briidea HTRC-01

Briidea DC 12-48V 35A Waterproof Motor Speed Controller HTRC-01 User Manual

Model: HTRC-01

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, maintenance, and troubleshooting of the Briidea HTRC-01 DC 12-48V 35A Waterproof Motor Speed Controller. This device is designed to provide precise speed control for various DC brush motors, including those found in trolling boat motors, blowers, fans, and electric weeders.

Image 1.1: Briidea HTRC-01 controller in a marine application.
The controller is shown mounted on a boat, demonstrating its application for trolling motors.

Image 1.2: Examples of compatible brush motor applications.
This image illustrates the versatility of the controller for various brush motor-driven devices such as electric weeders, trolling motors, automotive fans, and leaf blowers.

2. SAFETY INFORMATION

- **Power Supply:** Ensure the power supply voltage is within the specified range of DC 12-48V. Exceeding

this range can damage the unit.

- **Polarity:** Always connect the positive and negative terminals of the power supply correctly. Reversing polarity will cause immediate damage to the controller.

- **Current Rating:** Do not exceed the continuous current rating of 35A or the peak current of 60A. Overloading can lead to overheating and failure.

- **Wiring:** Use appropriate wire gauges (up to 6AWG) for connections to prevent overheating and ensure stable operation.

- **Environment:** While the unit is IP65 waterproof, avoid submerging it or exposing it to extreme conditions beyond its rating.

- **Installation:** Ensure the controller is securely mounted and all connections are tight to prevent accidental disconnections or short circuits.

- **Maintenance:** Disconnect power before performing any maintenance or inspection.

3. PRODUCT OVERVIEW

The Briidea HTRC-01 is a robust DC motor speed controller featuring a waterproof design and intuitive controls. It allows for variable speed adjustment and includes a forward-brake-reverse switch.
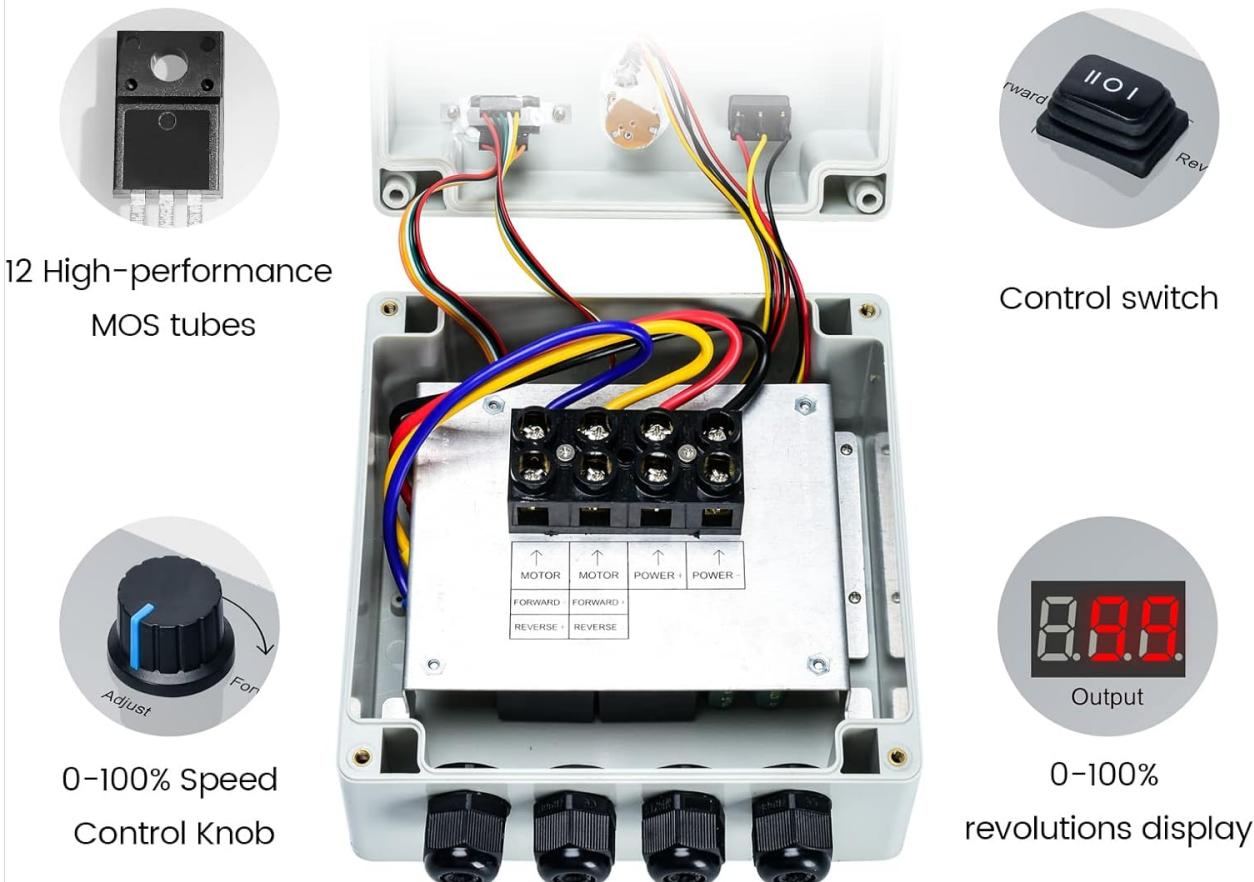
Image 3.2: Internal components and labeled features.
An exploded view showing the internal wiring, the 12 high-performance MOS tubes, the control switch, the 0-100% speed control knob, and the LED output display.

