

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-250	250 kg	1.2 m/s	Standard	-	37222-20000
					Docking station kit	Docking station : 12477-000 Battery power cable (0.45 m) : 12676-000L	37222-20002
					Starter kit	Docking station : 12477-000 Battery power cable (0.45 m) : 12676-000L Joystick : 13558-000 Top plate : 20458-002	37222-20004

LD Series

Appearance	Product Type	Product Name	Maximum Load	Maximum Speed	Configuration & Attachment		Part Number
	Cart Transporter	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
	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.
Refer to page 18 for previous generation models.

Fleet Operations Workspace Solutions


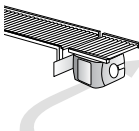




Appearance	Product Name	Configuration & Attachment	Part Number
	Primary Fleet Operations Workspace (FLOW) Core License, 1 Year	Entitlement for a 1 year renewable Primary FLOW Core license	20271-800
	Primary Fleet Operations Workspace (FLOW) Core License, 5 Year	Entitlement for a 5 year renewable Primary 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 × 2, 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 × 2, 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
	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

LD Series

Appearance	Product Name	Specification	Configuration & Attachment	Part Number
	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.

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-□□□□□	37042-□□□□□	37142-□□□□□	37162-□□□□□	
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 _F 25 (ACI 117 standard)*				* ACI 117 is the American Concrete Institute standard for concrete floors. F _F is flatness, F _L is the level. Higher F _F numbers represent flatter floors. F _F 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.
	Traversable gap	15 mm max.	15 mm max.	5 mm max.* ²	5 mm max.* ²	*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.
	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	802.11 a/b/g/n/ac				

LD Series

Item		LD-60, LD-90, ESD OEM		Cart Transporter		Note
		37032-□□□□□	37042-□□□□□	37142-□□□□□	37162-□□□□□	
Safety Features	Safety Scanning Laser	1 at front Class 1 PLd safety per ISO13849-1 15 m maximum range 240° field of view				
	Emergency Stop	1 at operator panel		1 at HMI post touchscreen, 1 at operator panel		
	Rear Sonar	2 at rear, 2 m range				Each pair includes one emitter and one receiver working together
	Front Bumper	1 at front of platform, 2 pairs of sensors				
	Low Front Laser	1 at front of platform Class 1 4 m maximum range 126° field of view				
	Side Laser	Option*		2 on horizontal tubes of HMI post Class 1 4 m maximum range 270° field of view		* 2 on sides of payload structure, user-mounted
	Indicators	Light disc in each side		Light disc in each side, beacon on HMI post		
	Speaker	3.5 in., 80 W max.				
Operator Interface	Screen / Touch Panel	3.5 in. TFT 320 × 240 pixels, color screen		7.0 in. TFT LCD touch panel, 18/24 bit RGB		
	Button	On button: green Off button: red Brake-release button: orange Keyswitch (disabled off button) *		On button: green Off button: red Brake-release button: orange Keyswitch (disabled off button) *, Latch button, unlatch button		* Key switch can be used to disable the off button to avoid accidental shutdown or tampering.
User Interface	Wireless	802.11 a/b/g/n/ac				
	Ethernet Port	1 x user LAN, 1 x maintenance LAN, Auto-MDIX				
	Serial	RS-232 × 2				
	Digital I/O	16 inputs, 16 outputs				
	Analog I/O	8 inputs (0 to 30 V), 4 outputs (0-20 V)				
	Audio	Digital audio out, audio in / audio out				
Cart Latching	Latching Method	Not available		Automatic		

Mobile Robots-LD Platform
LD-250, ESD OEM

Item		LD-250, ESD OEM	Note
		37222-□000□	
Materials		Aluminum	
Dimension (L × W × H)		963 × 718 × 383 mm	* Height to top plate.
Weight		148kg (with battery), 129kg (without battery)	
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	
Floor Conditions	Floor Requirements	Linoleum, epoxy, or concrete (no water, no oil, no dirt)	
	Minimum floor flatness	F _F 25 (ACI 117 standard)*	* ACI 117 is the American Concrete Institute standard for concrete floors. F _F is flatness, F _L is the level. Higher F _F numbers represent flatter floors. F _F 25 is a fairly lenient specification.
	Traversable step	10 mm max.*	* For LD-250, the robot should traverse the 10mm step at 600 mm/s or slower for best performance of the laser and battery.
	Traversable gap	15 mm max.	
	Climb grade	Flat floor only (full payload)	
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	250 kg	
Mobility	Maximum Speed	1200 mm/s	
	Maximum Rotation Speed	120°/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	Aluminum with polyurethane tread	
	Size	200 dia. × 50 mm nominal, 2 wheels	
Passive caster	Materials	Static dissipative	
	Size	127 dia. × 51 mm nominal, 4 casters	
Power	Battery	22-30 VDC	
	Capacity	72 Ah Battery cell nominal capacity	
	Run Time	13 hours (continuous) approx.	With no payload condition
	Recharge Time	4 hours (4:1 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	802.11 a/b/g/n/ac	

