

FTVOGUE FTVOGUEo1c6p75i0l

FTVOGUE Brushless Motor Controller (Model FTVOGUEo1c6p75i0l) Instruction Manual

Brand: FTVOGUE

1. PRODUCT OVERVIEW

The FTVOGUE Brushless Motor Controller is a versatile PWM driver board designed for DC brushless motors with Hall sensors. It operates within a wide voltage range of 5-36V, supporting up to 16A current and 350W power output. This controller provides precise motor control, enabling smoother operation and improved efficiency for various applications.

Key Features:

- **Wide Power & Compatibility:** Functions with 5-36V power supply, supporting up to 16A, ensuring performance for various DC brushless motors.
- **Accurate Control:** Features a Hall effect sensor for precise motor control, allowing smoother operation and better efficiency.
- **Compact Design:** Dimensions of 63x45x27 mm allow for easy integration into confined spaces, ideal for compact build projects.
- **Intuitive Connections:** Includes clearly labeled connections for straightforward setup, suitable for both beginners and experienced users.
- **Versatile Applications:** Perfect for robotics, drones, and other innovative projects requiring precise motor control.
- **Overcurrent Protection:** Built-in protection feature to safeguard the device.

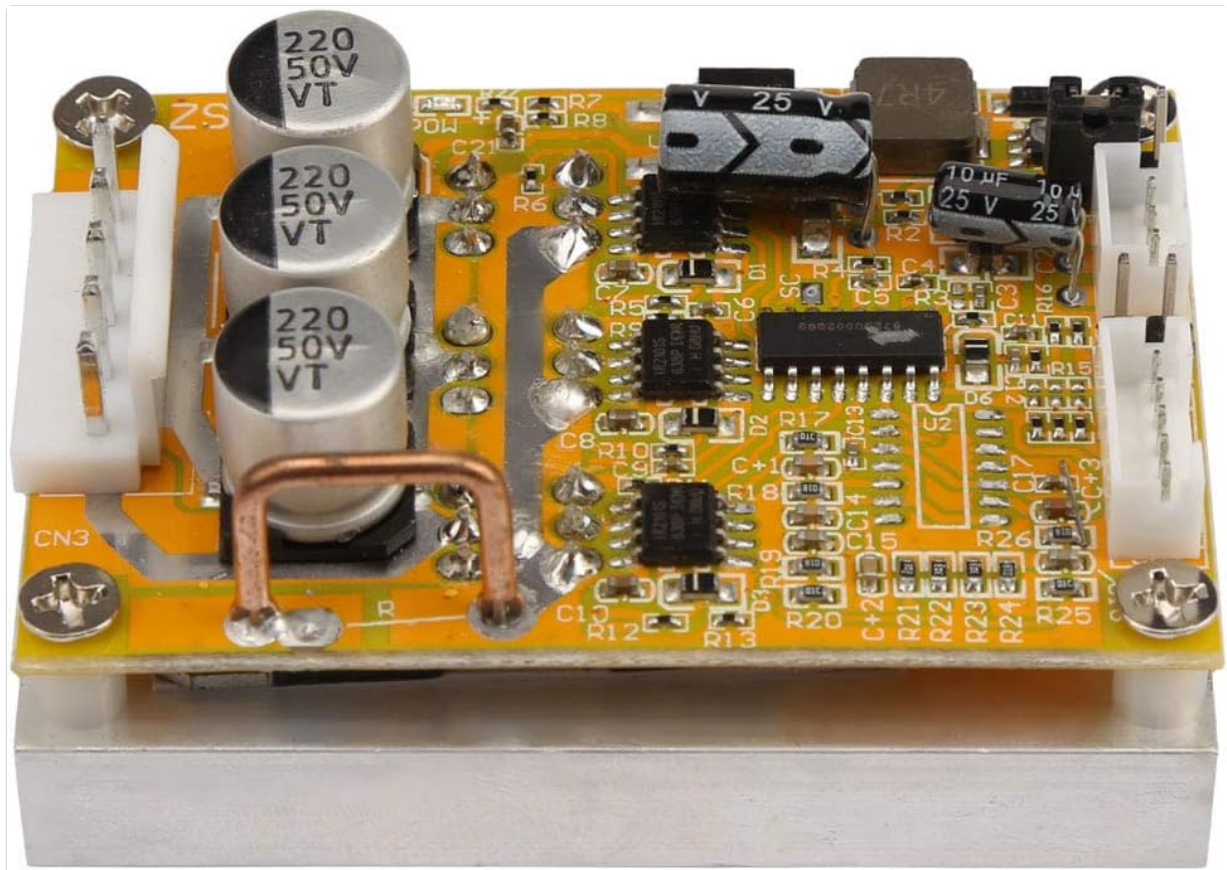


Figure 1: Top view of the FTVOGUE Brushless Motor Controller board, showing components and heatsink.

