

OMRON



Mobile Robots

TRANSFORMING MANUFACTURING AND LOGISTICS

Modernize Your Workflow

Omron mobile robots are **Autonomous Intelligent Vehicles (AIVs)** designed to dramatically increase productivity in manufacturing and logistics operations. In addition to making your employees more efficient by allowing them to focus on tasks that require complex human skills, Omron mobile robots increase throughput, reduce machine dwell time, eliminate errors and improve material traceability.

Flexible

CUSTOMIZABLE PAYLOAD DESIGNS

- Easy conveyor-top integration
- Supports collaborative robotic arm
- Transports carts and totes
- Power, IO, Wi-Fi

Safe

FULL SAFETY COMPLIANCE

- Works collaboratively with people
- Able to avoid static and moving obstacles
- Easy addition of E-Stop equipment



EASY TO DEPLOY

with true natural-feature navigation

- Reduce cost: no facilities modifications
- No need to pre-program path
- Self-mapping with onboard PC
- Short installation time



Efficient

OPTIMIZE YOUR OPERATIONS

- Uses shortest allowable path
- Automatic alternative route planning
- Easily add pickup and delivery points

Scalable

FLEETS OF UP TO 100 VEHICLES

- Job dispatch and management
- Centralized configuration and map management
- Facilitates traffic flow
- Centralized point of communication

ROBUST 24X7 PRODUCTIVITY

- Opportunistic charging
- Capable of operating in highly dynamic environment
- Proven worldwide installed base
- >17 years of continuous experience

Thousands

of possibilities to drive productivity gains.

Today, Omron has the **largest installed base** of Autonomous Intelligent Vehicles in manufacturing. Our mobile robots can be deployed in thousands of applications across multiple industries.

An Omron mobile robot is shown in a factory setting. The robot is white and cylindrical with a flat top, mounted on four black wheels. It has a long, white, horizontal arm extending from its top. The background is a blurred industrial environment with metal frames and overhead lights. The entire image has a blue color overlay. A decorative graphic of several concentric, overlapping white circles is positioned on the left side of the image, partially overlapping the robot.

OMRON

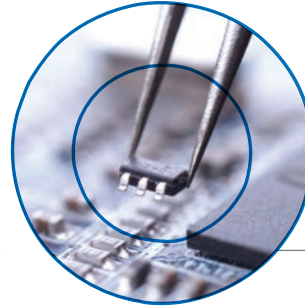


Automotive

Tire Assembly | Transport green tires from intermediate storage to curing press stations.

Automotive Electronics | Transport sub-assemblies from kitting to line side replenishment.

Automotive Accessories | Transport totes to and from injection molding stations.



Digital

Semiconductor Wafer Fab | Intra-bay WIP (SMIF Pods/FOUP) transport between stockers and process tools, or transport reticles for photolithography process.

Semiconductor Packaging and Test | Transport IC chip trays via cart.

Mobile Device Manufacturing | Transport totes of PCBs in handset assembly.

Data Center | Environmental (temperature, humidity, etc.) surveillance and troubleshooting.



Logistics

Warehouse | E-commerce order fulfillment.

Shipment Distribution Center | Transport totes from shelves to loading docks.



Consumer Products

Jewelry Manufacturing | Transport finished jewelry molds to casting stations.

Designer Accessories | "Virtual conveyor" to transport boxes of sunglasses from ASRS to manual sorting stations.



Food, Beverage and Hospitality

Catering Facility | Transport baked food totes to stockroom.

Hotel | Linen and room service delivery.



Medical

Sterilization | Transport surgical instruments to sterilization room.

Blood Lab | Secure sample transportation.

Advanced, Integrated Technology

Why are Omron mobile robots the most advanced Autonomous Intelligent Vehicles?

Mapping and Navigation

ROBUST NAVIGATION WITH ACUITY (Patented)

Acuity provides an additional method of "localization" to the onboard laser, helping the robot adjust to frequently changing environments. It identifies overhead lights and overlays the "light map" with the "floor map". It also allows the robots to move easily across wide-open areas in large warehouses.



Safety

Omron mobile robots are fully safety compliant¹. They use an onboard laser and other sensors to detect obstacles in their path and, based on speed of travel, trigger an E-stop to prevent vehicle collision.

Sensors:

- Safety Rated Main Laser
- Lower Laser
- Side Lasers (Patented)
- Front Bumper
- Rear Sonar
- Rear Laser

¹Safety std: ISO 12100, ISO 14121-2, ISO 13849-1, IEC 61010 (battery only), IEC 60950 (battery only), EN 1525, ANSI B56.5 Part 3, JIS D 6802, IEC 60204

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Fleet Management

ENTERPRISE MANAGER

Enterprise Manager is a network appliance that provides coordination of mobile robots while providing traceability, job allocation and traffic control across the entire fleet.

Transport Request (Job) Allocation: Distributes across multiple mobile robots by selecting the best vehicle to perform the job.

Traffic Control: Optimizes traffic flow of vehicles.

Communications: Single point of contact for integration with factory systems (MES, WMS, ERP, etc.).