LD Series

Item		LD-250, ESD OEM	Note
		37222-□000□	
Safety Features	Safety Scanning Laser	1 at front Class 1 PLd safety per ISO13849-1 3 m maximum radius from laser for safety zones 40 m radius for general sensing 240° field of view	
	Emergency Stop	1 at operator panel, 1 on each side (3 total)	
	Rear Sensing	Time of flight (TOF) sensors	
	Low Front Laser	1 at front of platform Class 1 4 m maximum range 126° field of view	
	Side Laser	Option*	* 2 on sides of payload structure, user-mounted
	Indicators	Light disc in each side	
	Speaker	3.5 in., 80 W max.	
Operator Interface	Screen / Touch Panel	3.5 in. TFT 320 × 240 pixels, color screen	
	Button	On button: green Off button: red Brake-release button: orange Keyswitch (disabled off button)*	* Key switch can be used to disable the off button to avoid accidental shutdown or tampering.
User Interface	Wireless	802.11 a/b/g/n/ac	
	Ethernet Port	1 x user LAN, 1 x maintenance LAN, Auto-MDIX	
	Serial	RS-232 × 2	
	Digital I/O	16 inputs, 16 outputs	
	Analog I/O	8 inputs (0 to 30 V), 4 outputs (0-20 V)	
	Audio	Digital audio out, audio in / audio out	
Cart Latching	Latching Method	Not available	

MobilePlanner Software

Operating System	Windows 10 (32-bit/64-bit version)
CPU	1.5 GHz dual-core CPU recommended
Main Memory	1.5 GB min. (4 GB min. recommended)
Hard Disk	At least 200 MB of available space
Video Memory	256 MB min.
Display	XGA 1024 × 768, 16 million colors
Supported Languages	English, Japanese, German, French, Italian, Korean, Spanish, Simplified Chinese, Traditional Chinese

EM2100 Appliance

Part Numbers	20271-900 (Primary Fleet Manager) 20271-901 (Secondary Fleet Manager) 20271-903 (Bundle, Fleet Simulator)
Dimensions- W × D × H	430 × 495.3 × 43.7 mm
Weight	9.1 kg
Mounting method	1U rack mount in a standard 19-inch equipment rack
Power Supply	100-240 VAC (typical 100 W)
Power Consumption	200W max.
Operating Temperature	10 to 35 °C
Storage Temperature	-25 to 60 °C
Operating Humidity	8 to 90%, non-condensing
Storage Humidity	5 to 95%, non-condensing
Chassis protection class	IP20
CPU	Intel® Xeon® CPU
Main Memory	32 GB DDR3
Storage	60 GB SSD
Archive Storage	4 TB HDD
Communication port	10/100/1000 Ethernet × 4, USB × 4, VGA
Status Display	Multi-segment LCD

High Accuracy Positioning System

Part Number	13660-□00 (LD-60/90/105CT/130CT) 21374-□00 (LD-250)	
Sensor	Depth	30 mm
	Width	160 mm
	Rating	IP64
	Environment	-40 to 85 °C
	LEDs	Power, tape present, left marker, right marker
Magnetic Tape	Width	25 mm
	Orientation	South up
Markers (Magnetic Tape)	Width	25 mm
	Length	300 mm min. for 500 mm/s drive speed
	Orientation	North up
	Separation From Tape	15 - 30 mm
Connections	Front Sensor	RS232-1 (/dev/ttyUSB9) on the core
	Rear Sensor	RS232-2 (/dev/ttyUSB10) on the core
	Power, Both Sensors	Aux power using the included splitter cable

Acuity Localization

Part Number	13700-□00
Field of View	140°
Power Input	12 VDC (±10%) supplied from platform through power connector
Power Consumption	3.3 W maximum

Cell Alignment Positioning System (CAPS)

Part Number	20271-805
Type	Software license
Stop Position Accuracy	±8 mm position, ±1° rotation

Touchscreen

Part Number	13605-000
Touch Panel	PCAP touch sensor, black-bordered cover lens
TFT Display	TFT LCD panel, 18/24 bit RGB parallel interface, 7.0 in. WVGA - wide viewing angles, 5-touch
Backlight	Constant current LED supply
Power Input	5 VDC supplied through power connector
Power Consumption	6.5 W maximum

Call/Door Box

Part Number	13029-802
Dimensions- W × D × H	141.4 × 74.7 × 30 mm
Weight	190 g
Mounting method	Mount to the provided wall frame with four screws
Power Supply	12 VDC
Power Consumption	0.5 A, 6 W typical
WiFi	IEEE 802.11 a/b/g/n
Communication Port	Ethernet
I/O	Input × 2, output × 2 (30 VDC, 2 A max.)

Battery

Part Number	20452-000
Run Time (No Payload)	15 hours (continuous) approx. (LD-60/90) 13 hours (continuous) approx. (LD-250)
Weight	19 kg
Voltage	22-30 VDC
Capacity	72 Ah (battery cell nominal)
Recharge Time	4 hours approx.
Life Expectancy	2,000 times 80% DOD (battery cell nominal), 7 years, approx., 16 hrs/day, 5 days/wk 4 years, approx., 19/7 (full-time)

Docking Station

Part Number	12477-0□0
Current	8 A*1
Contacts	2
Power	100 to 240 VAC, 50 to 60 Hz
Power Consumption	800 W
Humidity	5 to 95 %, non-condensing
Temperature	5 to 40° C
Dimensions (W × D × H)	349 × 369 × 315 mm 495 × 495.5 × 317 mm (with floor plate)
Weight	8.2 kg
Mounting	Wall bracket, directly to floor, or on floor with floor plate
Indicators	Power on: blue Charging: yellow
Connector	For out-of-platform battery charging

*1 Thermal fuse in AC power switch (10 A time-lag fuse at switch for legacy dock)

