FLIPSKY 75100 Pro V2.0

FLIPSKY 75100 Pro V2.0 Speed Controller User Manual

Model: 75100 Pro V2.0 | Brand: FLIPSKY

1. Introduction

This manual provides essential information for the safe and effective operation of your FLIPSKY 75100 Pro V2.0 Speed Controller. Please read this manual thoroughly before installation and use to ensure optimal performance and longevity of the device.
The FLIPSKY 75100 Pro V2.0 is an advanced Electronic Speed Controller (ESC) designed for electric skateboards, scooters, and e-bikes. It features an aluminum PCB for enhanced heat dissipation and supports various control modes and sensor types.

2. Safety Information

- Always disconnect power before performing any installation, maintenance, or wiring changes.
- Ensure all connections are secure and correctly polarized to prevent damage to the ESC or other components.
- Operate the ESC within its specified voltage and current limits to avoid overheating and component failure.
- Keep the ESC away from water, moisture, and extreme temperatures.
- Installation should be performed by individuals with adequate knowledge of electronics and electrical systems.
- Regularly inspect wiring and connections for signs of wear or damage.

3. Product Features

The FLIPSKY 75100 Pro V2.0 ESC incorporates several key features for robust and flexible performance:

- Firmware: 6.02 (firmware update supported)
- Adjustable protection against: low voltage, high voltage, over current, temperature abnormal, MOSFETs/motor over temperature.
- Support for BLDC square wave mode control and FOC sine wave mode.
- Aluminum PCB for enhanced heat dissipation and extended lifespan.
- Programmable functionality.
- Regenerative braking capacity.
- Integrated power switch button (Red).

Figure 1: FLIPSKY 75100 Pro V2.0 Speed Controller with various connection wires and power button.

4. Setup and Connections

Proper connection of the ESC is critical for its functionality and safety. Refer to the connection diagram below for guidance.

