

TKXEC 60A PWM

Adjustable Digital Display 10-55V 60A PWM DC Brushed Motor Speed Controller

MODEL: 60A PWM

Brand: TKXEC

1. SAFETY INFORMATION

Please read all safety instructions carefully before operating the device to prevent damage or injury.

- **Input Voltage:** The input voltage must match the rated voltage of the motor. This controller supports a wide voltage input range of 10-55V.
- **Power Supply:** The power of the input power supply must be at least 1.5 times greater than the rated power of the motor to ensure proper operation.
- **Motor Type:** This controller is designed exclusively for **brushed DC motors**. It is not compatible with stepper motors or brushless motors.
- **Polarity:** Ensure correct positive and negative connections for the input voltage. Incorrect polarity can damage the device.
- **Household Electricity:** Do not connect 220V household AC electricity directly to this controller.
- **Children's Car Application:** If installing in a children's car with an existing forward-reverse circuit regulator, connect this speed controller between the power supply and the existing regulator. Failure to do so may damage the speed controller.

2. PRODUCT OVERVIEW

Key Features

- **Wide Voltage Input:** 10-55V DC.
- **High Current Capacity:** Maximum output current 60A, continuous current 40A.

- **Digital Display:** Shows motor rotation speed as a percentage (0-100%).
- **Stepless Speed Regulation:** Adjustable output current controls motor speed.
- **Direction Control:** Features a Forward-Brake-Reverse switch.

Component Identification

The image below illustrates the main components and connection points of the speed controller.

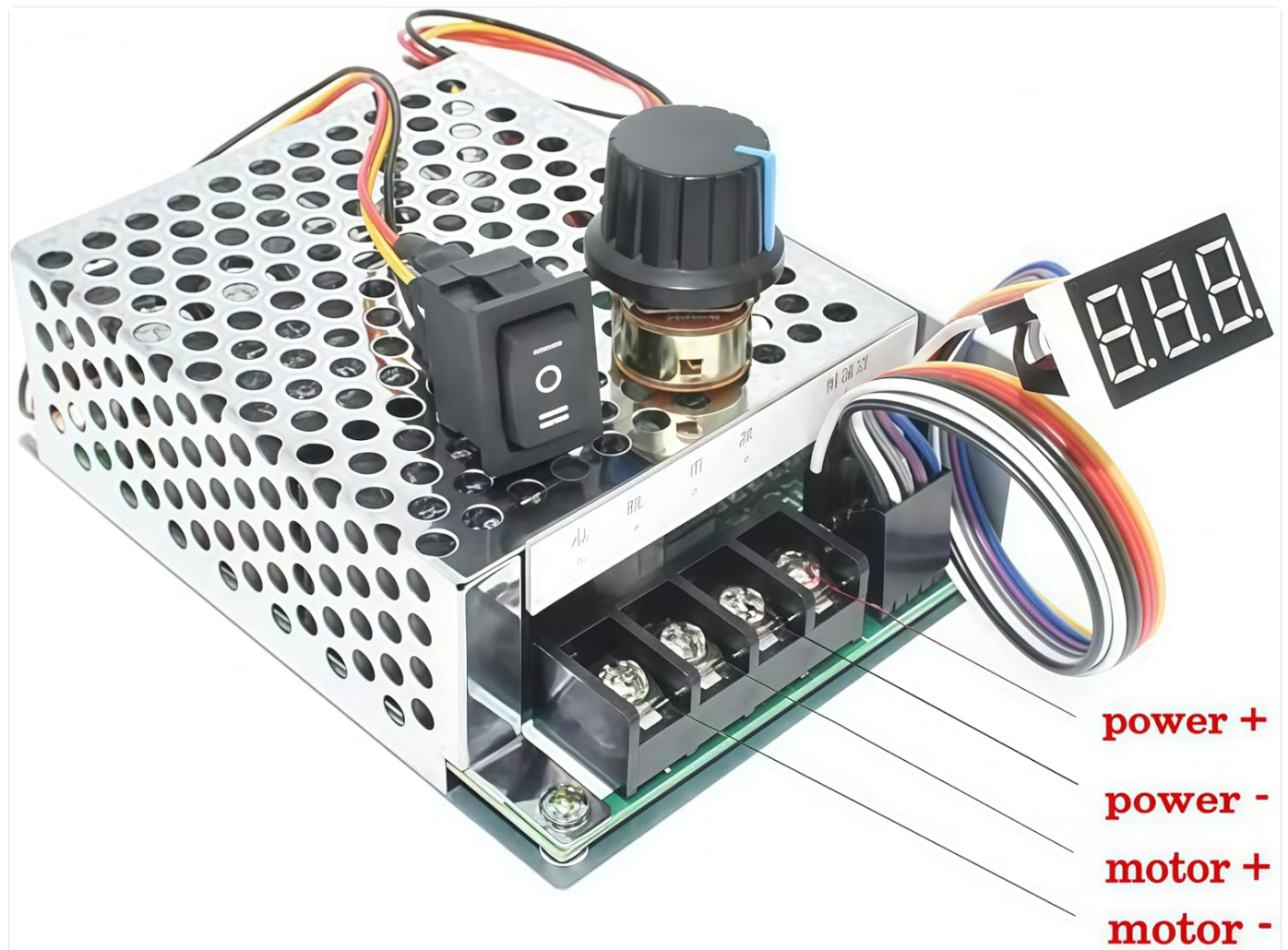


Figure 2.1: Main components including power input, motor output, speed control knob, and digital display.