MobilePlanner: PC-based software user interface to manage the robot or the fleet.



Let us help you

mobilize your operations

Global Collaborative Network

Robotics Expertise and Machine Automation Support provided by a **unique global team.**



40 COUNTRIES

150 LOCATIONS

3000 APPLICATION ENGINEERS

Planning.
Implementation.
Support.

Omron is ready to help you every step of the way, anywhere in the world.

Give us a call. Our expert feasibility study can help you determine if mobile autonomous vehicles are right for your application.



Test with real products

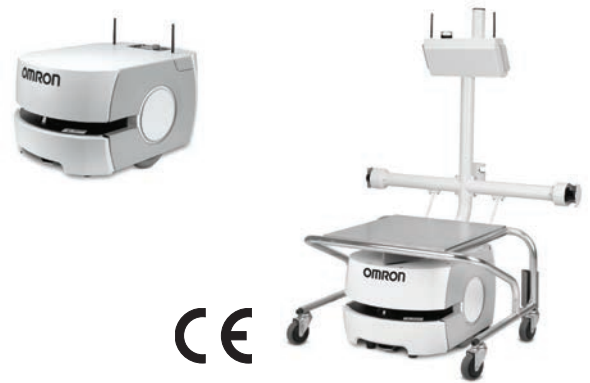


Simulations

Mobile Robot LD Series



Autonomous Intelligent Vehicles (AIVs), self-mapping, self-navigation.

- Natural-feature navigation
Automatically plans routes to prevent collisions
- Fleet management
Supervises and coordinates the entire fleet of up to 100 vehicles
- Easy deployment
Short installation time: no facilities modifications

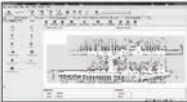



Ordering Information






Mobile Robot-LD Platform

Appearance	Product Type	Product Name	Maximum Load	Maximum Speed	Configuration & Attachment		Model
	LD-60	OEM	60 kg	1.8 m/s	Bundle	Battery, Docking Station, Battery Power Cable	37030-00003
					Starter kit	Battery, Docking station, Battery Power Cable, Top Plate, Joystick, MobilePlanner Software Licence	37030-10005
	LD-90		Bundle	Battery, Docking Station, Battery Power Cable	37040-00003		
			Starter kit	Battery, Docking station, Battery Power Cable, Top Plate, Joystick, MobilePlanner Software Licence	37040-10005		
	LD105-CT	Cart Transporter	105 kg	1.35 m/s	Bundle	Battery, Docking Station, Battery Power Cable	37140-00013
					Starter kit	Battery, Docking station, Battery Power Cable, Acuity Localization, Joystick, MobilePlanner Software Licence	37140-01015
	LD130-CT		Bundle	Battery, Docking Station, Battery Power Cable	37160-00013		
			Starter kit	Battery, Docking station, Battery Power Cable, Acuity Localization, Joystick, MobilePlanner Software Licence	37160-01015		





Software/Controller

Appearance	Product Name	Configuration & Attachment	Model
	MobilePlanner	Installer (USB) License dongle	13495-200
	Enterprise Manager 1100	License dongle	11167-100

Options

Appearance	Product Name	Specification	Configuration & Attachment	Model
	High Accuracy Positioning System	Single sensor	Sensor x 1, Mounting bracket x 1, Power connector x 1, RS-232 connector x 1, 25 mm wide magnetic tape South top side. 50 m roll	13660-100
		Double sensor	Sensor x 2, Mounting bracket x 2, Power connector x 1, RS-232 connector x 2, 25 mm wide magnetic tape South top side. 50 m roll	13660-000
		Magnetic Tape	25 mm wide magnetic tape South top side. 50 m roll	14925-000
	Acuity Localization	-	Camera, Mounting Kit, cables, Leveling kit	13700-000
	Touchscreen	-	Touchscreen with bracket, Power supply with bracket, Power cable, from core to power supply (33 cm in length), Power cable, from power supply to touchscreen (183 cm in length), Ethernet cable, between touchscreen and core (153 cm in length), Gasket, between touchscreen and AIV mounting surface, Software package, including touchscreen support	13605-000
	Side Laser	Bundle	Laser x 2, Cable x 1 (Y cable for 2 laser)	13456-000
		Kit	Laser x 2, Cable x 1 (Y cable for 2 laser), Mounting kit x 2, Metal Cover x 2	13456-100
	Call/Door Box	WiFi Wired	Call/Door Box, Cable	13029-802

Accessories

Appearance	Product Name	Specification	Configuration & Attachment	Model
	Battery	-	-	12072-000
	Docking Station	-	Docking station, AC Power cable	12477-000
		Extended Wall Mount	Docking Station, AC Power cable, Extended Wall mount (for Cart Transporter)	12477-050
	Joystick	-	-	13558-000
-	Breakout Cable	-	DB44HD Breakout cable (D-SUB44 pin cable for Digital I/O interface)	14165-000
-	Top Plate	Top cover for OEM Model	-	12944-000
	Cart	-	With casters and braking hardware	75020-000

Note: Do not use this document to operate the Unit.

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