RusinDisplay

USER MANUAL



Transparent OLED Robot

Master Alloy Robotic 55"(M-R55)

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Product Overview

About Transparent OLED

Transparent OLED (Organic Light Emitting Diode) technology is a display technology that emits light without the need for a backlight or enclosure. This enables ultra-thin screens with high transparency, seamlessly integrating into various environments.

- Self-emissive display: Each pixel emits its own light, offering deep contrast and vibrant colors.
- High transparency: With high light transmissivity, the design enables a clear, unobstructed view of objects, scenes, or other digital screens located behind the display.
- Wide viewing angles: Offers a 178° viewing angle, ensuring consistent image quality and brightness from nearly any perspective.

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Master Alloy Robotic 55"

The M-R55 is a 55-inch transparent OLED display with a robotic base, combining high-definition transparent visuals with autonomous mobility, delivering a futuristic digital interaction solution.

- Self-emissive OLED Screen: Offers vivid colors, ultra-high contrast, and deep blacks, ensuring an outstanding visual experience.
- Intelligent Navigation System: Supports automatic route cruise mode and can adapt to various scenarios.
- Comprehensive Obstacle Avoidance: Equipped with intelligent sensing and automatic rerouting for smooth and safe operation.
- Seamless Human-Machine Interaction: Features capacitive touch for intuitive and responsive user engagement.
- AI Digital Human Integration: Supports third-party digital human systems, enabling precise positioning and interactive explanations for an enhanced tech-driven experience.
- Automatic Charging System: Powered by a lithium iron phosphate (LiFe-PO4) battery, ensuring safety and reliability with auto-return-to-charging dock functionality when battery levels are low.

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The M-R55 is ideal for showrooms, shopping malls, museums, corporate exhibitions, and more, providing an intelligent and high-tech solution for digital display and interactive experiences.

System Architecture

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Transparent OLED Panel

- Supports HD resolution with sharp, clear images.
- Covered with durable, anti-reflective tempered glass.
- Lightweight design with scratch-resistant properties.

Embedded Android System

- Powered by a high-performance processor for smooth video playback and interactive applications.
- Pre-installed with Android 11 and essential apps.

Touchscreen Functionality

- Supports 10-point touch functionality on both Windows or Android

Connectivity Options

- Includes multiple interfaces, enabling seamless connectivity with external devices.
- Supports Wi-Fi and Bluetooth for wireless communication and enhanced connectivity.

Thermal Management

- Built-in ventilation system to ensure safe operating temperatures.





Additional Accessories

Included in the package:

1 × Power cable
1 × Wireless charging dock
1 × Remote control
1 × Certificate and Warranty card

Optional Accessories (Available for Purchase):

- Lint-free Cloths: Designed to clean the screen without leaving fibers or dust.
- Flight Case: A durable case for safe transportation and storage of the display unit.

Installation

Unpacking and Handling

Shipping Box

The M-R55 is packaged in a honeycomb box placed inside a wooden crate, with multiple foam sections inside the honeycomb box for added stability and protection. Arrow markings on the crate indicate the correct orientation for unpacking.

Unpacking

Open all fasteners on the wooden crate, remove the honeycomb box, and place it upright as indicated by the arrow markings.
Remove the lid of the honeycomb box and take out the protective foam covering the display.

Handling

Lift the robot by its base or designated support points. Avoid applying pressure to the screen or other delicate components during this process. Always carry the robot with at least two people to minimize the risk of damage.

Environmental Requirements

The M-R55 is designed for indoor use only. To ensure stable operation and long-term performance, please observe the following environmental guidelines:

Temperature and Humidity

- Operating Temperature: 0°C to 45°C (32°F to 113°F)
- Operating Humidity: 10% to 90% (non-condensing)

Light Exposure

- Avoid prolonged exposure to direct sunlight or strong light sources, which may affect display visibility and surface materials.
- Use the display in standard indoor lighting conditions for optimal viewing performance.

Ventilation

- Ensure adequate space around the device to allow proper airflow.
- Do not block ventilation openings or place the unit in enclosed or poorly ventilated areas.

Heat Sources

- Keep the robot away from heat sources such as radiators, stoves, or other equipment that generates excessive heat.

Installation Guidelines

Place robot

Place the robot on a flat ,stable surface that can support its weight. Leave some space around it for ventilation.

Connections and Setup

- Connect the robot to a power source using the provided power cable.
- Use HDMI or other compatible cables to connect external devices such as media players or computers. Ensure all connections are secure and properly aligned.

