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› LewanSoul 65mm Mecanum Wheel Instruction Manual

LewanSoul RM-HIWO-02S

LewanSoul 65mm Mecanum Wheel Instruction Manual

Model: RM-HIWO-02S

1. PRODUCT OVERVIEW

The LewanSoul 65mm Mecanum Wheels are designed for intelligent robot car components and various DIY projects. These omnidirectional wheels provide exceptional maneuverability, allowing your robot to move in any direction without changing its orientation.

- **High-Quality Construction:** Made with high-hardness plastic and durable rubber rollers for smooth operation and strong friction.
- **Omnidirectional Movement:** Enables movement forward, backward, sideways, diagonally, and rotation in place, ideal for navigating tight spaces.
- **Motor Compatibility:** Includes two styles of couplings compatible with both TT and N20 motors.
- **Distinctive Design:** Features an artificial wheel shape with gray and orange colors, providing a three-dimensional appearance.
- **Package Contents:** Each set includes 2 left and 2 right 64.5mm Mecanum wheels.



Figure 1: LewanSoul 65mm Mecanum Wheels (4-piece set).

2. WHAT'S IN THE BOX

Verify that all components are present in your package:

- 4 x LewanSoul 65mm Mecanum Wheels (2 left, 2 right)
- 4 x Motor Couplings (compatible with TT and N20 motors)
- Mounting Screws



Figure 2: Package contents showing four Mecanum wheels, motor couplings, and screws.

3. ASSEMBLY AND SETUP

Follow these steps to assemble your Mecanum wheels onto your robot chassis:

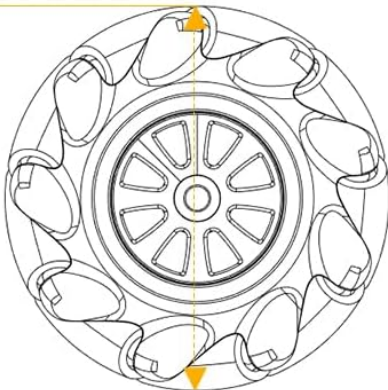
1. **Prepare Motors:** If using TT motors, ensure they are properly wired. The provided video demonstrates soldering wires to TT motors.
2. **Attach Couplings:** Secure the appropriate motor couplings to your TT or N20 motors using the provided screws.
3. **Mount Wheels:** Align each Mecanum wheel with a motor coupling and fasten it securely using the provided screws. Ensure the wheels are oriented correctly (2 left, 2 right) for proper omnidirectional movement.
4. **Install Motors on Chassis:** Mount the motor-wheel assemblies onto your robot chassis. Refer to your chassis's specific instructions for motor placement.

Installation Effect

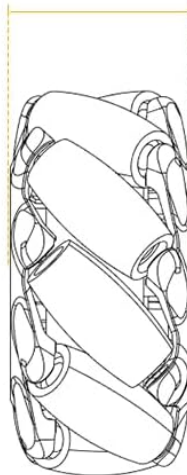


Figure 3: Mecanum wheel attached to a TT motor.

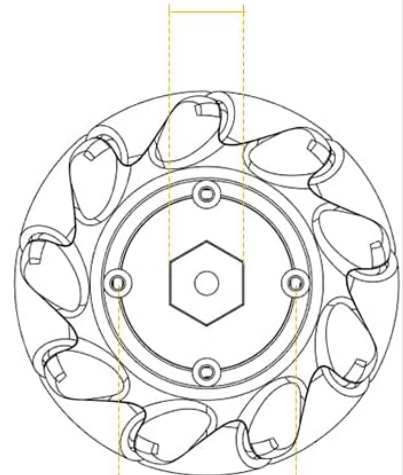
Φ65mm



30mm



12mm



30mm

Figure 4: Side view of a Mecanum wheel assembly.

Assembly Video Guide

Your browser does not support the video tag.

Video 1: This video demonstrates the assembly process for a DIY Mecanum wheel robot kit, including motor wiring and wheel attachment.

4. OPERATING PRINCIPLES

Mecanum wheels utilize a series of rollers mounted at a 45-degree angle to the wheel's axis. This unique design allows for omnidirectional movement by independently controlling the speed and direction of each wheel. By varying the rotation of individual wheels, the robot can achieve:

- Forward and backward motion
- Sideways (strafe) motion
- Diagonal motion
- Rotation in place