Joystick

Part Number	13558-000
Weight	0.55 kg
IP Rating	IP56

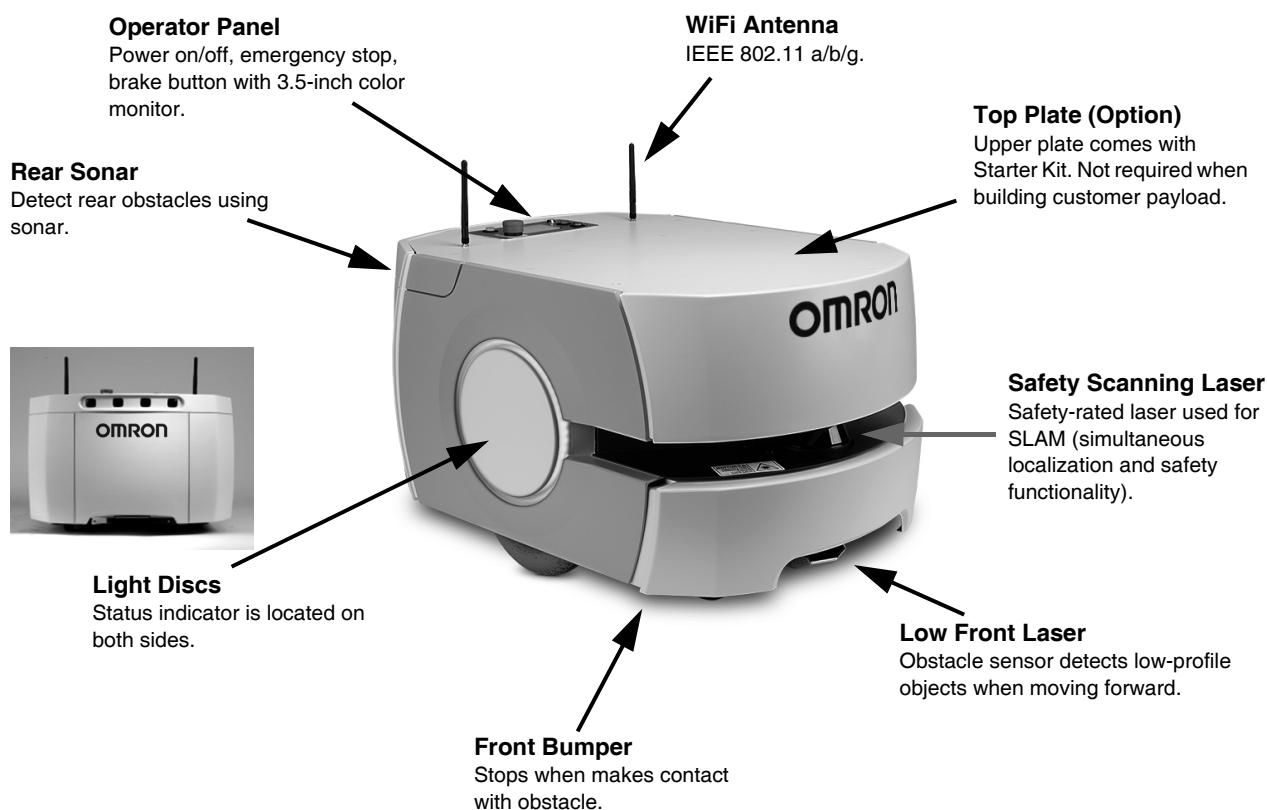
Cart

Part Number	75020-000
Dimensions (L × W × H)	592 × 846 × 480 mm
Weight	23 kg
Rating	ESP-rated
Passive Casters	2 front, 2 rear, spring-loaded
Caster Diameter	100 mm nominal
Caster Brakes	At 2 rear casters