Installation Disclaimer

Proper installation and operation are the customer’s responsibility. Failure to follow the instructions in this manual or installation in a manner not described here may result in equipment damage or unsafe conditions for which the customer will be held liable.

Operation

Basic Operation

Power On/Off

Power On: Press the power switch to start the robot.
Power Off: Press the power switch to turn off the robot

Adjusting Display Settings

Adjust brightness, contrast, and other display parameters through the menu interface.
Optimize settings based on ambient lighting and usage requirements to achieve the best visual experience.

Basic Operation Precautions

Regularly check the battery status and ensure it is sufficiently charged.
Regularly check cable connections to ensure they are secure and undamaged.

External Device Connection

Common Connection Methods

- HDMI: For connecting computers, media players, or gaming consoles.
- USB: For connecting USB drives , mouse devices or other external storage devices to play media files.

Connection Steps

- Select the appropriate port and connect the external device to the robot.
- Ensure the system detects the connected device automatically.
- If necessary, adjust settings in the system menu to enable or configure the external device.

Precautions

- Ensure all connections are secure to prevent signal loss or operational issues.
- Avoid frequently plugging and unplugging devices to reduce wear on ports.

Touch Screen Operation

Basic Operations

- Tap: Gently touch the screen once to select or activate a target element.
- Drag: Touch and slide on the screen to move content or interface elements.

Screen Responsiveness

- The touch screen supports up to 10-point touch,ensuring precise and simultaneous recognition of multiple touch inputs.

Precautions

- Ensure your fingers are clean to maintain touch accuracy.
- Avoid using sharp objects on the screen to prevent scratches on the display surface.

Content Development Guidelines

To ensure optimal visual quality and user experience on the Transparent OLED display, please follow these content development guidelines:

Resolution and Aspect Ratio

- Match the content resolution to the display resolution to prevent stretching or blurring.
- Use high-definition formats (1080p or above) to maximize the display's capabilities.

Brightness and Contrast

- For transparent displays, ensure moderate background brightness so content is clearly visible.
- Adjust content contrast to avoid extremes, ensuring a comfortable viewing experience.

Dynamic Content

- Always use dynamic content to extend the display's lifespan and maintain optimal performance.
- Avoid displaying static images for prolonged periods to reduce the risk of image retention or burn-in.

Color and Clarity

- Use appropriate color saturation in the content to maintain excellent visual effects on the transparent display.
- Ensure text and graphics are clear and legible, avoiding overly small fonts or intricate designs.

Testing and Optimization

- Conduct thorough testing before presenting content to ensure optimal display performance under various lighting conditions.
- Adjust the brightness and contrast of the content based on the actual usage environment.

Technical Information



Specifications

Master Alloy Robotic 55" (M-R55)

Transparent OLED Panel	Technology Type:	Transparent OLED
	Panel Supplier:	LG/BOE
	Resolution:	1080 × 1920
	Brightness:	600 / 200 nits
	Transparency:	45%
	Active Display Area:	680.4mm × 1209.6 mm(LG) / 678.67mm(V) × 1206.53mm(H)(BOE)
	Contrast Ratio:	≥100,000:1 (typical)
	Viewing Angle:	178° (H/V)
	Color Depth:	DCI-P3 90% (typ.)
	Refresh Rate:	120Hz
	Color Depth:	10bit (R), 1.07 billion colors
	Response Time:	≤1ms (Gray-to-Gray)
	Panel Lifetime:	≥30,000 hours
	Glass Type:	6mm Tempered Glass
	Touch Method:	10-Point Capacitive Touch
System & Mainboard (Optional)	Operating System:	Android 11
	CPU:	RK3588
	Memory (RAM):	16GB
	Storage (ROM):	32GB
	Wi-Fi:	2.4GHz / 5GHz
	Bluetooth:	Bluetooth 5.0
Environmental & Power Specifications	Operating Temperature:	0°C to 45°C
	Storage Temperature:	5°C to 35°C
	Humidity Range:	10% to 90% RH (non-condensing)
Battery & Power	Battery Capacity:	$LiFePO_4$ 38.4V / 25Ah
	Operating Time:	≥10 hours
	Charging Method:	Automatic recharge at low battery / Manual charging
	Charging Time:	5 hours, supports 100–240V AC input
	Battery Lifespan:	>2000 charge/discharge cycles
	Total Power:	＜250W
Navigation & Mobility	Navigation Method:	Laser Navigation + Visual Obstacle
	LiDAR:	Range: 25 m, Wavelength: 905 nm, Scanning Angle: 260°
	3D Camera:	Field of View: Horizontal 79°, Vertical 62°
	Maximum Speed:	0.1–1 m/s (customizable)