2. PACKAGE CONTENTS

Upon opening the package, please verify that all components are present and undamaged:

- 1 x FTVOGUE Brushless Motor Controller with Hall Sensor
- 1 x Speed Controller and Reverse Switch Cable
- 1 x Power Cable

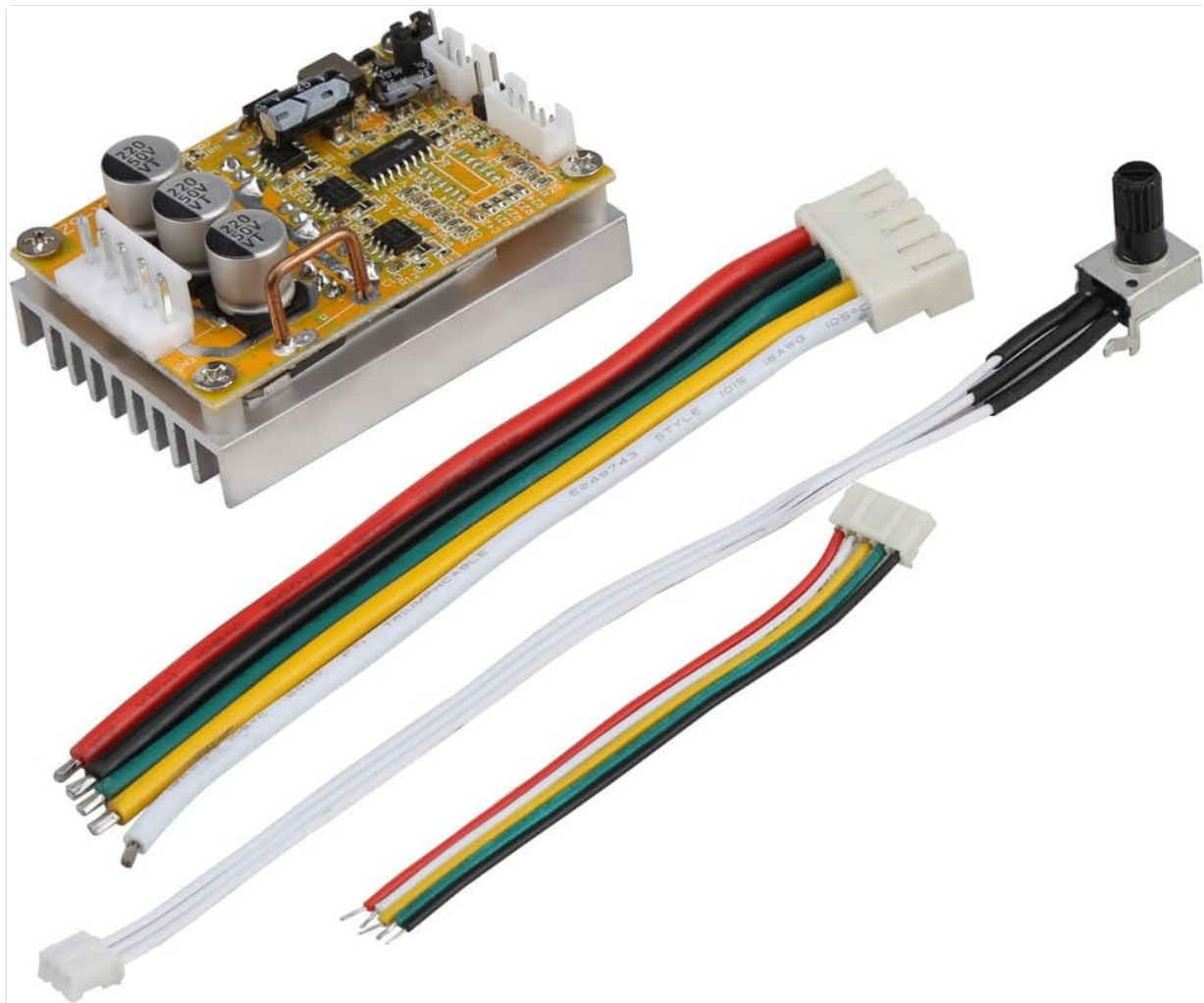


Figure 2: The brushless motor controller board along with the speed controller cable and power cable.