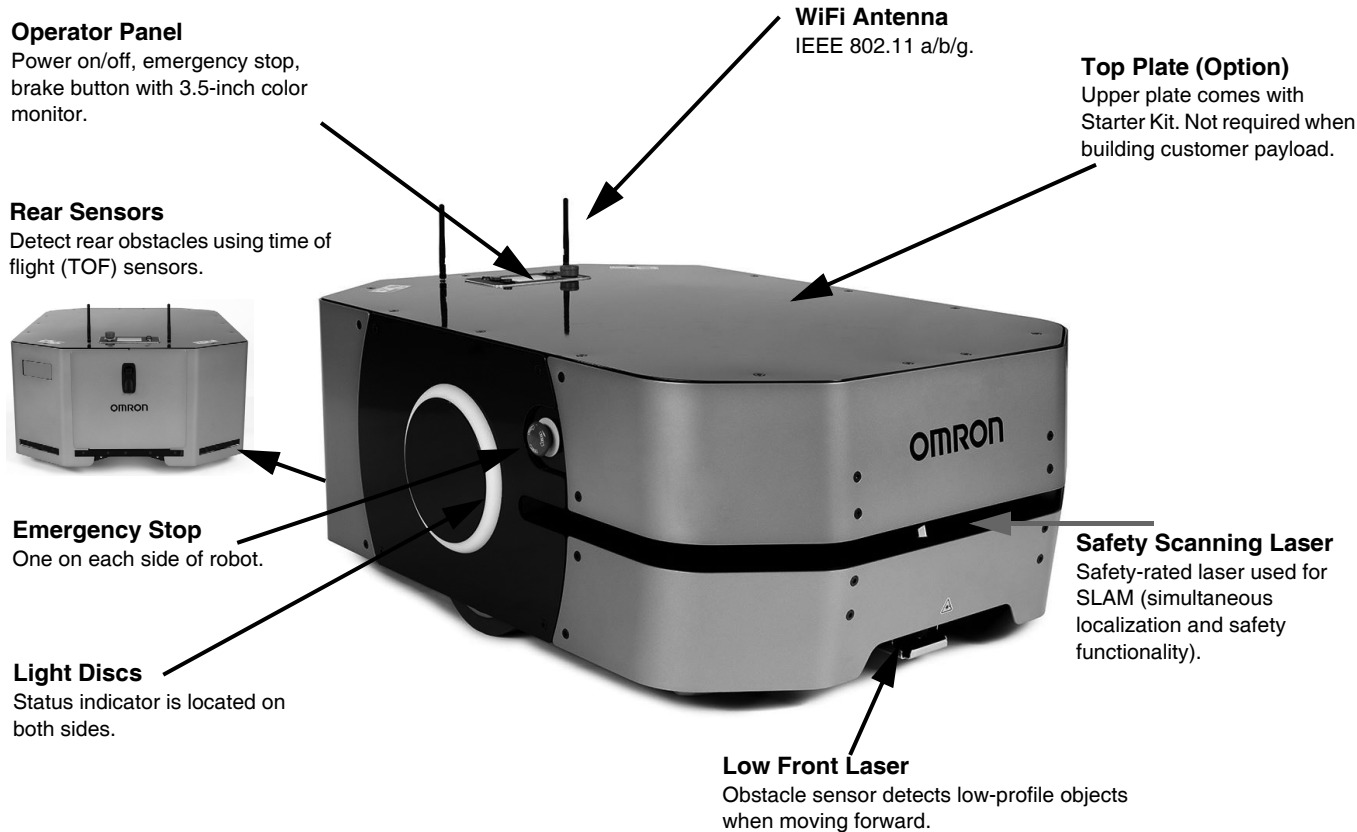
LD Series

Components and Functions

LD-60, LD-90, ESD OEM



LD-250, ESD OEM



Components and Functions

Cart Transporter

Operator Panel

- 7 in. color touchscreen (status, goal input)
- WiFi antenna × 2
- Emergency stop
- Power on/off
- Brake button
- Latch/unlatch buttons for cart
- Beacon
- Acuity localization (optional)



OEM

OEM with
cart latching plate.

Rear Laser

Rear obstacle detection laser.

Side Laser

Vertical obstacle detection
laser.

Cart

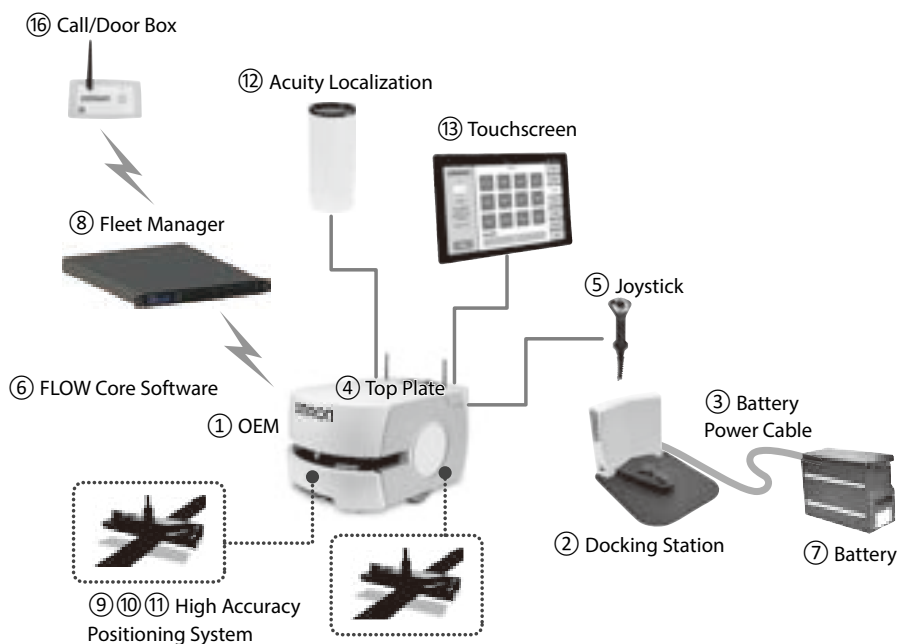
Automatically latch/unlatch cart
with manual break. Latching/
unlatching can be controlled by
software.



