

MiR1000



MiR1000 is designed to automate and optimize the internal transportation of heavy duties and pallets. With a total payload of 1000 kg, this is MiR's most powerful robot, and even in highly dynamic environments it can transport heavy loads without any exterior safety measures.

Designated use

Autonomous Mobile Robot (AMR)

For internal transportation of heavy loads and pallets within the industry and logistics

Dimensions

Length	1350 mm / 53.1 in
Width	920 mm / 36.2 in
Height	320 mm / 12.6 in
Height with MiR1000 EU Pallet Lift	407 mm / 16.1 in (lowered), 476 mm / 18.7 in (raised)
Height with MiR1000 Lift	414 mm / 16.3 in
Weight (without load)	231 kg / 509 lbs
Weight with MiR1000 EU Pallet Lift	298 kg / 657 lbs
Weight with MiR1000 Lift	349 kg / 769 lbs
Ground clearance	30 mm / 1.2 in
Load surface	1300 mm x 900 mm / 51.2 in x 35.4 in
Dimensions for mounting top modules	Robot footprint. Contact MiR if a bigger top module is required.

Color

RAL color	RAL 9005 / Signal Black
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Payload

Total payload	1000 kg / 2200 lbs
Footprint of payload	Robot footprint. Contact MiR if a bigger payload footprint is required.
Total lifting capacity with a MiR EU-/US-/Shelf-lift installed:	1000 kg / 2200 lbs

Speed and performance

Maximum speed (full payload, flat surface)	1.2 m/s (4.3 km/h)
Minimum width: Pivoting	2600 mm (normal setup), 2500 mm (improved setup)
Minimum width: corridor	2100 mm (default footprint)
Minimum distance between chargers	750 mm
Traversable gap and sill tolerance	20 mm / 0.8 in
Product design life	5 years or 20.000 hours, whichever comes first

Battery and charging

Charging options	MiR Charge 48V, Battery Charger 48V 12A , Cable Charger Lite 48V 3A
MiR Charge 48V	The robot communicates with MiR Charge 48V through CAN interface. Charging starts only when the robot connection is present.
Charging current, MiRCharge 48V	35 A
Charging time, MiR Charge 48V, 10% to 90%	1 hour
Charging current, cable charger	12 A or 3 A
Charging time, cable charger, 10 to 90 pct	3.5 hours (12 A charger)
Full charging cycles, minimum	1000
Battery voltage	48 V
Battery capacity	2 kWh (40 Ah at 48 V)
Battery running time	8 hours

Environment

Ambient temperature, operation	+5°C to 40°C
Ambient temperature, storage	-10°C to 60°C
Humidity	10-95% non-condensing
Environment	For indoor use only
IP Class	IP21
Water on floor	Can drive through small puddles of water on floor
Compliance	CE, EN1525, ANSI B56.5 & ISO 3691-4* (*under preparation), EN12895, EN61000-6-2, EN61000-6-4

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Safety

Safety functions	5 safety functions according to ISO 13849-1. MiR1000 stops if a safety function is triggered
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Communication

I/O connections	4 digital inputs, 4 digital outputs, 1 Ethernet port
WiFi	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.
Power for top modules	48 V / 20 A, 48 V SafePWR / 20 A shared, 24 V / 2A.
Communication protocol	REST, Modbus

Sensors

SICK microScan3 safety system (2 pcs.)	360° visual protection around robot
3D camera (2 pcs.)	2 pcs.: Intel RealSense D435. FoV: Detects objects 1700 mm high at a distance of 950 mm in front of the robot. 114° total horizontal view. Ground view, minimum distance from robot: 250 mm
Proximity sensors	8 pcs.