ELEGOO B07QWJH77V

ELEGOO Tumbller Self-Balancing Robot Kit User Manual

Model: B07QWJH77V

Product Overview

The ELEGOO Tumbller is a newly designed robotic car kit for Arduino projects, featuring multiple fascinating functions. It supports auto-follow, obstacle avoidance, bouncing mode, and glowing in various LED colors. Control is made easy via the new ElegooKit APP on your mobile phone. This kit includes a well-designed tutorial with illustrations, guiding you through assembly and function exploration. It is Arduino-compatible, allowing modification of default codes and addition of more sensors. The Tumbller is an excellent STEM kit for beginners to gain hands-on experience and learn basic programming, while also offering customization opportunities for experienced hobbyists.



Figure 1: Fully assembled ELEGOO Tumblller Self-Balancing Robot Kit.

What's Included

Your ELEGOO Tumblller kit comes with all necessary components for assembly and operation. Please verify all parts are present before beginning assembly.



Figure 2: All components included in the Tumbller kit.

Assembly Instructions

Follow these steps carefully to assemble your Tumbller robot. A detailed assembly video is provided for visual guidance.

Video 1: Full assembly instruction video for the ELEGOO Tumbller.

1. Assemble the Motor Bracket

Attach the motor brackets to the main chassis using the provided screws. Ensure they are securely fastened.

Refer to Video 1, timestamp 0:13 for detailed instructions.

2. Assemble the Motor

Insert the motors into the motor brackets. Pay attention to the orientation and secure them with screws. Only lock 4 of the screws on the Motor Bracket.

Refer to Video 1, timestamp 1:05 for detailed instructions.

3. Assemble the Tires

Attach the couplings to the motor shafts, ensuring the screw on the coupling aligns with the cross-section of the motor shaft. Then, firmly press the tires onto the couplings.

Refer to Video 1, timestamp 2:17 for detailed instructions.

4. Assemble the Foothold

Peel off the protective film from the acrylic foothold. Attach it to the main chassis using the specified screws.

Refer to Video 1, timestamp 3:53 for detailed instructions.

5. Assemble the Circuit Board

Carefully attach the circuit board to the main chassis. If the infrared sensor is bent, gently twist it to ensure it stands vertically for proper function.

Refer to Video 1, timestamp 4:53 for detailed instructions.

6. Assemble the Ultrasonic Sensor

Mount the ultrasonic sensor to the designated position on the circuit board using the appropriate screws.

Refer to Video 1, timestamp 5:30 for detailed instructions.

7. Assemble the Battery Box

Assemble the battery box components, ensuring the battery box is in the central position of the acrylic board after assembly. Insert the batteries, ensuring they are fully charged before first use.

Refer to Video 1, timestamp 7:44 for detailed instructions.

8. Assemble the Top Board

Attach the top acrylic board to the robot structure, securing it with screws.

Refer to Video 1, timestamp 9:27 for detailed instructions.

9. Wire the Motor

Connect the motor wires to the appropriate ports on the circuit board.

Refer to Video 1, timestamp 10:22 for detailed instructions.

Operating Modes

The Tumbller robot features several operating modes for different interactions. You can switch between modes by

pressing the mode switch button on the robot or using the mobile app.

Start Tumbller (Self-balancing)

Place Tumbller on the ground and turn on the power. It will stand up automatically and maintain balance.

Refer to Video 1, timestamp 11:18 for demonstration.

Auto-follow Mode (Forward)

Press the mode switch button once. Tumbller will enter Auto-follow Mode (Forward) and light up in green. If an obstacle is detected by the ultrasonic sensor within 10-35cm, the 2 LEDs in the front will flash green, and Tumbller will follow the obstacle moving forward.

Refer to Video 1, timestamp 11:29 for demonstration.

Obstacle-Avoidance Mode

Press the mode switch button twice. Tumbller will enter Obstacle-Avoidance Mode and light up in yellow. In this mode, if an obstacle is detected by the ultrasonic sensor within 0-50cm, Tumbller will automatically avoid the obstacles.

Refer to Video 1, timestamp 11:50 for demonstration.

Auto-follow Mode (Backward)

Press the mode switch button three times. Tumbller will enter Auto-follow Mode (Backward) and light up in green. If an obstacle is detected by the ultrasonic sensor within 10-35cm, the 2 LEDs in the back will flash green, and Tumbller will follow the obstacle moving backward.

Refer to Video 1, timestamp 12:12 for demonstration.

Glowing Mode

Press the mode switch button four times. Tumbller will enter Glowing Mode and display a random lighting effect.

Refer to Video 1, timestamp 12:39 for demonstration.

Standby Mode

Press the mode switch button five times. Tumbller will enter Standby Mode and stop all motions.

Refer to Video 1, timestamp 12:52 for demonstration.

Mobile Control (App Usage)

Download the 'ELEGOO BLE TOOL' app from your app store. If Bluetooth cannot be connected automatically, open the Bluetooth name list and click 'ELEGOO TB16' to connect.

Refer to Video 1, timestamp 13:00 for app connection guide.

Rocker Mode

Use the Rocker Control interface in the app to control Tumbller's movement.

Refer to Video 1, timestamp 13:18 for Rocker Mode demonstration.

Bounce Mode

Activate Bounce Mode via the app for dynamic movement.

Refer to Video 1, timestamp 13:39 for Bounce Mode demonstration.

Light Effect Switch

Control the lighting effects of Tumbller directly from the app.

Refer to Video 1, timestamp 14:57 for Light Effect Switch demonstration.

DIY Control

Customize buttons on the app to send specific commands to Tumbller. You can rename buttons and change their color. Ensure the content in the 'Message' column for each button matches the command required (e.g., 'f' for Forward, 'b' for Backward, 'l' for Turn Left, 'i' for Turn Right, 's' for Standby Mode, '0' for Auto-Follow Mode (Backward), '1' for Auto-Follow Mode (Forward), '2' for Obstacle Avoidance Mode, '3' for Light Effect Switch, '4' for Tilt Forward, '5' for Stand up instantly, '7' for Light Decrease, '8' for Light Increase).

Refer to Video 1, timestamp 15:37 for DIY Control setup.

Important Notes and Troubleshooting

- The screw on the coupling is easy to get loose; pay attention to tighten it securely.
- When you pick up the Tumbller vertically, the wheel will still rotate. After tilting the Tumbller ±27°, the rotation will stop.
- Tumbller cannot be used in places where the sunshine or light is very strong, because the strong brightness will affect the sensor.
- The LED will flash red when the battery is running out of power.
- The USB interface is only used for burning program. When burning program, please turn off the battery compartment switch to prevent interference.

Refer to Video 1, timestamp 16:15 for these important notes.

Product Specifications

Feature	Detail
Package Dimensions	8.7 x 8.39 x 2.8 inches
Item Weight	2.51 pounds
Country of Origin	China
ASIN	B07QWJH77V
Item model number	B07QWJH77V
Manufacturer recommended age	8 years and up
Batteries	1 Lithium Polymer batteries required. (included)
Manufacturer	ELEGOO

Warranty and Support

For warranty information, technical support, or any inquiries regarding your ELEGOO Tumbller Self-Balancing Robot

Kit, please refer to the official ELEGOO website or contact their customer service directly. Keep your purchase receipt for warranty claims.

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