LD Series

System Configuration

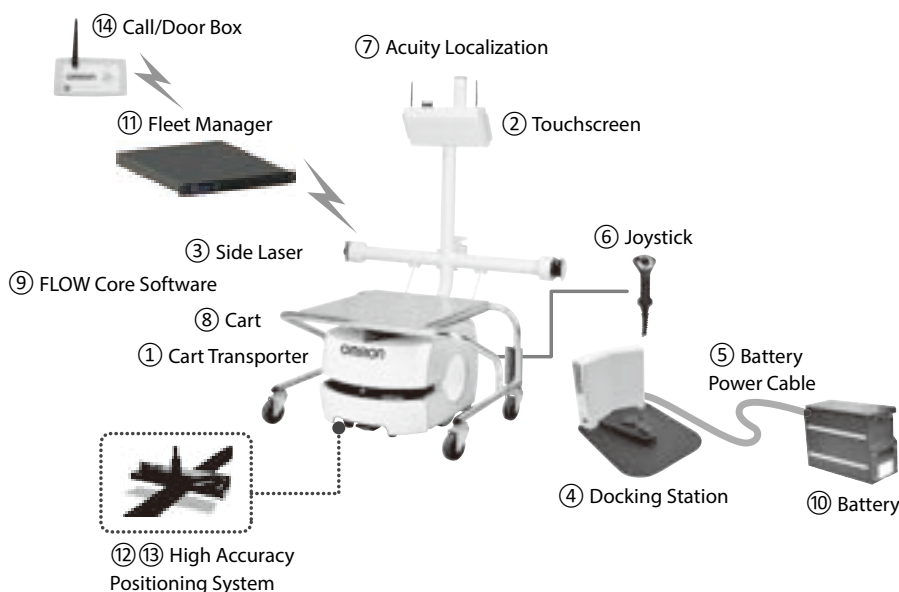
OEM



	Product Name	Part Number	Description	Notes
①	OEM	37□□2-00000	A mobile robot OEM running OMRON's FLOW Core Software.	Included in docking station kit and starter kit
②	Docking Station	12477-000	A docking station to charge the battery installed in the mobile robot.	
③	Battery Power Cable	12676-000L	A cable to connect a battery and docking station to charge the battery outside of the mobile robot.	
④	Top Plate	12944-000 20458-002	A upper plate of the mobile robot OEM. It is not necessary for building customer payload.	Included in starter kit
⑤	Joystick	13558-000	Used for manually controlling the mobile robot.	
⑥	FLOW Core Software	Embedded	OMRON'S mobile solution operating software supporting navigation, safety, fleet management and advanced features.	
⑦	Battery	20452-000	A battery that is installed in the mobile robot.	-
⑧	Fleet Manager	20271-900	EM2100 appliance with FLOW Core software configured for mobile robot fleet management.	-
⑨	High Accuracy Positioning System (Single sensor)	13660-100 21374-100	A combination of sensor and magnetic tape to achieve accurate alignment during forward driving motion, when the sensor is attached to mobile robot and magnetic tape is on the floor.	-
⑩	High Accuracy Positioning System (Double sensor)	13660-000 21374-000	A combination of two sensors and magnetic tape to achieve accurate alignment during forward and backward driving motions, when the sensors are attached to mobile robot and magnetic tape is on the floor.	-
⑪	Magnetic Tape	14925-000	Magnetic tape for the High Accuracy Positioning System. The tape is applied to signal the mobile robot where to stop.	-
⑫	Acuity Localization	13700-000	Used where process layout or obstacle location changes often. Installed on a payload structure attached to the mobile robot.	-
⑬	Touchscreen	13605-000	Allows operators to check the status of the mobile robot, enter goals, and pause the mobile robot. Installed on a payload structure attached to the mobile robot.	-
⑭	Side Laser Bundle	13456-000	Used to detect obstacles that are at heights the safety scanning laser of the mobile robot cannot detect. Installed on a payload structure attached to the mobile robot.	-
⑮	Side Laser Kit	13456-100	Includes the above mentioned side laser, mounting kit, and metal enclosures.	-
⑯	Call/Door Box	13029-802	Used to issue a request for a mobile robot to go to the goal or to open a closed door, usually installed at location of use.	-
⑰	Breakout Cable	14165-000	A D-SUB44 pin cable for digital I/O interface of the mobile robot.	-

System Configuration

Cart Transporter



	Product Name	Part Number	Description	Notes
①	Cart Transporter	371□2-00000	A mobile robot cart transporter running OMRON's FLOW Core Software. The battery is not included.	Included in docking station kit and starter kit
②	Touchscreen	13605-000	Allows operators to check the status of the mobile robot, enter goals, and pause the mobile robot. Installed on a payload structure attached to the mobile robot.	
③	Side Laser	13456-000	Used to detect obstacles that are at heights the safety scanning laser of the mobile robot cannot detect. Installed on a payload structure attached to the mobile robot.	
④	Docking Station	12477-000	A docking station to charge the battery installed in the mobile robot.	
⑤	Battery Power Cable	12676-000L	A cable to connect a battery and docking station to charge the battery outside of the mobile robot.	
⑥	Joystick	13558-000	Used for manually controlling the mobile robot.	Included in starter kit
⑦	Acuity Localization	13700-000	Used where process layout or obstacle location changes often. Installed on a payload structure attached to the mobile robot.	
⑧	Cart	75020-000	A cart designed to work seamlessly with the mobile robot cart transporter.	
⑨	FLOW Core Software	Embedded	OMRON's mobile solution operating software supporting navigation, safety, fleet management and advanced features.	-
⑩	Battery	18578-000	A battery that is installed in the mobile robot.	-
⑪	Fleet Manager	20271-900	EM2100 appliance with FLOW Core software configured for mobile robot fleet management.	-
⑫	High Accuracy Positioning System (Single Sensor)	13660-100	A sensor and magnetic tape to achieve accurate alignment when the mobile robot follows driving forward. The sensors are attached to the mobile robot.	-
⑬	Magnetic Tape	14925-000	Magnetic tape for the High Accuracy Positioning System. The tape is applied to signal the mobile robot where to stop.	-
⑭	Call/Door Box	13029-802	Used to issue a request for a mobile robot to go to the goal or to open a closed door. Installed at the goal or door.	-
⑮	Breakout Cable	14165-000	A D-SUB44 pin cable for digital I/O interface of the mobile robot.	-

