

Mobile Robots LD Series

Autonomous Mobile Robots (AMRs), self-mapping, self-navigating.

- 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 facility modifications




Ordering Information

Mobile Robots-LD Platform

Appearance	Product Type	Product Name	Maximum Load	Maximum Speed	Configuration & Attachment		Part Number
	OEM	LD-60	60 kg	1.8 m/s	Standard	-	37032-00000
					Docking station kit	Docking station : 12477-000 Battery power cable (0.45 m) : 12676-000L	37032-00002
					Starter kit	Docking station : 12477-000 Battery power cable (0.45 m) : 12676-000L Joystick : 13558-000 Top plate : 12944-000	37032-10004
		LD-90	90 kg	1.35 m/s	Standard	-	37042-00000
					Docking station kit	Docking station : 12477-000 Battery power cable (0.45 m) : 12676-000L	37042-00002
					Starter kit	Docking station : 12477-000 Battery power cable (0.45 m) : 12676-000L Joystick : 13558-000 Top plate : 12944-000	37042-10004
		LD-250	250 kg	1.2 m/s	Standard	-	37222-00000
					Docking station kit	Docking station : 12477-000 Battery power cable (0.45 m) : 12676-000L	37222-00002
					Starter kit	Docking station : 12477-000 Battery power cable (0.45 m) : 12676-000L Joystick : 13558-000 Top plate : 20458-002	37222-10004
	ESD OEM	LD-60	60 kg	1.8 m/s	Standard	-	37032-20000
					Docking station kit	Docking station : 12477-000 Battery power cable (0.45 m) : 12676-000L	37032-20002
					Starter kit	Docking station : 12477-000 Battery power cable (0.45 m) : 12676-000L Joystick : 13558-000 Top plate : 12944-000	37032-20004
		LD-90	90 kg	1.35 m/s	Standard	-	37042-20000
					Docking station kit	Docking station : 12477-000 Battery power cable (0.45 m) : 12676-000L	37042-20002
					Starter kit	Docking station : 12477-000 Battery power cable (0.45 m) : 12676-000L Joystick : 13558-000 Top plate : 12944-000	37042-20004
		LD-105CT	105 kg	1.35 m/s	Standard	Touchscreen : 13605-000 Side laser : 13456-000	37142-00010
					Docking station kit	Touchscreen : 13605-000 Side laser : 13456-000 Docking station : 12477-050 Battery power cable (0.45 m) : 12676-000L	37142-00012
					Starter kit	Touchscreen : 13605-000 Side laser : 13456-000 Docking station : 12477-050 Battery power cable (0.45 m) : 12676-000L Acuity localization : 13700-000 Joystick : 13558-000 Cart : 75020-000	37142-01014



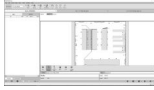
LD Series

Appearance	Product Type	Product Name	Maximum Load	Maximum Speed	Configuration & Attachment	Part Number	
	Cart Transporter	LD-130CT	130 kg	0.9 m/s	Standard	Touchscreen :13605-000 Side laser :13456-000	37162-00010
					Docking station kit	Touchscreen :13605-000 Side laser :13456-000 Docking station :12477-050 Battery power cable (0.45 m) :12676-000L	37162-00012
					Starter kit	Touchscreen :13605-000 Side laser :13456-000 Docking station :12477-050 Battery power cable (0.45 m) :12676-000L Acuity localization :13700-000 Joystick :13558-000 Cart :75020-000	37162-01014

Note: For existing customer of mobile robots, please contact an OMRON representative prior to ordering additional mobile robots to ensure proper fleet management

Note: Refer to page #17 for previous generation models.