3. SETUP AND WIRING INSTRUCTIONS

Carefully follow these instructions for proper connection of the motor controller. Ensure all power is disconnected before making any connections.

3.1 Interface Connections

1. **MA MB MC:** These terminals are for connecting the three phase output wires of your DC brushless motor. Ensure correct phase matching.
2. **5V GND:** This provides a 5V internal power supply from the motherboard, typically used for Hall sensors or other low-power components.
3. **VCC GND:** Connect your external DC power supply here. The operating voltage range is 5-36V. Ensure correct polarity (VCC for positive, GND for negative).
4. **SC:** This is the pulse signal output terminal.
5. **Z/F:** This terminal controls the motor's rotation direction (forward/reverse). Apply 5V to this pin for one direction, or connect to GND for the opposite direction.
6. **VR:** This is the speed signal input. Connect the center pin of an external 100K potentiometer to VR. Connect the other two pins of the potentiometer to the 5V and GND terminals of the main board, respectively, to control motor speed.

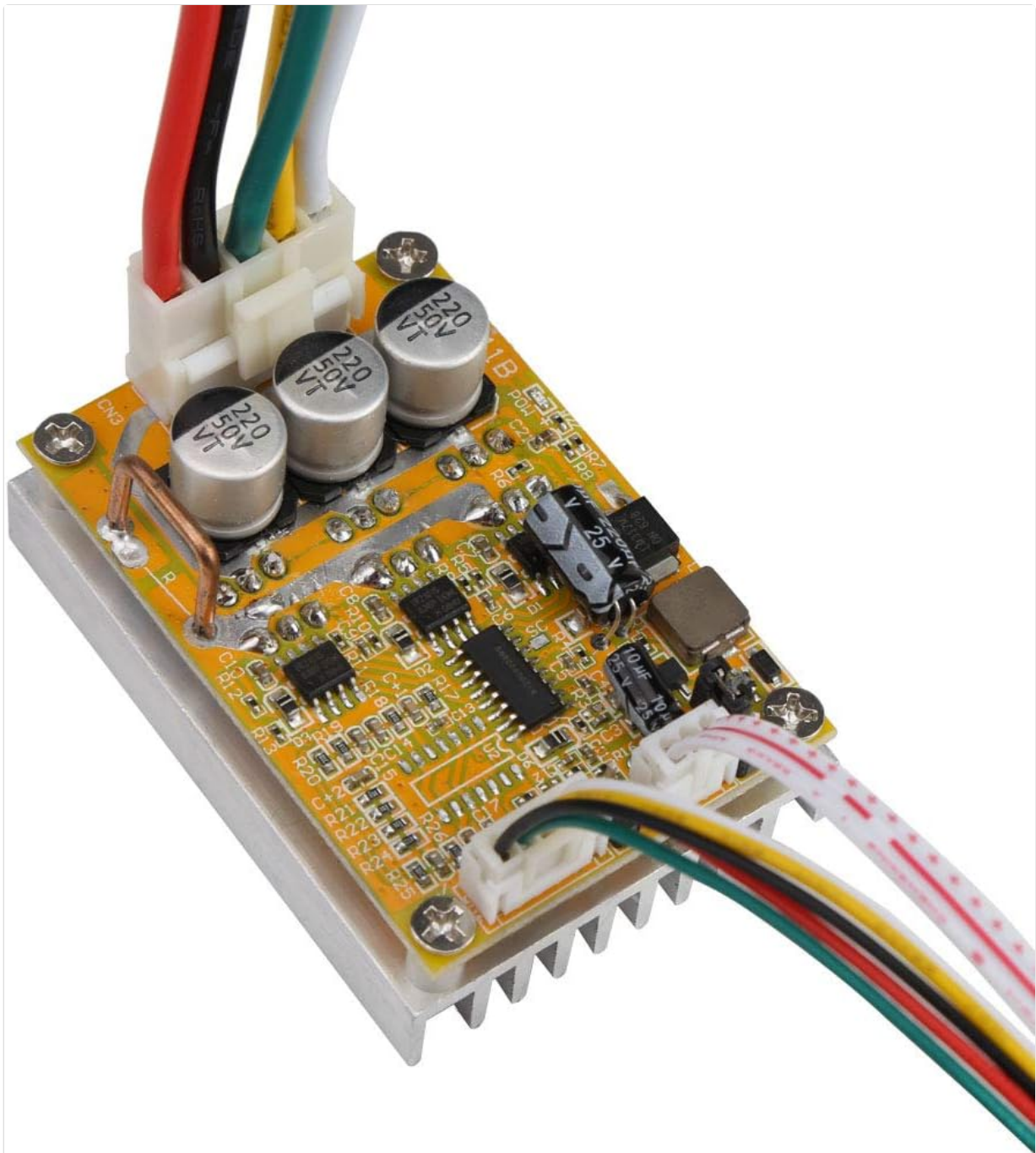


Figure 3: The controller board with typical wiring for motor phases and control signals.



Figure 4: The included speed controller potentiometer and reverse switch cable for external control.

4. OPERATING INSTRUCTIONS

Once the controller is correctly wired and powered, you can operate your brushless DC motor:

- **Power On:** Apply DC power within the 5-36V range to the VCC and GND terminals.
- **Speed Control:** Use the connected 100K potentiometer (VR terminal) to adjust the motor's speed. Turning the potentiometer will vary the input signal to the VR pin, thereby changing the motor's rotational speed.
- **Direction Control:** Utilize the Z/F terminal to switch the motor's direction. Applying 5V to Z/F will set one direction, while connecting Z/F to GND will set the opposite direction. The included reverse switch cable can be used for this purpose.