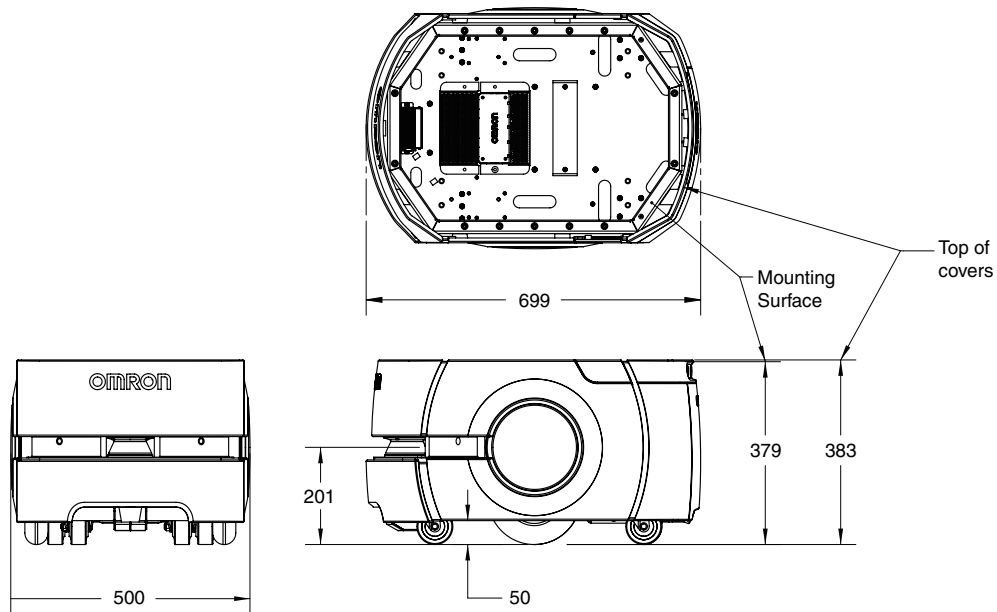
LD Series

Dimensions

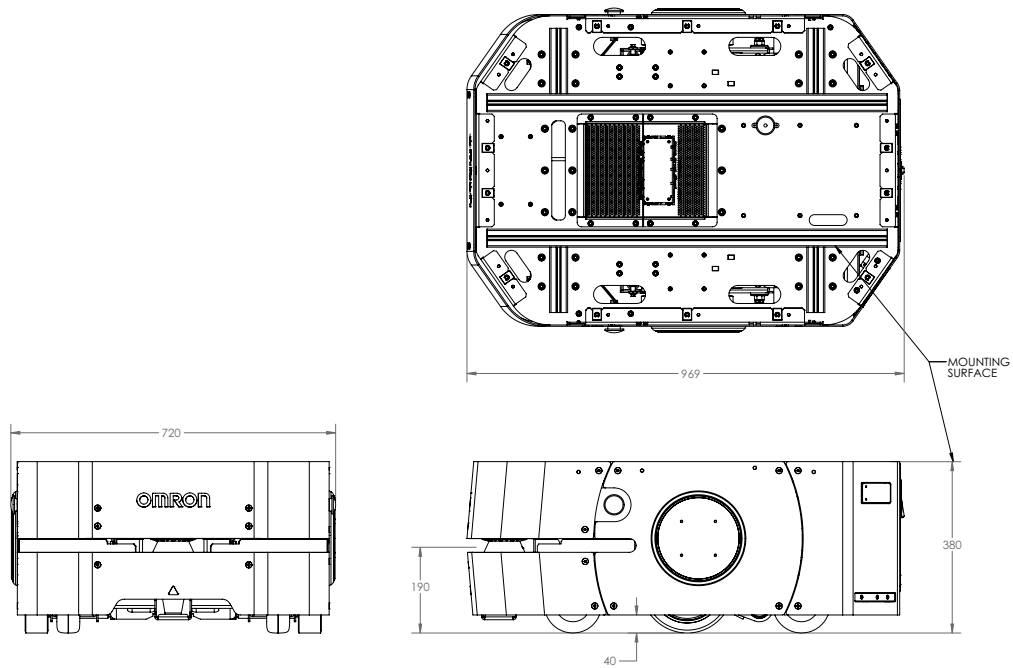
CAD data can be downloaded from Omron Adept Technologies Inc. website.
<http://www.adept.com/Robots-CAD-File>

(Unit: mm)