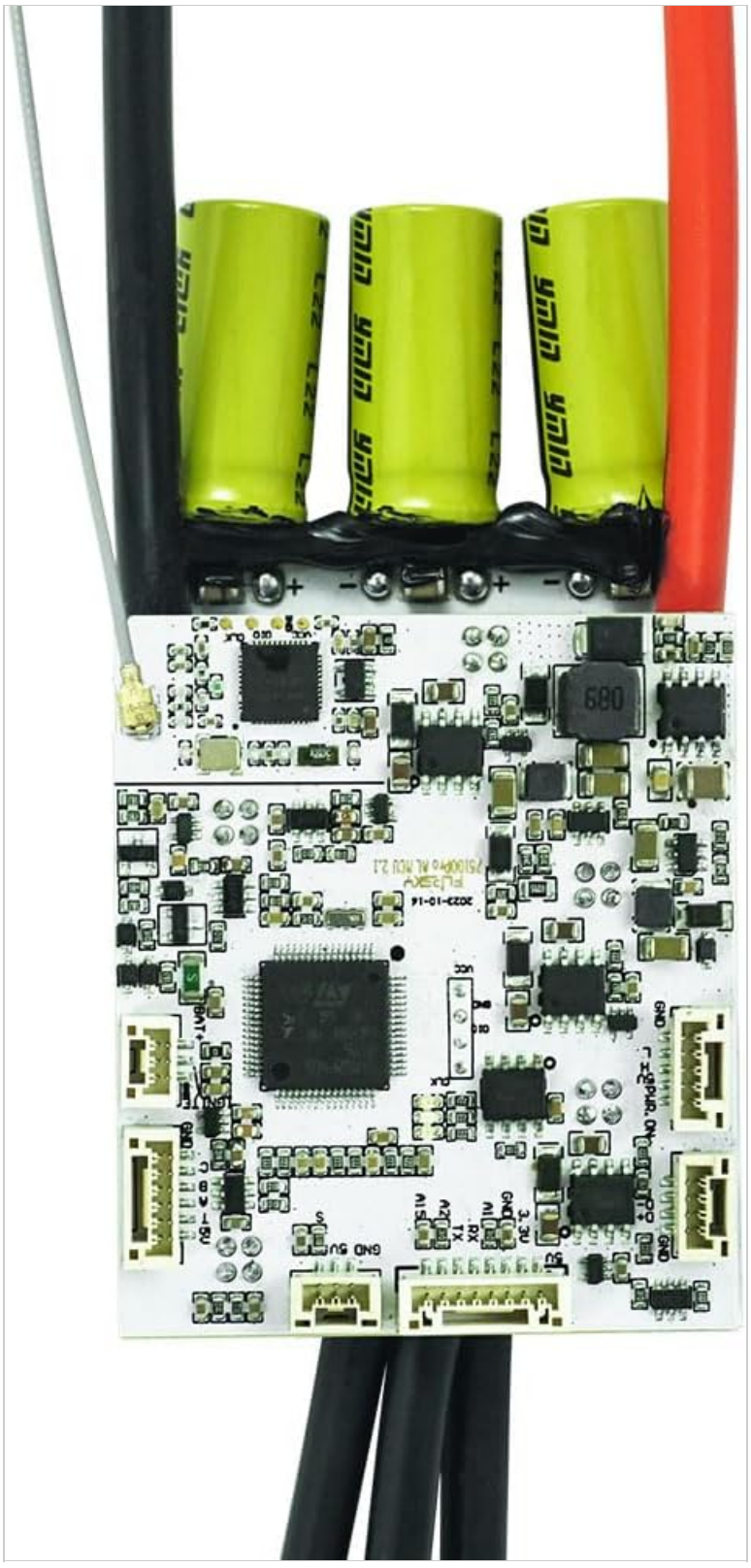


Figure 2: Connection diagram illustrating battery, motor, and control signal ports.

4.1. Power Connections

- **Battery:** Connect your battery pack to the main power input wires (red for positive, black for negative). Ensure correct polarity. The ESC supports 14-84V (4-20S) input.
- **Motor:** Connect the three motor phase wires to the corresponding output wires from the ESC. The wires are typically black and do not require specific phase matching; the ESC will handle it.
- **Power Switch:** Connect the red power switch button to its designated port.

4.2. Control and Sensor Connections

- **HALL Sensors:** Connect the motor's HALL sensor wires to the HALL port on the ESC. Supported sensors include ABI, HALL, AS5047, AS5048A.
- **PPM/PWM:** For throttle input, connect your receiver's PPM/PWM signal to the PPM port.
- **CAN Bus:** Use the CAN port for communication between multiple ESCs (master/slave configuration) or other CAN-enabled devices.
- **UART:** The UART port allows for communication with external modules like Bluetooth modules or other microcontrollers.
- **USB:** Connect the ESC to a computer via the USB port for configuration and firmware updates using VESC Tool software.
- **ADC:** Analog-to-Digital Converter ports are available for various analog inputs.

Important: When unplugging connectors, press the release tab to avoid damaging wires or the connector itself.

5. Operating Instructions

After successful installation and configuration using the VESC Tool, the ESC is ready for operation.

1. **Power On:** Press the red power switch button to turn on the ESC. The LED indicator will illuminate.
2. **Throttle Control:** Apply throttle input via your connected PPM/PWM device. The ESC will control the motor speed and direction based on your input and configured settings.
3. **Braking:** The ESC supports regenerative braking. Applying reverse throttle will engage braking, which also recharges the battery to some extent.
4. **Monitoring:** Use the VESC Tool connected via USB or UART (e.g., Bluetooth module) to monitor real-time parameters such as motor RPM, current, voltage, and temperature.
5. **Power Off:** Press and hold the red power switch button to turn off the ESC.