360° Omnidirectional Movement

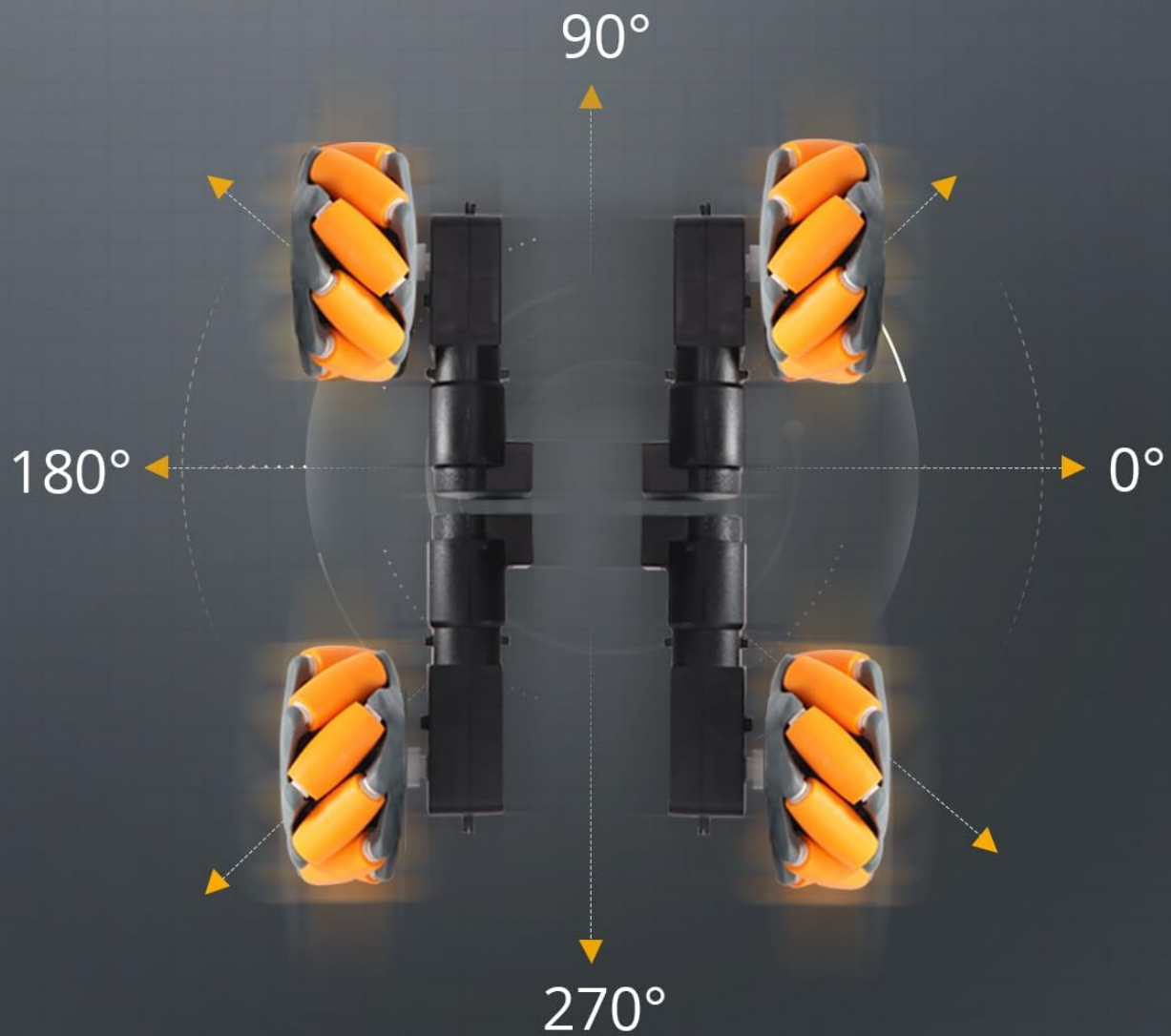


Figure 5: Diagram showing 360-degree omnidirectional movement capabilities.

These wheels are suitable for various terrains, providing stable movement on surfaces such as grass, slopes, roads, and indoor floors.

Adapt to Diverse Terrains



Figure 6: Mecanum wheels adapting to diverse terrains.

5. SPECIFICATIONS

Feature	Detail
Brand Name	LewanSoul
Model Name	Mecanum Wheel
Model Number	RM-HIWO-02S
Unit Count	4.0 Count
Number of Pieces	4
Item Dimensions	2.6 x 2.6 x 1.18 inches (approx. 65mm diameter)
Color	Orange
Material Type	Rubber (rollers)
Outer Material	Plastic (wheel body)
Additional Features	Omnidirectional Movement
Is Assembly Required	Yes
Compatibility	TT and N20 motors