Mobile Robots-LD Platform LD-60, LD-90, ESD OEM



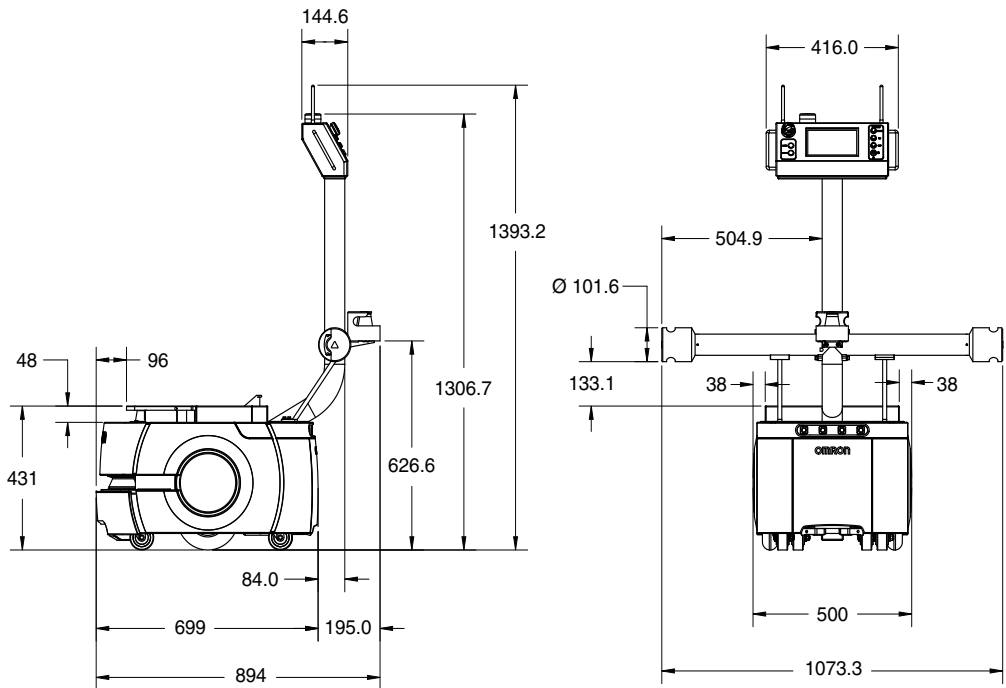
LD-250, ESD OEM



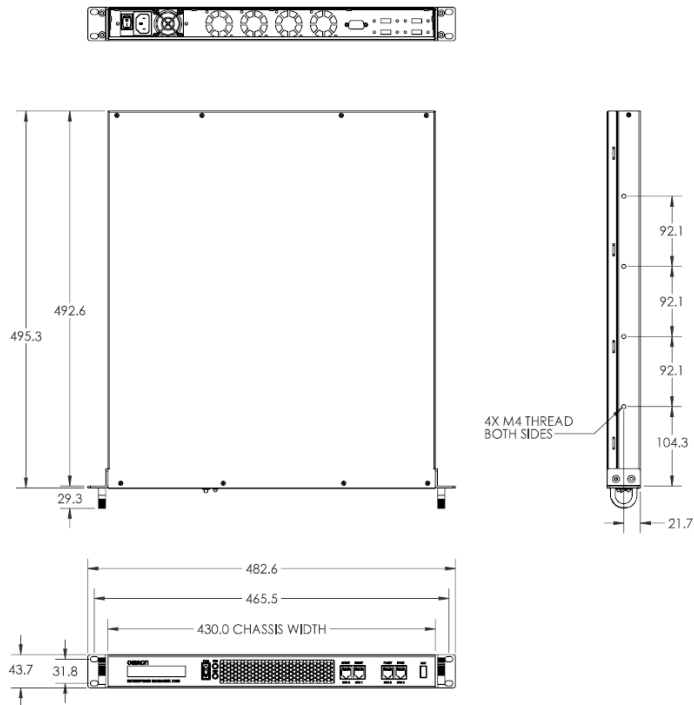
Dimensions

(Unit: mm)

Cart Transporter



Fleet Manager EM2100 Appliance

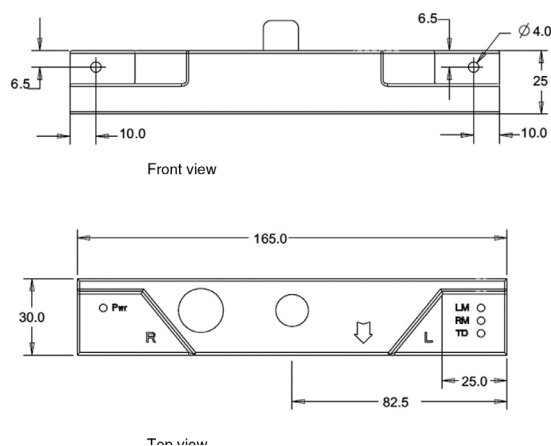


LD Series

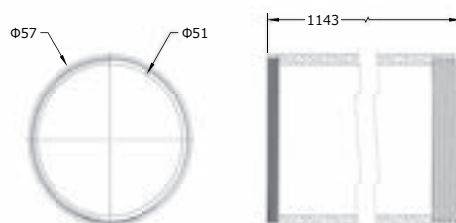
Dimensions

(Unit: mm)