6. Maintenance

- **Regular Inspection:** Periodically check all wiring and connectors for signs of wear, corrosion, or loose connections.
- **Cleaning:** Keep the ESC clean and free from dust, dirt, and debris. Use a soft, dry brush or compressed air. Avoid using liquids.
- **Heat Management:** Ensure adequate airflow around the ESC, especially during high-power operation, to utilize its aluminum PCB's heat dissipation capabilities effectively.
- **Firmware Updates:** Check for and apply firmware updates periodically using the VESC Tool to benefit from performance improvements and bug fixes.

7. Troubleshooting

Problem	Possible Cause	Solution
ESC does not power on.	No power from battery, faulty power switch, incorrect wiring.	Check battery voltage, inspect power switch connection, verify main power wiring.
Motor not spinning or erratic behavior.	Incorrect motor detection, loose motor phase wires, sensor issues, incorrect VESC Tool configuration.	Perform motor detection in VESC Tool, check motor wire connections, inspect sensor wiring, review VESC Tool settings.

Problem	Possible Cause	Solution
ESC overheating.	Excessive load, insufficient cooling, short circuit, incorrect current limits.	Reduce load, ensure adequate airflow, check for shorts, adjust current limits in VESC Tool.
No throttle response.	PPM/PWM signal not connected, incorrect receiver settings, VESC Tool input configuration error.	Verify PPM/PWM connection, check receiver output, configure input in VESC Tool.

8. Specifications

Feature	Detail
Firmware	6.02 (firmware update supported)
Dimensions (L*W*H)	103mm * 58mm * 27.7mm
Voltage Range	14-84V (4-20S)
Continuous Current	100A
BEC Output	5V@1.5A
Control Modes	BLDC square wave, FOC sine wave
Max ERPM	150000
Control Interface Ports	USB, CAN, UART
Supported Sensors	ABI, HALL, AS5047, AS5048A
Input Set Support	PPM, ADC, NRF, UART
Wire Size	10AWG (75100 Pro)
Programmable	Yes
Regenerative Capacity	Yes
Phase Filter	Yes
Power Switch Button	Red
Material	Aluminum
Item Weight	0.3 Kilograms

Figure 3: Dimensions of the FLIPSKY 75100 Pro V2.0 Speed Controller.

9. Warranty and Support

9.1. Warranty Information

The FLIPSKY 75100 Pro V2.0 Speed Controller comes with a warranty of 2 months or more, as specified by the manufacturer. Please retain your proof of purchase for warranty claims. The warranty covers manufacturing defects under normal use conditions. Damage resulting from improper installation, misuse, modification, or exceeding specified limits may void the warranty.

9.2. Technical Support

For technical assistance, troubleshooting beyond this manual, or warranty inquiries, please contact FLIPSKY customer support through their official website or the retailer from whom the product was purchased. Ensure you have your product model number and purchase details ready.

10. Additional Product Views

Figure 4: Another view of the FLIPSKY 75100 Pro V2.0 with connected wires.