The controller includes a digital display for speed percentage, a rotary knob for stepless speed adjustment, and a switch for forward, brake, and reverse functions. Connection terminals are clearly marked for power input and motor output.

Motor Compatibility

This speed controller is specifically designed for two-wire DC brushed motors. It is not compatible with stepper motors or brushless motors.

Note: Only Work For Two Wire DC Motors, Cannot Be Work For Stepper Motors, Brushless Motors



Figure 2.2: Important note on motor compatibility.

3. SPECIFICATIONS

Specification	Value
Input Voltage	10-55V DC
Maximum Output Current	60A
Continuous Current	40A
Speed Regulation Type	Adjust Output Current
Speed Display	Digital (0-100% of full speed)

Control Method	Potentiometer (Stepless)
Direction Control	Forward-Brake-Reverse Switch
Compatible Motor Type	DC Brushed Motor (Two-wire)
Material	Copper
Item Weight	8.8 ounces

Dimensions

The physical dimensions of the controller are approximately 4.33 x 3.07 x 1.5 inches (110 x 78 x 38 mm).

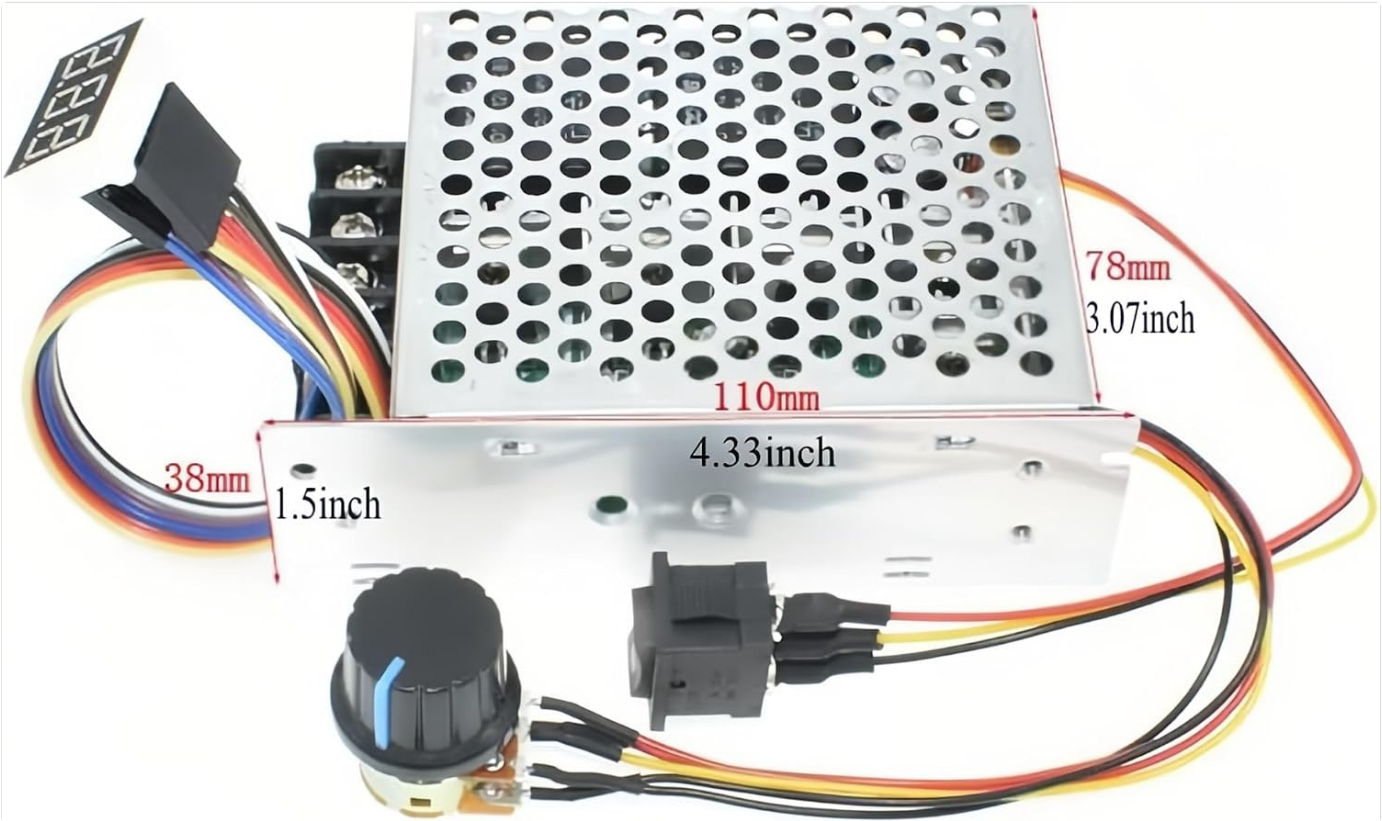


Figure 3.1: Controller dimensions.