4. SPECIFICATIONS

Feature	Specification
Model	HTRC-01
Input Voltage	DC 12-48V
Continuous Current	35A
Peak Current	60A
Speed Control Range	0-100% (Variable)
Waterproof Rating	IP65
Display	LED (0-100% rotation value)

Feature	Specification
Dimensions (L x W x H)	6.4 x 6.4 x 3.5 inches (16.26 x 16.26 x 8.89 cm)
Weight	2.29 pounds (1.04 kg)
Material	Metal (internal components)

Image 4.1: Product dimensions.
This diagram provides the physical measurements of the controller for installation planning.

5. SETUP AND INSTALLATION

Follow these steps for proper installation of your Briidea HTRC-01 motor speed controller.

1. **Mounting:** Select a suitable, stable surface for mounting the controller. Ensure it is accessible for operation and protected from direct impact.

2. **Wiring Preparation:** Ensure the power source is disconnected before making any electrical connections. Prepare your power supply wires and motor wires. The controller supports up to 6AWG wire access directly, eliminating the need for separate terminals.

3. **Connect Power:** Connect the positive (+) terminal of your DC power supply to the 'POWER +' input on the controller. Connect the negative (-) terminal of your DC power supply to the 'POWER -' input. **Warning: Reversing polarity will damage the unit.**

4. **Connect Motor:** Connect the motor wires to the 'MOTOR' terminals on the controller. The motor terminals are not polarity-sensitive for basic operation, but reversing them will reverse the motor's direction if the switch is in the 'Forward' position.

5. **Secure Connections:** Ensure all wire connections are tight and secure within the waterproof cable glands.

Image 5.1: Wiring diagram.
This diagram illustrates the direct connection method for the motor and power supply, highlighting that no additional wire terminals are required and supporting up to 6AWG wire size.

6. OPERATING INSTRUCTIONS

Once installed, operate the controller as follows:

1. **Power On:** Connect the power supply to the controller. The LED display will illuminate.

2. **Select Direction:** Use the **Forward-Brake-Reverse Switch** to select the desired motor direction.

   - **Forward:** Motor rotates in the forward direction.
   - **Brake (Center Position):** Motor stops and applies a brake.
   - **Reverse:** Motor rotates in the reverse direction.

3. **Adjust Speed:** Rotate the **Adjust Potentiometer Knob** clockwise to increase motor speed from 0% to 100%. Rotate counter-clockwise to decrease speed. The LED display will show the current speed percentage.

