

MIR1000 EU Pallet Lift

Technical specification



General information	
Designated use	For internal transportation of heavy loads and pallets within the industry and logistics
Type	Autonomous Mobile Robot (AMR)
Color	RAL 9005 / Signal Black
Cover material	Side covers: Steel, Powder coated. Top cover: Aluminium, anodized
Product design life	5 years or 20 000 hours, whichever comes first
Disclaimer	Specifications may vary based on local conditions and application setup
Dimensions	
Length	1 350 mm 53.1 in
Width	910 mm 35.8 in
Height	322 mm 12.7 in
Weight	231 kg 509 lbs
Ground clearance	40 mm 1.2 in
Load surface	1 249 x 789 mm 49.2 in x 31 in
Dimensions for mounting top modules	Robot footprint. Contact RI if a bigger top module is required.
Payload	
Maximum payload	1 000 kg 2 200 lbs
Footprint of payload	Robot footprint. Contact RI if a bigger payload footprint is required.
Total lifting capacity with a	1 000 kg 2 200 lbs
Speed and performance	
Maximum speed (with maximum payload on a flat surface)	1.2 m/s (4.3 km/h) 3.9 ft/s (2.7 mph)
Minimum width for pivoting	With default setup: 2 600 mm 102.4 in. With improved setup: 2 500 mm 98.4 in
Operational corridor width	With default footprint: 2 100 mm 82.7 in
Minimum distance between chargers	750 mm 29.5 in, if the robot can approach the charger in an angle of 80-100° to the wall
Active operating time with no payload	15 hours
Standby time (robot is on and idle)	26 hours (100 to 0%)
Battery and charger	
Charging options	MiR Charge 48V, Battery Charger 48V 12A , Cable Charger Lite 48V 3A
Charger communication	The robot communicates with MiR Charge 48V through CAN interface. Charging starts only when the robot connection is present.

Charging current, MiR Charge 48V	Up to 40 A depending on battery temperature and constant voltage ramping down towards end of charge cycle.
Charging current, cable charger	12 A or 3 A
Charging time with cable charger	2 hours with 20 A charger. 3.5 hours with 12 A charger
Battery voltage	48 V
Battery capacity	2 kWh (40 Ah at 48 V)
Environment	
Ambient temperature range, operation	5°C to 40°C 41°F to 104°F according to ISO3691-4 section 4.1.2
Ambient temperature range, storage	-10°C to 60°C 14°F to 140°F
Humidity	10-95% non-condensing
Environment	For indoor use only
Floor conditions	Can withstand driving through small puddles of water on the floor, maximum 4 mm deep. Wet floors should be risk assessed as braking distance can be affected.
IP class	IP21
Compliance	
EMC	EN61000-6-2, EN61000-6-4, (EN12895)
Safety standards for industrial vehicles	CE, EN1525, ANSI B56.5, ISO3691-4, RIA15.08, ISO13849-1
Safety	
Safety functions	Five safety functions according to ISO 13849-1. MiR1000 stops if a safety function is triggered
Personnel detection safety function	Triggered by a human or other obstacle in the path of travel.
Emergency stop	Triggered by pressing the Emergency stop button.
Overspeed avoidance	Prevents the robot from driving faster than the predefined safety limit
Communication	
I/O connections	4 digital inputs, 4 digital outputs, 1 Ethernet port
WiFi (router)	Dual-band wireless AC/G/N/B
WiFi connection	Router: 2.4 GHz and 5 GHz. Internal computer: WiFi adapter: 2.4 GHz and 5 GHz, 2 internal antennas.
Communication protocol	REST, Modbus
Sensors	
SICK safety laser scanners	2 pcs microScan3 (front and rear) 360° visual protection around robot
3D cameras	2 pcs 3D camera Intel RealSense™ D435.FoV height: 1 700 mm 66.9 inFoV distance in front of robot: 950 mm 37.4 inFoV horizontal angle: 114°FoV minimum distance in front of robot for ground view: 250 mm 9.8 in
Proximity sensors	8 pcs
Top module	
Power for top modules	48 V / 20 A, 48 V SafePWR / 20 A shared, 24 V / 2A