

## MiR250



The MiR250 is a more flexible AMR that can work around the clock and is brilliantly simple to setup, for improved productivity. Its smaller footprint and increased adaptability help optimize internal logistics without changing layout.

## Designated use

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### Autonomous Mobile Robot (AMR)

For internal transportation of goods and automation of internal logistics

## Dimensions

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### Length

800 mm / 31.5 in

### Width

580 mm / 22.8 in

### Height

300 mm / 11.8 in

### Clearance from ground

25 - 28 mm / 1.0 - 1.1 in

### Weight (without load)

83 kg / 183 lbs

### Load surface

800 x 580 mm / 31.5 x 22.8 in

### Wheel diameter (drive wheel)

200 mm / 7.9 in

### Wheel diameter (swivel wheel)

125 mm / 4.9 in

### Dimensions for mounting top modules

Robot footprint. Contact MiR if a bigger top module is required.

### Top plate

Anodized aluminum, 5 mm

## Color

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### RAL color

RAL 7011 / Iron Grey

### RAL color - ESD version

RAL 9005 / Signal Black

## Payload

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### Robot payload

250 kg / 551 lbs

### Acceleration limits with payload

0.3 m/s<sup>2</sup>

### Footprint of payload

Robot footprint. Contact MiR if a bigger payload footprint is required.

### Payload placement

COM position according to User guide

## Speed and performance

<b>Active operation time with full load</b>	13 hours
<b>Active operation time with no load</b>	17.4 hours
<b>Standby time</b>	22 hours. Robot is on and idle.
<b>Traversable gap and sill tolerance</b>	20 mm / 0.8 in
<b>Minimum width, straight aisle with MiR Shelf Carrier 250, rated speed: 1.2 m/s</b>	1400 mm (with footprint of 1300x1300 mm)
<b>Space needed for U-turn around obstacle/wall</b>	1700 mm
<b>Minimum doorway width</b>	800 mm
<b>Minimum size of detectable object (scanner)</b>	20 mm at 1.0 m, 70 mm at 2.5 m
<b>Product design life</b>	5 years or 20.000 hours, whichever comes first
<b>Maximum altitude</b>	2000 m

## Battery and charging

<b>Charging options</b>	MiR Charge 48V, Cable Charger, Cable Charger Lite 48V 3A
<b>Charging time, MiR Charge 48V, 10% to 90%</b>	52 minutes
<b>Charging ratio</b>	1:17 (30 min charge = 8.3 hours run time with full load)
<b>Battery capacity</b>	1.63 kWh (34.2 Ah at 47.7V)
<b>Battery type</b>	Lithium ion (Li-NMC)
<b>Battery voltage</b>	47.7 V nominal, min 41 V, max 54 V
<b>Charging an empty battery</b>	Only possible with the cable charger. To dock to MiRCharge 48V, the robot requires at least 3 pct battery (or equal to 10 min operating time).
<b>Charging current, MiR Charge 48V</b>	Up to 35 A depending on battery temperature and constant voltage ramping down towards end of charge cycle.
<b>Full charging cycles, minimum</b>	1000 cycles

## Environment

<b>Ambient temperature, operation</b>	+5°C to 40°C
<b>Ambient temperature, storage</b>	-10°C to 60°C (1 month), -20C to +45C (3 months)
<b>Humidity</b>	10-95% non-condensing
<b>Compliance</b>	Design in accordance with present standards. Passed in accordance with CE, EN1525 & ANSI B56.5, EN12895, EN61000-6-2, EN61000-6-4 + A1, Clean Room Certified - optional, ESD Certified - optional

## Safety

<b>Collision avoidance</b>	Triggered by a human or other obstacle in the path of travel.
<b>Emergency stop</b>	Triggered by pressing the Emergency stop button.

## Communication

<b>I/O connections</b>	4 digital inputs, 4 digital outputs (GPIO), 1 Ethernet port, 1 Auxiliary emergency stop
<b>WiFi connection</b>	Router: 2.4 GHz and 5 GHz. Internal computer: WiFi adapter: 2.4 GHz and 5 GHz, 2 internal antennas
<b>WiFi protocol</b>	Router: 2.4 GHz 802.11 g/n, 5 GHz 802.11 a/n/ac. Internal computer: 802.11 a/b/g/n/ac
<b>Power for top modules</b>	48 V (41-54 V, nom 47.7 V), 10 A combined. 24 V/2 A.
<b>Safety I/O connections</b>	6 digital inputs, 6 digital outputs

## Sensors

<b>SICK NanoScan3 safety system(2 pcs.)</b>	SICK safety laser scanners (front and back) 360° visual protection around robot
<b>3D camera (2 pcs.)</b>	2 pcs: Intel RealSense D435. FoV: Detects objects 1800 mm high at a distance of 1200 mm in front of the robot. 114° total horizontal view. Ground view, minimum distance from robot: 250 mm
<b>Proximity sensors</b>	8 pcs.

## Lights and audio

<b>Audio</b>	Speaker
<b>Signal lights</b>	Indicator lights on four sides, eight signal lights (two in each corner).