- **Overcurrent Protection:** The board features built-in overcurrent protection. If an overcurrent condition occurs, the controller will attempt to protect itself and the motor. Identify and resolve the cause of the overcurrent before resuming operation.

5. MAINTENANCE

The FTVOGUE Brushless Motor Controller is designed for durability and requires minimal maintenance. To ensure optimal performance and longevity:

- **Keep Clean:** Regularly inspect the board for dust or debris. Use a soft, dry brush or compressed air to

gently clean the components.

- **Avoid Moisture:** Protect the controller from moisture and liquids, as these can cause short circuits and damage.
- **Temperature Control:** Ensure the operating environment is within reasonable temperature limits to prevent overheating. The integrated heatsink helps dissipate heat, but proper ventilation is still recommended.
- **Secure Connections:** Periodically check all wiring connections to ensure they are secure and free from corrosion. Loose connections can lead to intermittent operation or damage.

6. TROUBLESHOOTING

If you encounter issues with your FTVOGUE Brushless Motor Controller, consider the following common problems and solutions:

- **Motor Not Spinning:**
 - Check power supply: Ensure it is within the 5-36V range and correctly connected (VCC/GND).
 - Verify motor phase connections (MA, MB, MC) are correct and secure.
 - Confirm Hall sensor connections are correct.
 - Check the speed control (VR) potentiometer setting; it might be at minimum speed.
- **Motor Runs Erratic or Jumps:**
 - Incorrect Hall sensor wiring or faulty Hall sensors.
 - Loose motor phase connections.
 - Motor or controller overheating (check ventilation).
- **Motor Direction Issue:**
 - Verify the Z/F terminal connection and the state of the reverse switch.
- **Controller Overheating:**
 - Ensure adequate airflow around the heatsink.
 - Check if the motor load exceeds the controller's maximum power (350W) or current (16A) ratings.
 - Verify that the heatsink is properly attached to the board.

If problems persist after checking these points, contact the seller or manufacturer for further assistance.