Structure & Materials

Housing Material:	Alloy (Anodizing)
Surface Treatment:	Anti-Glare (AG) Coating
Bonding Technology:	OCR Full Bonding
Installation Method:	Robot
Product Dimensions:	794.47 × 560 × 1747.4mm
Net Weight:	108kg

Packaging & Dimensions

Packaging Type 1:	Honeycomb Box
Package Dimensions:	1885.1 × 698 × 932.45mm
Gross Weight:	112.2kg
Packaging Type 2:	Honeycomb Box + Wooden Case
Package Dimensions:	1935.1 × 748 × 1082.45mm
Gross Weight:	131.5kg
Packaging Type 3:	Flight Case
Package Dimensions:	814.5 × 580 × 1767.4mm
Gross Weight:	145.8kg
Packaging Type 4:	Flight Case + Wooden Case
Package Dimensions:	914.5 × 680 × 1877.4mm
Gross Weight:	165.1kg

Certifications & Standards

Safety Certifications:	CE / RoHS / REACH / POPs
EMC & Safety Testing:	Certified

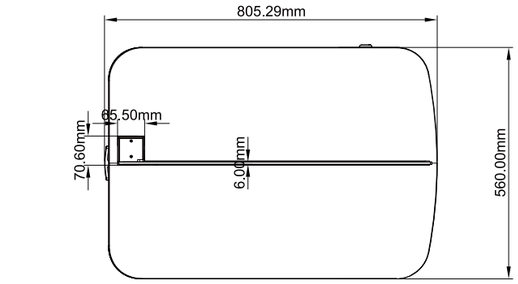
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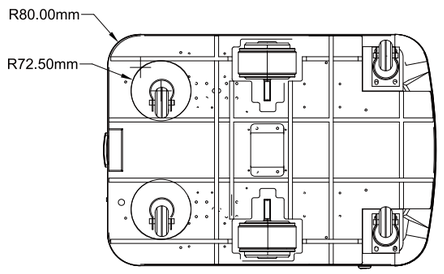
Logo:	Silk Printing / Laser Engraving
External Device:	Camera, Sensor, etc.
Housing Color:	Black / White / Silver / Gray / Gold / Customized

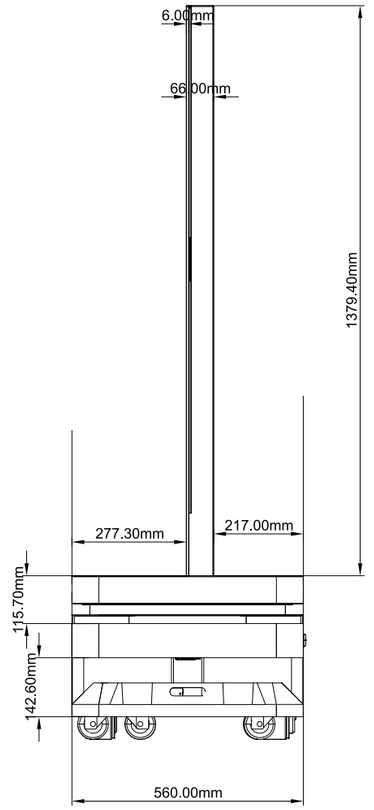
Accessories

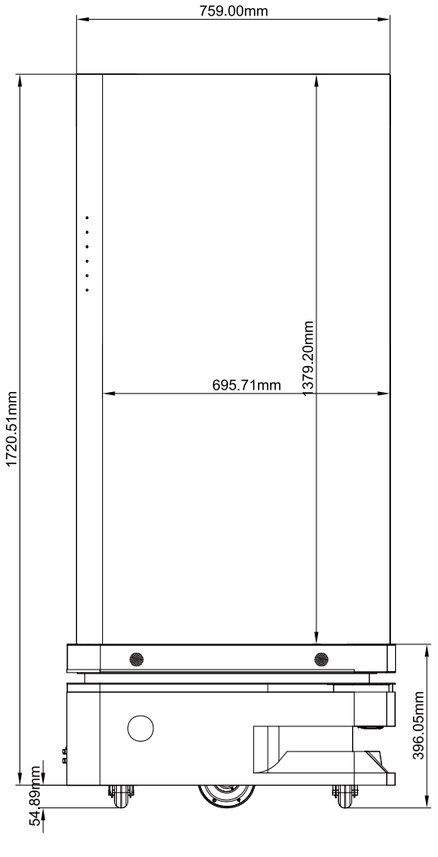
Power Cable (with Region-specific Plug)
Infrared Remote Control
Charging station