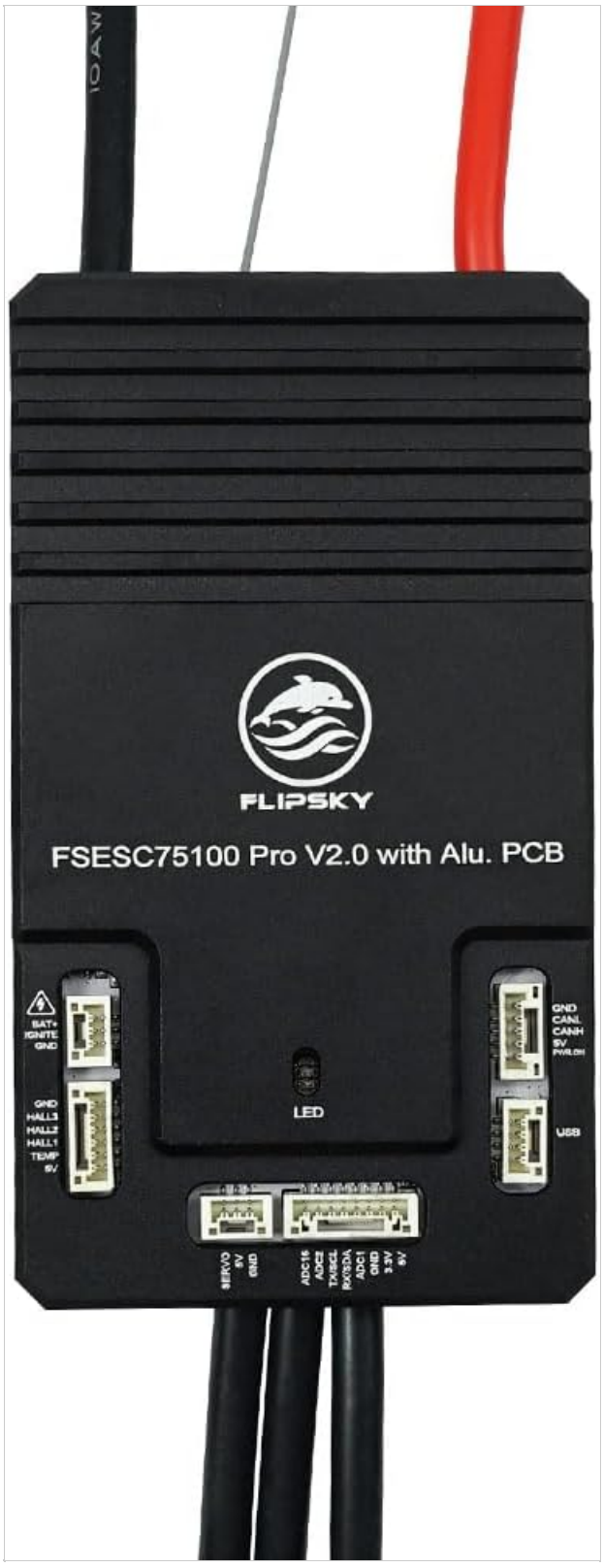


Figure 5: Top view of the FLIPSKY 75100 Pro V2.0, highlighting the ports and branding.

Figure 6: Side view of the FLIPSKY 75100 Pro V2.0, showcasing the ribbed aluminum casing for heat dissipation.

Figure 7: Angled view of the FLIPSKY 75100 Pro V2.0.

Figure 8: Front view of the FLIPSKY 75100 Pro V2.0.

