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GalaxyElec UBEC-10A

GalaxyElec UBEC-10A 2-6S External BEC Module Instruction Manual

Model: UBEC-10A

1. INTRODUCTION

The GalaxyElec UBEC-10A is an external switching mode DC-DC regulator designed for RC applications. It efficiently converts the higher voltage from a 2-6S LiPo battery to a stable, lower voltage suitable for powering receivers, servos, and other electronic components. With its robust current output capabilities, this UBEC is particularly well-suited for larger helicopters and fixed-wing aircraft, ensuring reliable power delivery to critical systems.



Figure 1: Overview of the GalaxyElec UBEC-10A External BEC Module.

2. SPECIFICATIONS

Parameter	Value
Input Voltage	6V-25.2V (2-6S LiPo)
Output Voltage	5.0V / 6.0V / 7.4V / 8.4V (Selectable)
Continuous Output Amperage	10A
Peak Output Amperage	20A
Dimensions (L x W x H)	43.1 x 32.3 x 12.5mm
Weight	36g

3. FEATURES

- **High Efficiency:** Utilizes an advanced DC-DC regulator chip with conversion efficiency exceeding 90%.

- **Selectable Output Voltage:** Offers four output voltage options (5.0V, 6.0V, 7.4V, 8.4V) to accommodate various receivers, gyros, and servos.
- **BEC Shoot-Through Protection:** Prevents the input voltage from directly reaching the output, safeguarding connected electronic devices from damage.
- **Comprehensive Protection:** Includes over-current protection, short-circuit protection (at the output end), and thermal protection for enhanced safety and reliability.
- **Dual Output Cables:** Two cables connected in parallel at the output end allow for larger current flow to the receiver.
- **Status LED:** An integrated LED indicates when the output voltage is within the normal operating range.
- **External Switch:** Provides a convenient external switch for easy power on/off control of the UBEC.
- **Aluminum Casing:** The exquisite aluminum case aids in heat dissipation and reduces electromagnetic interference (EMI).

4. SETUP

Proper setup is crucial for the safe and efficient operation of your UBEC module. Follow these steps carefully:

1. **Select Output Voltage:** Before connecting the UBEC to your system, set the desired output voltage using the dip switches located on the module. Refer to the table below for the correct switch positions for each voltage option.



Figure 2: Dip switch settings for output voltage selection.

Output Voltage	Switch 1	Switch 2	Switch 3
5.0V	OFF	OFF	OFF
6.0V	OFF	ON	OFF
7.4V	ON	OFF	OFF
8.4V	ON	ON	OFF

2. **Connect Input Power:** Connect the input wires of the UBEC module to your 2-6S LiPo battery. Ensure correct polarity (red to positive, black to negative).
3. **Connect Output to Receiver/Devices:** Connect the output wires of the UBEC to your receiver or other electronic devices that require regulated power. The UBEC features dual output cables for increased current capacity.
4. **Install External Switch:** If desired, connect and mount the external switch in an accessible location on your RC model. This switch controls the power to the UBEC output.



Figure 3: Detail of the external power switch and output connections.

5. OPERATING INSTRUCTIONS

Once the UBEC is correctly installed and connected:

- **Power On:** Turn on the external switch (if installed) or connect the main battery to power the UBEC.
- **Status Indicator:** Observe the status LED on the UBEC module. A lit LED indicates that the output voltage is stable and within the normal operating range.
- **Power Off:** Disconnect the main battery or turn off the external switch to power down the UBEC and connected devices.

6. MAINTENANCE

To ensure the longevity and reliable performance of your UBEC module, consider the following maintenance guidelines:

- **Keep Dry:** Protect the UBEC from moisture and water exposure.
- **Cleanliness:** Periodically inspect the module for dust or debris and clean gently with a soft, dry brush if necessary.
- **Connection Check:** Regularly inspect all wiring and connectors for signs of wear, corrosion, or loose

connections. Ensure all connections are secure before each use.

- **Physical Inspection:** Check the aluminum casing for any signs of damage or deformation.

7. TROUBLESHOOTING

If you encounter issues with your UBEC module, consider the following:

- **No Power Output / LED Off:**
 - Verify the input battery is charged and properly connected with correct polarity.
 - Check the external switch (if used) is in the 'ON' position.
 - Inspect all wiring for breaks or loose connections.
- **Incorrect Output Voltage:**
 - Re-check the dip switch settings against the voltage selection table (Figure 2).
 - Ensure the dip switches are fully engaged in their ON/OFF positions.
- **Overheating:**
 - Ensure adequate airflow around the UBEC module.
 - Verify that the continuous current draw of your connected devices does not exceed the UBEC's 10A continuous rating. Peak current should not exceed 20A for short durations.
- **Intermittent Operation:**
 - Check for loose connections or damaged wires.
 - Ensure the input voltage from the battery is stable and within the 2-6S LiPo range.

If problems persist after following these steps, contact the manufacturer or seller for further assistance.

8. WARRANTY AND SUPPORT

For information regarding warranty coverage, technical support, or service, please refer to the documentation provided at the time of purchase or contact your retailer. You may also reach out to the manufacturer, GalaxyElec, directly through their official support channels.