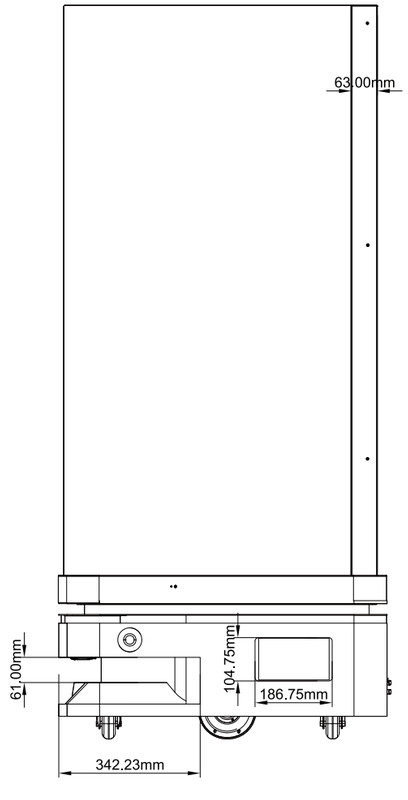
Dimensional Drawings











Troubleshooting Guide

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Power Issues

- Ensure the battery is sufficiently charged. If the robot does not turn on, try
- recharging the battery.
  Verify that the wireless charging dock is receiving power and functioning properly.

No Display or Black Screen

- Check all cable connections for secure and proper connection.
- Confirm the correct input source is selected.
- Adjust brightness settings if necessary.

Display Flickering

- Ensure the input signal is stable.
- Inspect cables for damage or loose connections.
- Adjust the display's refresh rate settings if applicable.

Unresponsive Touchscreen

- Clean the touchscreen surface to remove dust or smudges.
- Restart the device to reset touch functionality.
- When connected to an external Windows system, ensure the cable is properly connected and the driver is installed.

Image Retention

- Avoid displaying static images for extended periods. Use dynamic content instead.

If issues persist, please contact customer support for further assistance.
Email: info@rusindisplay.com

Maintenance Instructions

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Cleaning the Display Glass

- Use a soft, lint-free cloth or tissue.
- Use high-quality glass cleaners designed for OLED screens, or high-purity isopropyl alcohol (IPA).
- Do not mix IPA with glass cleaner. Use separate cloths for different cleaning agents to avoid cross-contamination.

Cleaning Procedure

- Avoid letting cleaning agents seep into the gaps between the display glass and the casing, into the layer between the front and rear glass, or come into contact with the electronic base, as this may damage the OLED screen.
- Apply a small amount of cleaning solution to the cloth (do not spray directly onto the screen).
- Begin cleaning from one side of the screen, using circular motions for even coverage.
- If stains persist, increase the amount of cleaning agent slightly and use a clean cloth for a second attempt.

Additional Notes

- Regular cleaning ensures optimal visual performance and preserves touchscreen sensitivity.
- Ensure the robot is powered off and in a stable state before cleaning.

Support Information

Technical Support

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- Our professional technical support team is available to assist you with any issues related to this product.
- For inquiries or technical support, please contact us via:
  Email: info@rusindisplay.com
  Service Hours: We are available during business days and will respond within 12 hours.
- You can also learn more about our products on our website: www.rusindisplay.com.

After-Sales Service

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30-Day Hassle-Free Returns

Customers can apply to return products without reason within 30 days after receipt if unsatisfied.

3-Year Warranty

Customers can apply for a free replacement within three year of receipt if non-human damage occurs to product accessories.

For detailed terms and execution procedures, please refer to our comprehensive After-Sales Policy: [www.rusindisplay.com/help-center/61]

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Regulatory Compliance

Environmental and Safety Standards

The OLED screen we offer complies with internationally recognized environmental and safety regulations, including but not limited to:

CE: Meets EU health, safety, and environmental requirements for market access.
RoHS: Complies with EU RoHS limits; hazardous substances are below legal thresholds.
REACH: Complies with EU REACH regulations; all chemicals are within allowed limits.
POPs: Free from persistent organic pollutants in compliance with EU regulations.

User Responsibility and Local Regulations

Users are responsible for complying with all applicable national and regional laws and regulations when using this product, including but not limited to e-waste recycling, environmental protection, and related industry standards.

1

Product Certification Information

Certifications for this product may vary by region. For more information or certification documents, please contact us at info@rusindisplay.com.

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Imprint

Company Name	Shenzhen Rusin Technology Co., Ltd
Contact Email	info@rusindisplay.com
Official Website	www.rusindisplay.com

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