What's in the Box

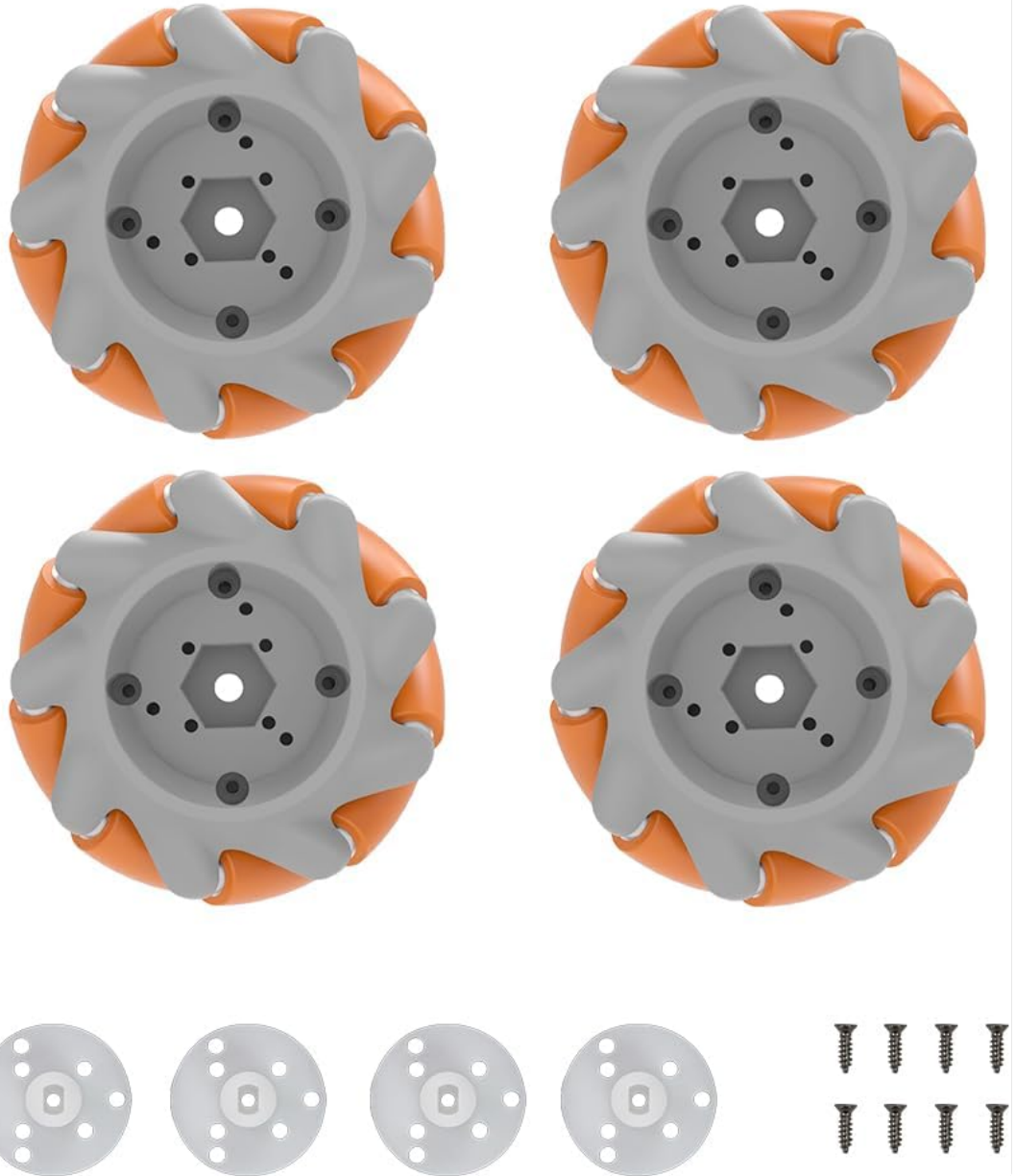


Figure 7: Technical dimensions of the 65mm Mecanum wheel.

6. MAINTENANCE

To ensure optimal performance and longevity of your LewanSoul Mecanum Wheels, consider the following maintenance tips:

- **Regular Cleaning:** Periodically clean the wheels and rollers to remove dust, dirt, and debris that may accumulate during operation. Use a soft, dry cloth or a small brush.
- **Inspect Rollers:** Check the small rollers for any signs of wear, damage, or obstruction. Ensure they rotate freely.
- **Check Fasteners:** Verify that all screws and connections holding the wheels to the motors and chassis are tight. Loose fasteners can affect performance and lead to damage.
- **Storage:** Store the wheels in a clean, dry environment away from extreme temperatures and direct sunlight when not in use.

7. TROUBLESHOOTING

If you encounter issues with your Mecanum wheels, consider these common troubleshooting steps:

- **Uneven Movement:** If the robot moves unevenly or struggles with omnidirectional motion, check the following:
 - Ensure all wheels are correctly oriented (2 left, 2 right).
 - Verify that all motors are functioning correctly and receiving power.
 - Check for any obstructions or damage to the individual rollers on the wheels.
 - Confirm that the motor couplings are securely attached to both the motors and the wheels.
- **Wheels Not Rotating:** If a wheel is not rotating, check the motor connection, power supply, and ensure there are no mechanical obstructions preventing rotation.
- **Excessive Noise:** Unusual noise may indicate debris in the rollers or loose components. Clean the wheels and tighten any loose screws.

For further assistance, refer to the official LewanSoul support resources.

8. WARRANTY AND SUPPORT

LewanSoul products are designed for quality and performance. For information regarding product warranty, returns, or technical support, please visit the official LewanSoul website or contact their customer service directly. Keep your purchase receipt for warranty claims.

Manufacturer: Hiwonder

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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