Fleet Operations Workspace Solutions


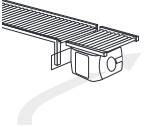
Appearance	Product Name	Configuration & Attachment	Part Number
	Primary Fleet Operations Workspace (FLOW) Core License, 1 Year	Entitlement for a 1 year renewable Primary FLOW Core license	20271-800
	Primary Fleet Operations Workspace (FLOW) Core License, 5 Year	Entitlement for a 5 year renewable Primary FLOW Core license	20271-806
	Secondary Fleet Operations Workspace (FLOW) Core License, 1 Year	Entitlement for a 1 year renewable Secondary FLOW Core License	20271-802
	Secondary Fleet Operations Workspace (FLOW) Core License, 5 Year	Entitlement for a 5 year renewable Secondary FLOW Core License	20271-807
	Primary Fleet Manager	EM2100 Appliance with Temporary 120 Day Fleet Operations Workspace License	20271-900
	Secondary Fleet Manager	EM2100 Appliance with Temporary 120 Day Fleet Operations Workspace License	20271-901
	Bundle. Fleet Simulator	Package includes: Entitlement for perpetual Fleet Simulator License and EM2100 appliance	20271-903
	License, Fleet Simulator	Entitlement for perpetual Fleet Simulator license for existing EM2100 devices	20271-804





* To obtain the latest version of the Fleet Operations Workspace (FLOW) Core software, contact your local OMRON representative. Please note that an active subscription is required for access to software upgrades.

* Expiration of a 1 year subscription license without renewal will result in cessation of the fleet management functions of the OMRON AMR solution until the license is renewed.









* After four consecutive 1 year renewals (for a total of 5 years) or after purchase of a 5 year license, all fleet management functions will continue to operate without requiring subsequent subscription renewals. Please note that an active subscription will still be required to have access to subsequent software releases, including bug fixes, feature upgrades and performance improvements.

Options

Appearance	Product Name	Specification	Configuration & Attachment	Part Number
	High Accuracy Positioning System (HAPS) - LD-60/LD-90	Single sensor	Sensor × 1, mounting bracket × 1, power connector × 1, RS-232 connector × 1, 25 mm wide magnetic tape (south top side, 50 m roll)	13660-100
		Double sensor	Sensor × 2, mounting bracket × 2, power connector × 1, RS-232 connector × 2, 25 mm wide magnetic tape (south top side, 50 m roll)	13660-000
	High Accuracy Positioning System (HAPS) - LD-250	Single sensor	Sensor × 1, mounting bracket × 1, power connector × 1, RS-232 connector × 1, 25 mm wide magnetic tape (south top side, 50 m roll)	21374-100
		Double sensor	Sensor × 2, mounting bracket × 2, power connector × 1, RS-232 connector × 2, 25 mm wide magnetic tape (south top side, 50 m roll)	21374-000
		Magnetic tape	25 mm wide magnetic tape (south top side, 50 m roll)	14925-000
	Cell Alignment Positioning System (CAPS)	Software license	Software license activated on each AMR individually. Upload to the AMR via SetNetGo	20271-805

Appearance	Product Name	Specification	Configuration & Attachment	Part Number
	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), power cable from power supply to touchscreen (183 cm), Ethernet cable between touchscreen and core (153 cm), gasket between touchscreen and AIV mounting surface, software package including touchscreen support	13605-000
	Side Laser	Bundle	Laser × 2, cable × 1	13456-000
		Kit	Laser × 2, Cable × 1, mounting kit × 2, metal cover × 2	13456-100
	Call/Door Box	WiFi	Call/door box, cable	13029-802

Accessories

Appearance	Product Name	Specification	Configuration & Attachment	Part Number
	Battery	355 x 158 x 217 mm	For all LD models	20452-000
	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	Cable length: 0.6 to 3 m	-	13558-000
	Breakout Cable	-	DB44HD breakout cable (D-SUB44 pin cable for digital I/O interface)	14165-000
	Top Plate - LD-60, LD-90	Top cover for OEM type	-	12944-000
	Top Plate - LD-250	Top cover for OEM type	-	20458-002
	Cart*	-	-	75020-000
	Battery Power Cable	Cable length: 0.45 m	-	12676-000L

* The cart only applies to LD-CT models.

