

# MIR1000 Pallet Lift

## Technical specification



<b>General information</b>	
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
<b>Dimensions</b>	
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.
<b>Payload</b>	
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
<b>Speed and performance</b>	
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%)
<b>Battery and charger</b>	
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)
<b>Environment</b>	
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
<b>Compliance</b>	
EMC	EN61000-6-2, EN61000-6-4, (EN12895)
Safety standards for industrial vehicles	CE, EN1525, ANSI B56.5, ISO3691-4, RIA15.08, ISO13849-1
<b>Safety</b>	
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
<b>Communication</b>	
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
<b>Sensors</b>	
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
<b>Top module</b>	
Power for top modules	48 V / 20 A, 48 V SafePWR / 20 A shared, 24 V / 2A