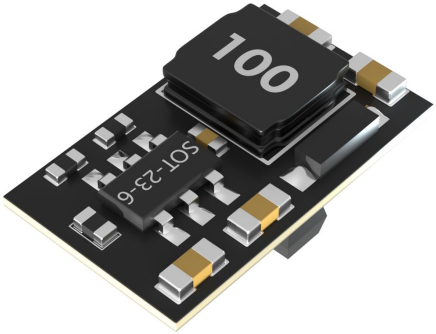
Flywoo 3.3V 1.5A BEC

3.3 V / 1.5 A switching voltage regulator with control input

User manual



Read the entire manual before wiring. When powering the module directly from a 6S battery, a capacitor must be connected to the input.

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1. Product description

1.1 What it is for

The Flywoo 3.3V 1.5A BEC is a small switching voltage regulator (BEC) that converts a supply voltage of 5–26 V into a regulated **3.3 V** with a load capacity of up to **1.5 A**. It is used to power on-board accessories of an FPV drone that require 3.3 V – for example an LED strip or another device that cannot be powered directly from the flight controller (FC).

The module has a control input **C** that switches the output on and off. The control input is connected to a free pad of the flight controller, and in Betaflight the power of the connected device is then controlled by a switch on the radio transmitter. Thanks to its small size and weight of 0.5 g, the module fits even into small drones.



BEC module – regulator side

1.2 Technical data and package contents

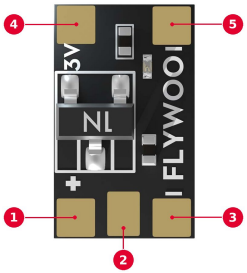
Manufacturer	Flywoo
Product designation	Flywoo 3.3V 1.5A BEC (manufacturer code FW19002402)
Type	switching voltage regulator (BEC) with control input
Input voltage	5–26 V (2S–6S battery)
Output voltage	3.3 V
Max. output current	1.5 A
Dimensions	10.8 × 6.2 mm
Weight	0.5 g
Package contents	1× 3.3 V BEC module 1× connecting cable set
Not included	capacitor for powering from a 6S battery, flight controller, powered device (e.g. LED strip), battery

2. Wiring and use

2.1 Safety instructions

- Always wire and solder the module with the **battery disconnected**.
- Observe polarity. Swapping the + and GND inputs or connecting battery voltage to the 3V output can destroy the module and the connected devices.
- Do not apply more than 26 V to the input and do not load the output with more than 1.5 A.
- When powering the module directly from a 6S battery, a capacitor rated for the 6S battery voltage must be connected to the input (see Chapter 2.3).
- Insulate the finished wiring (e.g. with heat-shrink tubing) so that the pads and components cannot touch the carbon frame or other conductive parts.
- When connecting the battery for the first time, we recommend using short-circuit protection (smoke stopper) and measuring the output voltage with a multimeter before connecting the powered device.
- The module is a small part – keep it out of the reach of children.

2.2 Pad description

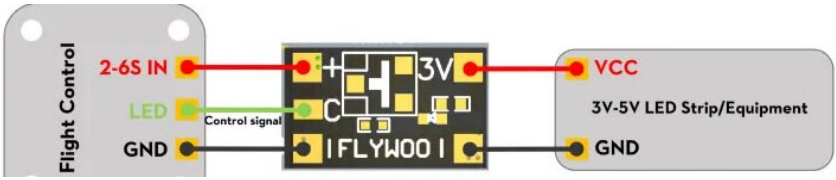


Bottom side of the module with solder pads

No.	Pad	Function
①	+	power input 5–26 V (2S–6S) – from the power pad of the flight controller or ESC, or directly from the battery
②	C	control input – control signal from a free pad of the flight controller (e.g. the LED pad)
③	GND	input ground
④	3V	3.3 V output, max. 1.5 A – positive lead (VCC) of the powered device
⑤	GND	ground of the powered device

※ The “+” and “3V” markings are printed on the board; the assignment of the other pads follows the manufacturer's wiring diagram in Chapter 2.3.

2.3 Wiring



Wiring diagram according to the manufacturer: Flight Control = flight controller (FC), 2-6S IN = power supply, LED = pad used for the control signal, 3V-5V LED Strip/Equipment = powered device

1. Disconnect the battery.
2. Connect the **+** pad (①) to the power pad (battery voltage) of the flight controller or ESC and the **GND** pad (③) to ground.
3. Connect the **C** pad (②) to a free pad of the flight controller that will control the output. The manufacturer gives the **LED** pad as an example.
4. Connect the positive lead (VCC) of the powered device to the **3V** pad (④) and its ground to **GND** (⑤).
5. Check the wiring, polarity and insulation. Only then connect the battery and set up the flight controller according to Chapter 2.4.

When powering the module directly from a 6S battery, connect a capacitor rated for the 6S battery voltage to the input (+ and GND); connect an electrolytic capacitor with the correct polarity. When the module is powered from the flight controller or ESC, no capacitor is needed.

2.4 Controlling the output from the flight controller (Betaflight)

To switch the module output on and off with a switch on the radio transmitter, set up the PINIO function on the flight controller. The manufacturer gives the following procedure for the LED pad – in Betaflight Configurator open the *CLI* tab and enter:

```
resource LED_STRIP 1 NONE
resource PINIO 1 A09
set pinio_box = 40,255,255,255
set pinio_config = 1,129,129,129
save
```

- *resource LED_STRIP 1 NONE* – frees the LED pad from the LED strip function.
- *resource PINIO 1 A09* – assigns the pad to the PINIO 1 function. **A09 is only an example** – the pin designation of the LED pad differs on every flight controller. Find it in the CLI with the *resource* command (LED_STRIP line) before entering the first command, and use it instead of A09.
- *set pinio_box = 40,255,255,255* – assigns control of PINIO 1 to the USER1 mode.
- *set pinio_config = 1,129,129,129* – sets the behaviour of the PINIO outputs.

- *save* – saves the settings and restarts the flight controller.

Then, on the *Modes* tab, add a switch channel (e.g. AUX 1) to the **USER1** mode and set the range in which the mode is to be active – the manufacturer's example uses 1600–2100. Save the settings.

Check the function before flying: flipping the switch must turn the 3V output on and off. It is best checked with a multimeter on the output or by watching the connected device.

2.5 Troubleshooting

Problem	Possible cause and solution
No voltage on the 3V output	Check the input power and polarity (+ and GND). Make sure the USER1 mode is active and the PINIO commands were stored with the *save* command.
The output cannot be controlled by the switch	Check the connection of the C pad, the AUX channel and the range on the *Modes* tab. Make sure the *resource PINIO* command uses the pin of the pad to which C is connected, and that the pad is no longer assigned to the LED_STRIP function.
Output voltage drops, the module gets hot	Check that the current draw of the connected device does not exceed 1.5 A and that there is no short circuit in the wiring.

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

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:** type designation Flywoo 3.3V 1.5A BEC (manufacturer code FW19002402); the module board is printed with FLYWOO and 3V.

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

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.