4. **Monitor Output:** The LED display provides a real-time numerical value of the motor's output speed, ranging from 0 to 100.
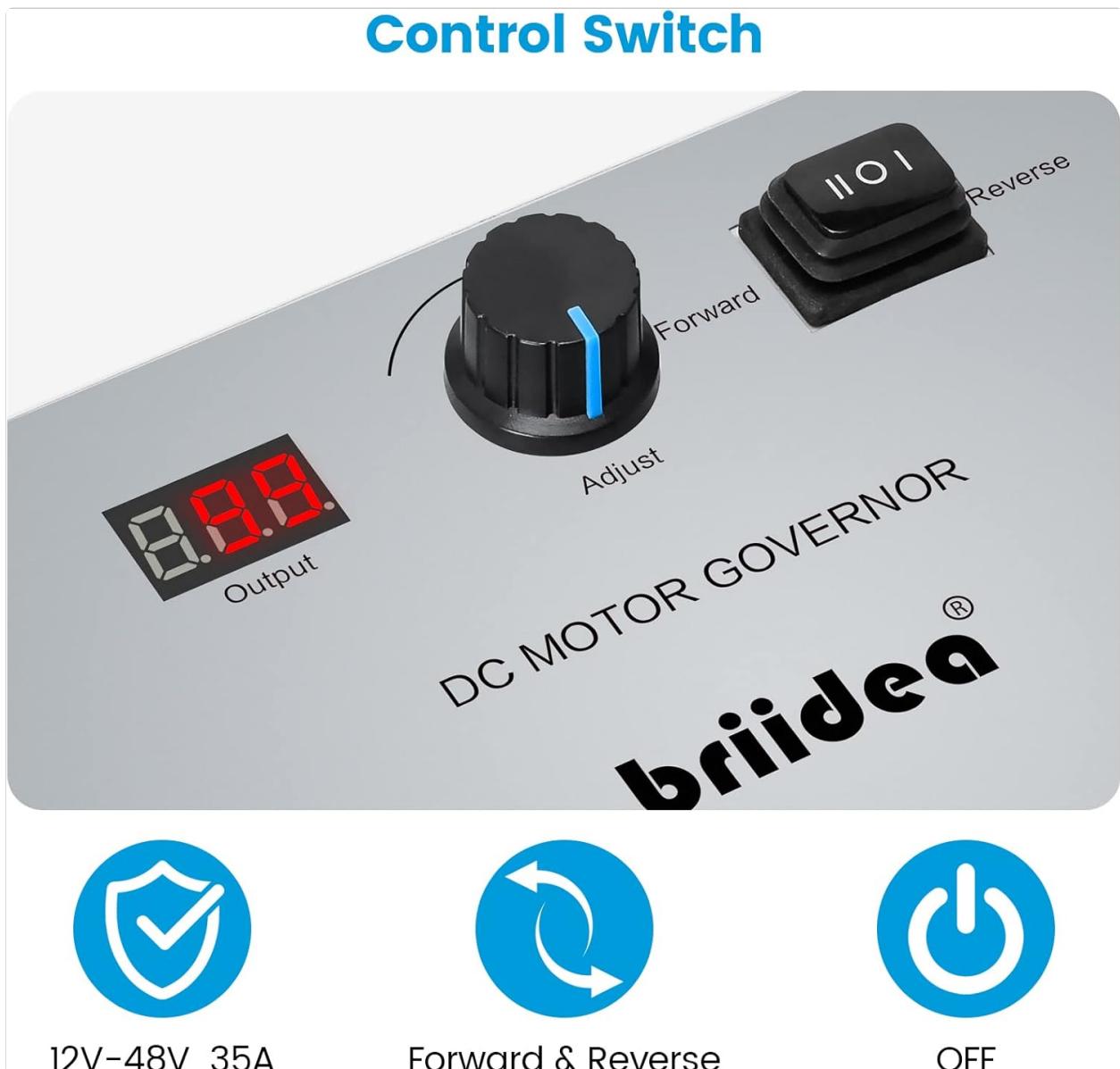
Image 6.1: Control panel details.
This image highlights the LED display, the speed adjustment knob, and the three-position switch for forward, brake (off), and reverse functions.

7. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your controller.

- **Cleaning:** Periodically clean the exterior of the controller with a damp cloth. Avoid using harsh chemicals or abrasive materials.

