



Mir 500

General information

Type	Autonomous Mobile Robot (AMR)
Designated use	For internal transportation of heavy loads and pallets within the industry and logistics
Color	RAL7011 / Iron Gray

Dimensions

Length	1350 mm / 53.1 in
Width	920 mm / 36.2 in
Height	320 mm / 12.6 in
Height with MiR500 EU Pallet Lift	407 mm / 16.1 in
Height with MiR500 Lift	410 mm / 16.1 in
Weight (without load)	226 kg / 498 lbs
Weight with MiR500 EU Pallet Lift	282 kg / 842 lbs
Weight with MiR500 Lift	324 kg / 714 lbs
Clearance from ground	30 mm / 1.2 in
Load surface	1300 mm x 900 mm / 51.2 in x 35.4 in



Payload

Payload	500 kg / 1100 lbs
Dimensions for mounting top applications	Robot footprint. Contact MiR If a bigger top application is required.

Driving and navigation

Maximum speed (full payload, flat surface)	2.0 m/s (7.2 km/h)
Acceleration (full payload, flat surface)	1.0 m/s ²
Turning diameter	2600 mm / 102.4 in
Precision, docking to VL marker	Position (center of robot): +/- 5 mm. Angle: +/- 1°.
Minimum width: door	Normal operation: 1500 mm. Muted personnel detection means: 1000 mm

Battery, charging

Charging options	MiRCharge 48V, Cable Charger, Cable Charger Lite 48V
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	40 A
Charging time, MiR Charge 48V, 10% to 90%	1 hour
Charging current, cable charger	20 A
Charging time, cable charger, 10% to 90%	2 hours



Active operation time between charging (approximate)	8 hours
Standby time	10 hours
Full charging cycles, minimum	1000
Battery voltage	48 V
Battery capacity	2 kWh (41.6 Ah at 48 V)

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 withstand driving through small puddles of water on floor, max. 4 mm deep

Safety

Safety functions	5 safety functions according to ISO 13849-1. MIR500 stops if a safety function is triggered
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Compliance and approvals

Safety standards for industrial vehicles	CE, EN1525, ANSI B56.5 & ISO 3691-4* (*under preparation)
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EMC

EN12895, EN61000-6-2 & EN61000-6-4

Connectivity, I/O

I/O connections

4 digital inputs, 4 digital outputs, 1 Ethernet port

WiFi

Router: 2.4 GHz 802.11 g/n, 5 GHz 802.11 a/n/ac.
Internal computer: 802.11 a/b/g/n/ac.

WiFi connection

Router: 2.4 GHz and 5 GHz. WiFi adapter: 2.4 GHz and 5 GHz, 2 internal antennas.

Power for top modules

M23 plug, 6p. 2 x 48 V / 20 A safe pwr, 1 x 24 V / 2 A always on

Communication protocol

REST, Modbus

Sensors

SICK microScan3 safety system (2 pcs.)

360° visual protection around robot

3D camera (2 psc.)

2 psc.: 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