7. TECHNICAL SPECIFICATIONS

Specification	Value
Brand	FTVOGUE
Model	FTVOGUEo1c6p75i0l
Working Voltage	5-36 V DC
Maximum Current	16 A

Specification	Value
Maximum Power	350 W
Overcurrent Protection	Yes
Dimensions (L x W x H)	63 x 45 x 27 mm (2.48 x 1.77 x 1.06 inches)
Weight	Approximately 100 g

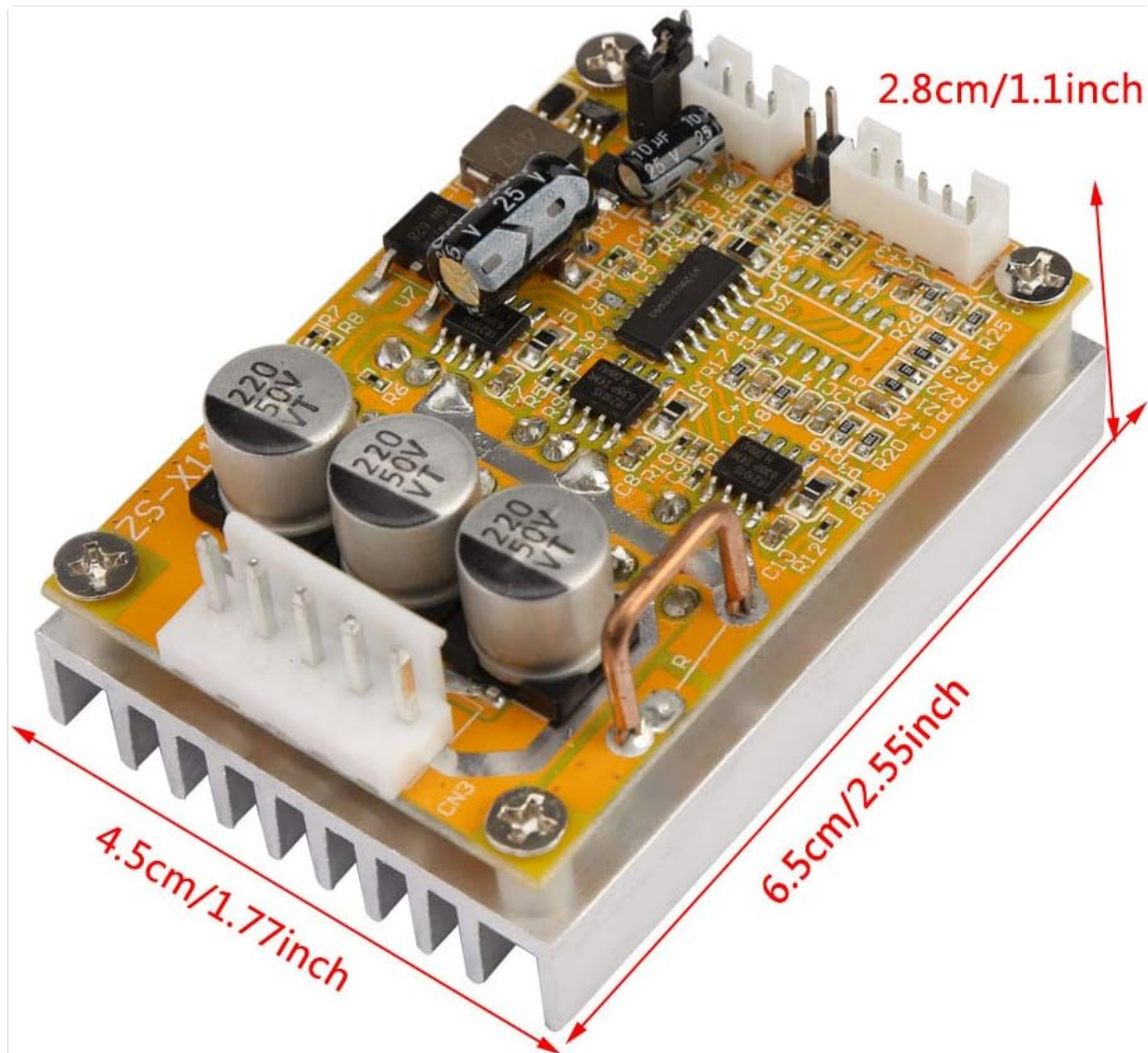


Figure 5: Dimensions of the FTVOGUE Brushless Motor Controller.

8. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please refer to the documentation provided with your purchase or contact the seller directly. Keep your purchase receipt as proof of purchase.