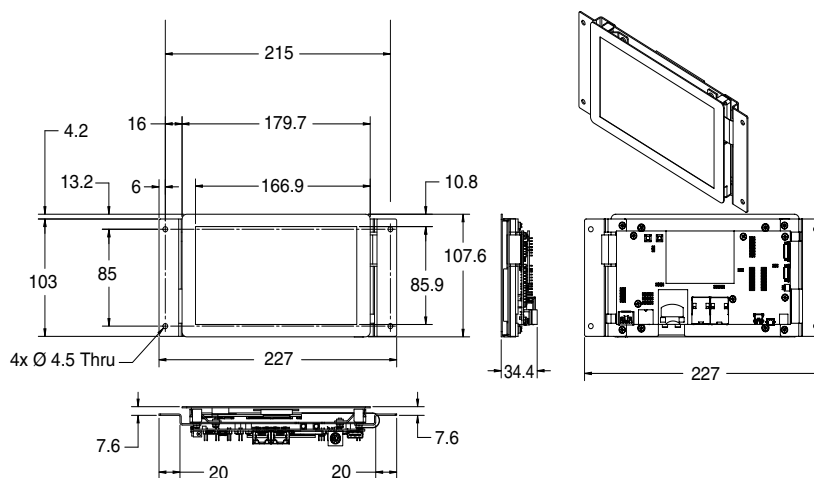
High Accuracy Positioning System



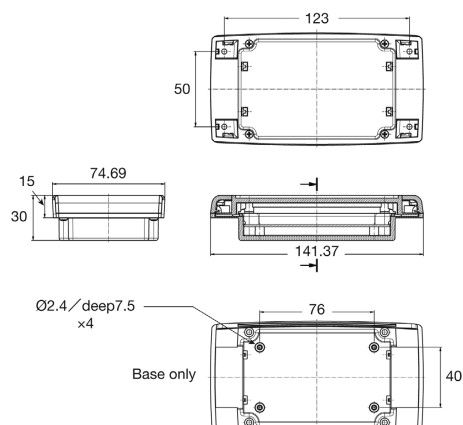
Acuity Localization



Touchscreen

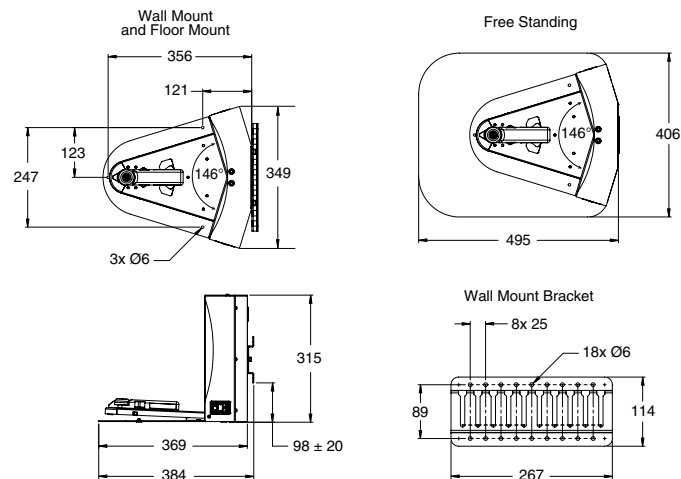


Call/Door Box

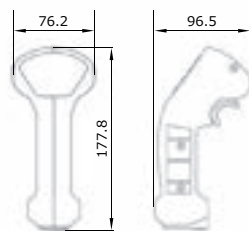


Dimensions

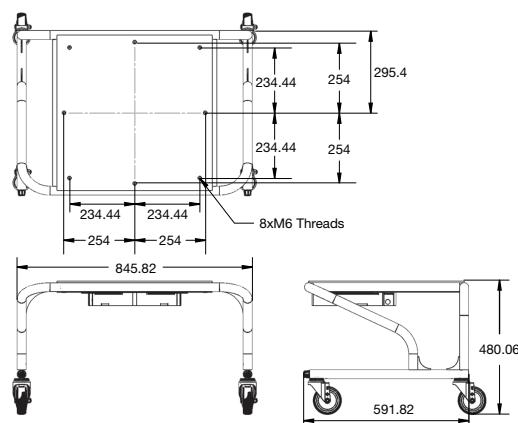
Docking Station



Joystick



Cart



LD Series



Related Manuals

Manual No.	English Title
I611	Mobile Robots LD Platform User Guide
I612	Mobile Robots LD Cart Transporter User Guide
I613	Mobile Robots LD Platform Peripherals Guide
I614	Mobile Robots Software Suite User Guide
I615	Enterprise Manager User Guide
I616	Mobile Robot LD Safety Guide
I617	Advanced Robotics Command Language Reference Guide
I618	Advanced Robotics Command Language Enterprise Manager Integration Guide
I634	EM2100 Installation Guide
I635	Fleet Operations Workspace Core User Guide
I636	Fleet Operations Workspace Core Migration Guide
I637	Fleet Operation Workspace Core Integration Toolkit User Guide
I641	Fleet Simulator User's Guide
I642	LD-250 Platform User Guide

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Ordering Information for Previous Generation Models (Planned Obsolescence in Future)

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	-	37031-00000
					Docking station kit	Docking station : 12477-000 Battery power cable (0.45 m) : 12676-000L	37031-00002
					Starter kit	Docking station : 12477-000 Battery power cable (0.45 m) : 12676-000L Joystick : 13558-000 Top plate : 12944-000	37031-10004
		LD-90	90 kg	1.35 m/s	Standard	-	37041-00000
					Docking station kit	Docking station : 12477-000 Battery power cable (0.45 m) : 12676-000L	37041-00002
					Starter kit	Docking station : 12477-000 Battery power cable (0.45 m) : 12676-000L Joystick : 13558-000 Top plate : 12944-000	37041-10004
	Cart Transporter	LD-105CT	105 kg	1.35 m/s	Standard	Touchscreen :13605-000 Side laser :13456-000	37141-00010
					Docking station kit	Touchscreen :13605-000 Side laser :13456-000 Docking station :12477-050 Battery power cable (0.45 m) :12676-000L	37141-00012
					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	37141-01014
		LD-130CT	130 kg	0.9 m/s	Standard	Touchscreen :13605-000 Side laser :13456-000	37161-00010
					Docking station kit	Touchscreen :13605-000 Side laser :13456-000 Docking station :12477-050 Battery power cable (0.45 m) :12676-000L	37161-00012
					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	37161-01014

* Also available in ESD versions (built in accordance with the IEC 61340-5-1 standard).

Legacy Fleet Management Solutions

Appearance	Product Name	Configuration & Attachment	Part Number
	MobilePlanner	Installer (USB)* License Dongle MSS 4.X compatible	13495-200

* The latest version of MobilePlanner can be downloaded from the OMRON Robotics and Safety Technologies Inc. website.

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