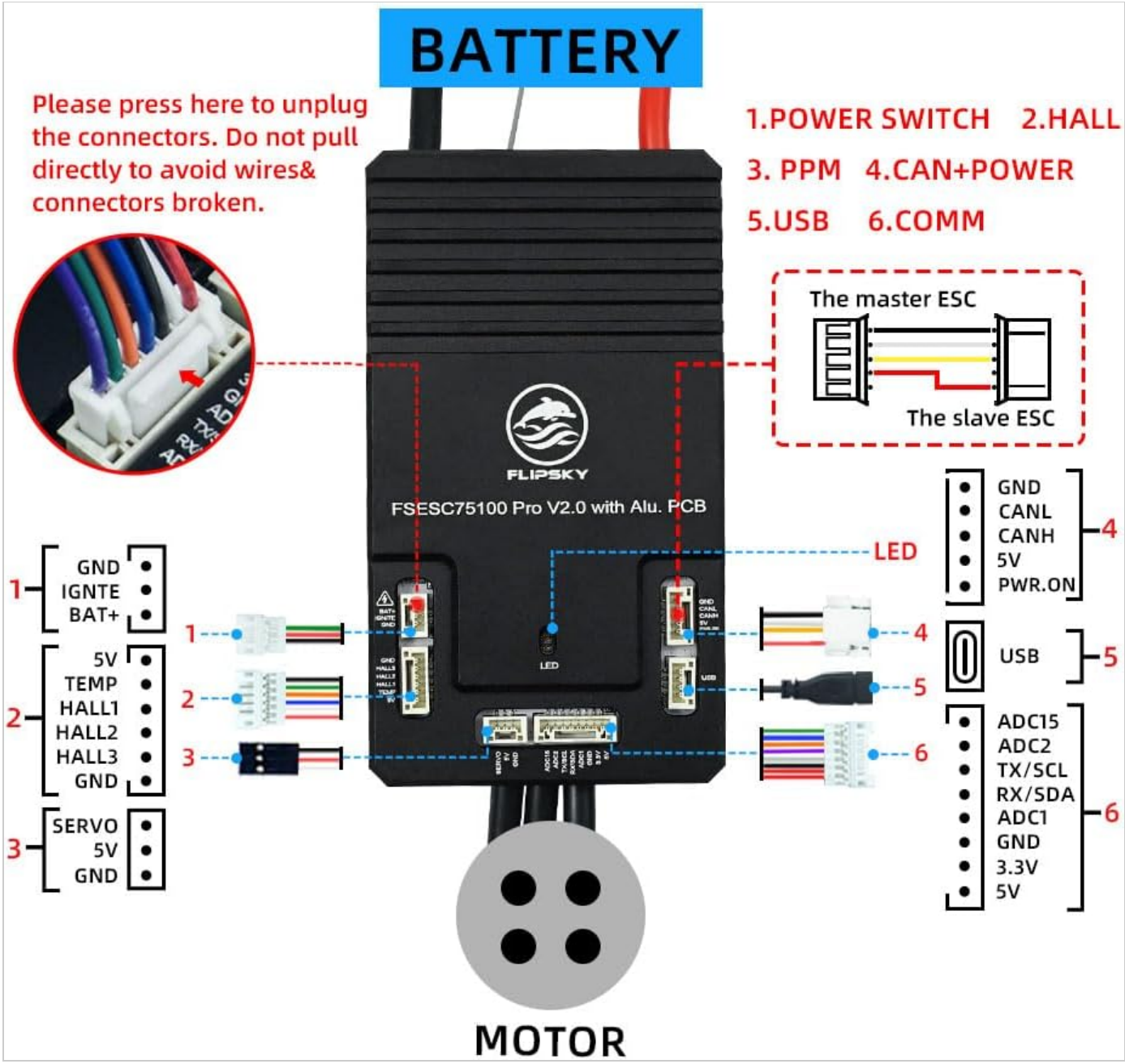
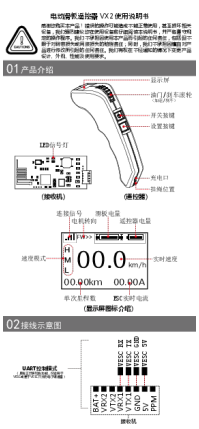
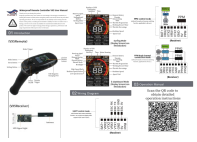


Figure 9: Internal view of the FLIPSKY 75100 Pro V2.0 circuit board, showing components and capacitors.

No official product videos from the seller were found to be relevant for embedding in this manual.

Related Documents

	[FLIPSKY VX2 2.4G Screen Remote Controller User Manual] Comprehensive user manual for the FLIPSKY VX2 electric skateboard remote controller. Learn about power operations, pairing procedures, connection status, acceleration/braking, cruise control, and parameter settings. Includes wiring diagrams and screen display explanations.
	[Flipsky VX5 Waterproof Remote Controller User Manual] User manual for the Flipsky VX5 waterproof remote controller, detailing its features, wiring diagrams for PPM and UART control modes, and screen display icon explanations.
	[FLIPSKY VX5 Waterproof Remote Controller User Manual - Features, Wiring, and Operation] Comprehensive user manual for the FLIPSKY VX5 waterproof remote controller. Details features, button layouts, display screen information, wiring diagrams for PPM and UART modes, and operational guidance.