4. SETUP

Wiring Diagram

Follow the wiring diagram carefully to ensure correct and safe installation. Incorrect wiring can lead to device malfunction or damage.

***The input voltage must be divided between positive and negative, and 220V household electricity cannot be input
The input voltage should be equal to the rated voltage of the motor (within 9-60V)
If the rated voltage of the motor is 12V, input 12V. If the motor is 36V, input 36V***



Figure 4.1: Basic wiring connections.

Connection Guidelines

1. **Power Input:** Connect your DC power supply to the 'Power +' and 'Power -' terminals. Ensure the input voltage is within the 10-55V range and matches your motor's rated voltage.
2. **Motor Output:** Connect your two-wire DC brushed motor to the 'Motor +' and 'Motor -' terminals.
3. **Polarity:** Double-check all connections for correct polarity before applying power.
4. **Power Supply Capacity:** Verify that your power supply can provide at least 1.5 times the rated power of your motor.
5. **Children's Car Specifics:** If integrating into a children's car with an existing forward-reverse circuit regulator, connect the speed controller between the main power source and the car's regulator. This prevents potential damage to the speed controller.

5. OPERATING INSTRUCTIONS

Speed Control

1. Ensure all connections are secure and correct.
2. Turn on the power supply to the controller. The digital display will illuminate.
3. Rotate the speed control knob clockwise to increase motor speed. The digital display will show the speed as a percentage from 0 to 100%.
4. Rotate the knob counter-clockwise to decrease motor speed.

Forward, Brake, and Reverse Function

Use the integrated switch to select the desired motor direction or to apply the brake function:

- **Forward:** Move the switch to the 'I' position for forward rotation.
- **Brake:** Move the switch to the 'O' (center) position to stop the motor.
- **Reverse:** Move the switch to the 'II' position for reverse rotation.

6. MAINTENANCE

The TKXEC 60A PWM DC Motor Speed Controller is designed for durability and requires minimal maintenance. Follow these guidelines for optimal performance and longevity:

- **Keep Clean:** Regularly clean the exterior of the controller with a dry, soft cloth to prevent dust accumulation, especially around ventilation holes.
- **Avoid Moisture:** Ensure the controller is kept in a dry environment and protected from water or excessive humidity.
- **Inspect Connections:** Periodically check all wiring connections to ensure they are tight and free from corrosion. Loose connections can lead to intermittent operation or damage.
- **Ventilation:** Ensure adequate airflow around the controller to prevent overheating, especially during prolonged high-current operation.
- **Storage:** When not in use for extended periods, store the controller in a cool, dry place.

7. TROUBLESHOOTING

If you encounter issues with your speed controller, refer to the following common problems and solutions:

- **Motor Not Responding or Weak Operation:**
 - Check if the input voltage matches the motor's rated voltage.
 - Verify that the power supply capacity is at least 1.5 times the motor's rated power.
 - Ensure all wiring connections are secure and correct, paying attention to polarity.
 - Confirm the motor is a two-wire DC brushed motor.
- **Digital Display Not Illuminating:**
 - Check the power input connections and ensure the power supply is active.
 - Verify the input voltage is within the 10-55V range.
- **Intermittent Operation or Sudden Shutdown:**
 - Inspect for loose wiring connections.
 - Ensure the controller is not overheating due to insufficient ventilation or excessive load.
 - Check for short circuits in the motor or wiring.
- **Incorrect Speed Reading on Display:**
 - The digital display shows the percentage of the controller's output, not the motor's actual RPM. This is normal operation.

If the problem persists after following these steps, please contact customer support.

8. WARRANTY AND SUPPORT

This TKXEC product is manufactured to high-quality standards. For warranty information or technical support, please refer to the purchase documentation or contact your retailer. Keep your proof of purchase for any warranty claims.

For further assistance, please visit the TKXEC official website or contact their customer service department.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question

Answered questions about this manual

I have recently purchased the TKXEC Adjustable Digital display 10-55V 60A PWM DC Brushed Motor Speed Controller and I am looking for any information about constructing a housing for the device. Any information on this topic would be greatly appreciated.

While the manual does not provide specific blueprints for a custom enclosure, it does provide the necessary physical specifications and safety requirements to help you construct or select a suitable housing for the TKXEC...

[Read full answer](#)