- **Connection Check:** Regularly inspect all wiring connections to ensure they remain tight and free from corrosion. Loose connections can lead to intermittent operation or damage.

- **Waterproof Integrity:** Although IP65 rated, inspect the cable glands and housing for any signs of damage or wear that could compromise its waterproof seal, especially after exposure to water.

- **Environmental Protection:** Store the controller in a dry, cool place when not in use for extended periods.

Image 7.1: Waterproof capability.
The image shows the controller being exposed to water, illustrating its IP65 waterproof design, which protects against water jets from any direction.

8. TROUBLESHOOTING

If you encounter issues with your Briidea HTRC-01 controller, refer to the following common problems and solutions:

Problem	Possible Cause	Solution

Problem	Possible Cause	Solution
Controller does not power on / LED display is off.	No power supply, incorrect wiring, blown fuse (if applicable).	Check power connections and ensure correct polarity. Verify power source is active. Inspect for any external fuses.
Motor does not respond to speed adjustment.	Motor not connected, faulty motor, switch in 'Brake' position, internal controller issue.	Check motor connections. Ensure the switch is in 'Forward' or 'Reverse'. Test motor directly if possible.
Motor runs at full speed regardless of knob position.	Potentiometer fault, internal circuit damage.	Contact customer support. This indicates a potential internal component failure.
Motor direction is incorrect.	Forward-Brake-Reverse switch setting, motor wiring.	Adjust the Forward-Brake-Reverse switch. If still incorrect, reverse the motor's wire connections to the controller.
Controller overheats.	Overload, insufficient ventilation, short circuit.	Ensure motor current does not exceed 35A continuous. Provide adequate airflow around the unit. Check for short circuits in wiring.

9. WARRANTY INFORMATION

Briidea products are manufactured to high-quality standards. For specific warranty terms and conditions, please refer to the documentation included with your purchase or visit the official Briidea website. Typically, a limited warranty covers manufacturing defects for a specified period from the date of purchase.

10. SUPPORT

For technical assistance, product inquiries, or warranty claims, please contact Briidea customer support through their official website or the retailer where the product was purchased. Please have your model number (HTRC-01) and purchase information ready when contacting support.
You can visit the Briidea store for more information: Briidea Store on Amazon

Related Documents - HTRC-01

[Briidea HASS-05 AC Soft Starter User Manual](#)

User manual for the Briidea HASS-05 AC Soft Starter, detailing its features, benefits, specifications, and installation guide. This soft starter is designed to reduce inrush current for AC motors, offering reverse motor protection and easy installation.

[briidea HASS-05 AC Soft Starter User Manual and Installation Guide](#)

Comprehensive user manual and installation guide for the briidea HASS-05 AC Soft Starter. Learn about its features, benefits, technical specifications, safety precautions, and step-by-step wiring and installation procedures for HVAC systems.

[HTRC Smart Battery Charger 12V/24V - 7-Stage Automatic Charging for Lithium, Lead-Acid, LiFePO4](#)

Comprehensive instruction manual for the HTRC 7-Stage Automatic Smart Battery Charger (12V/24V). Learn about features, safety, charging modes, and specifications for Lithium, Lead-Acid, LiFePO4, AGM, GEL, and more.

[HTRC P3648 Akkulaturi: Käyttö- ja asennusohjekirja | Engifar Oy](#)

Kattava käyttö- ja asennusohjekirja HTRC P3648 älykkäälle akkulaturille. Sisältää turvallisuusohjeet, tekniset tiedot, ominaisuudet, latausvaiheet ja lisäohjeita 36V ja 48V lyijyhappo-, AGM-, geeli- ja LiFePO4-akuille.

[BTF-LIGHTING FCOB PWM RGBW LED Strip User's Manual](#)

User's manual for the BTF-LIGHTING FCOB PWM RGBW LED Strip, detailing product parameters, precautions, controller compatibility, and installation instructions for versatile lighting applications.

Multilingual Index

[BTF-LIGHTING FCOB PWM CCT LED Strip User Manual](#)

User manual for the BTF-LIGHTING FCOB PWM CCT LED Strip, detailing product parameters, installation, precautions, and troubleshooting. Available in multiple languages.