LD Series

Specifications

Mobile Robots-LD Platform LD-60, LD-90, ESD OEM, and Cart Transporter

Item	LD-60, LD-90, ESD OEM		Cart Transporter		Note	
	37032-xxxxx	37042-xxxxx	37142-xxxxx	37162-xxxxx		
Materials	Polycarbonate					
Dimension (L × W × H)	699 × 500 × 383 mm		894 × 1074 × 1394 mm*		* Height includes WiFi antenna	
Weight (with Battery)	62 kg		81 kg (Vehicle)/23 kg (Cart)			
Environment	Ambient temperature	5 to 40 °C				
	Ambient humidity	5 to 95 % (non-condensing)				
	Operating Environment	Indoor usage only, no excessive dust, no corrosive gas			Direct sunlight may cause safety laser false positive	
	IP rating	IP20				
	Cleanroom rating	Fed Class 100, ISO Class 5	None			
Floor Conditions	Floor Requirements	Linoleum, epoxy, or concrete (no water, no oil, no dirt)				
	Minimum floor flatness	F _r 25 (ACI 117 standard)*				* ACI 117 is the American Concrete Institute standard for concrete floors. F _r is flatness, F _L is the level. Higher F _r numbers represent flatter floors. F _r 25 is a fairly lenient specification.
	Traversable step	15 mm max.* ¹	10 mm max.* ¹	5 mm max.* ²	5 mm max.* ²	*1 A speed of 250-300 mm/s and 250 mm/s, for the LD-60 and LD-90, is required for these steps. Faster or frequent driving over such steps or gaps will shorten the lifespan of the drivetrain components. Lower speeds may not traverse the step. Steps should have smooth, rounded profiles. *2 The Cart Transporter with a cart is capable of driving over a gap or step of 5 mm at a speed of 250 mm/s, but this should not be regarded as normal use. Regular driving over such gaps or steps will shorten the lifespan of the drivetrain components.
	Traversable gap	15 mm max.	15 mm max.	5 mm max.* ²	5 mm max.* ²	
	Climb grade	Below 1: 12 (60 kg max.) Flat floor only (over 60 kg)		Flat floor only		
Navigation	Routing	Autonomous routing by localizing with safety scanning laser based on environment mapping				
	Environmental map making method	Scan by walking the mobile robot through the environment, and upload the scan data in the MobilePlanner				
Payload	Maximum Weight	60 kg	90 kg	105 kg*	130 kg*	* Excluding cart weight
Mobility	Maximum Speed	1800 mm/s	1350 mm/s	1350 mm/s	900 mm/s	
	Maximum Rotation Speed	180°/s	180°/s	100°/s		
	Stop Position Repeatability	Basic: ±100 mm position Standard Target: ±25 mm position, ± 2° rotation			*±10 mm position, ±0.5° rotation with option, (High Accuracy Positioning System) ±8 mm position, ±1° rotation with option, (Cell Alignment Positioning System)	
Drive wheel	Materials	Non-marking nylon foam-filled rubber, non-conductive				
	Size	200 dia. × 50 mm nominal, 2 wheels				
Passive caster	Materials	Conductive thermoplastic rubber on polyolefin				
	Size	75 dia. × 41 mm nominal, 4 casters				
Power	Battery	22-30 VDC				
	Capacity	72 Ah Battery cell nominal capacity				
	Run Time	15 hours (continuous) approx.				With no payload condition
	Recharge Time	4 hours (5:1 ratio) approx.				
	Battery Life Cycles	2,000 recharge cycles (battery cell nominal)				
	Charging Method	Automatic / manual				
	Auxiliary Power	5 VDC±5%, 1 A switched Aux power 12 VDC±5%, 1 A switched Aux power 20 VDC±5%, 1 A switched Aux power 22-30 VDC, 4 A switched × 2 22-30 VDC, 10 A switched* 22-30 VDC, 10 A safe, switched*				5, 12, 20, and 22-30 VDC power can be provided to external devices * 10 A switched and 10 A safe, switched share the 10 A of current
Standard	Harmonized Standard	EN ISO 12100 / EN ISO 13849-1 / EN 60204-1				
	Relevant Standard	EN 1525 / ANSI B56.5				
	Wireless	IEEE 802.11 a/b/g				