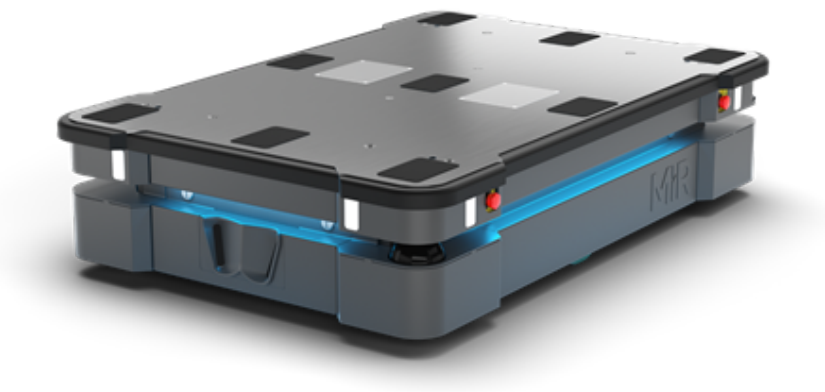


## MiR600



The MiR600 is a stronger and safer AMR. The MiR600 is compliant with the highest available robot standards making it superior to other AMRs on the market.

### General information

<b>Designated use</b>	For internal transportation of goods and automation of internal logistics
<b>Type</b>	Autonomous Mobile Robot (AMR)
<b>Color</b>	RAL 7011 / Iron Gray
<b>Product design life</b>	Five years or 20 000 hours, whichever comes first.
<b>Disclaimer</b>	Specifications may vary based on local conditions and application setup

### Dimensions

<b>Length</b>	1 350 mm   53.1 in
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<b>Width</b>	910 mm   35.8 in
<b>Height</b>	322 mm   12.7 in
<b>Ground clearance</b>	25 - 27 mm   1.0 - 1.1 in
<b>Weight (without battery or payload)</b>	229 kg   504.9 lbs
<b>Load surface</b>	1 304 x 864 mm   51.3 x 34 in
<b>Wheel diameter (drive wheel)</b>	200 mm   7.9 in
<b>Wheel diameter (caster wheel)</b>	100 mm   3.9 in

## Payload

<b>Maximum payload</b>	600 kg   1 322.8 lbs
<b>Acceleration limits with maximum payload</b>	0.37 m/s <sup>2</sup>   1,21 fps <sup>2</sup>
<b>Footprint of payload</b>	Robot footprint. Contact MiR if a bigger payload footprint is required.
<b>Payload placement</b>	Place center of mass according to directions in the user guide
<b>Maximum lifting capacity with a MiR EU-/US-/Shelf-lift installed</b>	500 kg   1 102.3 lbs

## Speed and performance

<b>Maximum speed (with maximum payload on a flat surface)</b>	2 m/s   6.6 fps
<b>Minimum corridor width for a 90° turn</b>	240 cm   94.5 in
<b>Minimum corridor width for a 180° turn</b>	240 cm   94.5 in
<b>Minimum corridor width for two robots passing</b>	495 cm   194.9 in
<b>Maximum incline/decline</b>	3% at 0.5 m/s   1.6 fps, 1% at 2.0 m/s   6.6 fps
<b>Traversable gap and sill tolerance</b>	Gap: maximum 29 mm   1.1 in at maximum 0.5 m/s   1,64 fps <sup>2</sup> , from all angles. Step: maximum 10 mm   0.4 in at maximum 0.5 m/s   at maximum 40° angle with no payload, not recommended with maximum payload
<b>Positioning accuracy (in controlled conditions)</b>	Docking to L-marker: 3 mm   0.11 in deviation on X-axis, 3 mm   0.11 in on Y-axis, 0.25° yaw. Docking to VL-marker: 2 mm   0.09 in deviation on X-axis, 3 mm   0.11 in on Y-axis, 0.25° yaw. Docking to V-marker: 20 mm   0.8 in deviation on X-axis, 20 mm   0.8 in on Y-axis, 2° yaw. Docking to Bar-marker: 10 mm   0.5 in deviation on X-axis, 5 mm   0.18 in on Y-axis, 0.75° yaw. Docking to position: 100 mm   3.9 in deviation on X-axis, 83 mm   3.3 in on Y-axis, 3.4° yaw.
<b>Minimum size of detectable object</b>	Camera: 20 mm   0.8 in at 1.25 m   49.2 in. Scanner: 30 mm   1.2 in at 1.7 m   66.9 in or 2.3 m   90.6 in. 40 mm   1.6 in at 2.3 m   90.6 in or 3 m

118.1 in. 50 mm | 2 in at 3 m | 118.1 in or 3.5 m | 137.8 in. 70 mm | 2.8 in at 4 m | 157.5 in or 5.5 m | 216.5 in. Distances depend on scan cycle time (30 or 40 m/s | 98.4 or 131.2 mps)

<b>Maximum acceleration</b>	0.41 m/s <sup>2</sup> (no payload), 0.37 m/s <sup>2</sup> (maximum payload)
<b>Minimum distance between chargers</b>	110 cm   43.3 in
<b>Minimum width for pivoting</b>	275 cm   108.3 in
<b>Active operation time with maximum payload</b>	8 h 20 m
<b>Active operation time with no payload</b>	10 h 45 m
<b>Standby time (robot is on and idle)</b>	16 h 45 m

## Battery and charger

<b>Charging time with MiR Charge 48V (10-90%)</b>	45 min at an ambient temperature of 22°C
<b>Battery capacity</b>	1.63 kWh (34.2 Ah at 47.7V)
<b>Battery type</b>	Li-ion
<b>Nominal voltage</b>	47.7 V nominal, minimum 41 V, maximum 54 V
<b>Charging current, MiR Charge 48V</b>	Up to 35 Amp with MiR Charge 48V, depending on battery temperature and constant voltage ramping down towards end of charge cycle
<b>Minimum number of full charging cycles</b>	3 000 cycles
<b>Charging ratio and runtime</b>	15 m = 2 h 45m (1:11). 30 m = 5 h 45 m (1:12)
<b>Charging time with cable charger (10-90%)</b>	1h 5m (approximately)
<b>Charging time with MiR Charge 48V charging station (10-90%)</b>	45 m at ambient temperature of 22°C

## Environment

<b>Humidity</b>	10-85% non-condensing
<b>Maximum altitude</b>	2 000 m   6 561 ft
<b>Floor conditions</b>	No water, no oil, no dirt
<b>Environment</b>	For indoor use only
<b>IP class</b>	IP52

## Compliance

<b>EMC</b>	EN61000-6-2, EN61000-6-4, (EN12895)
<b>Safety standards for industrial vehicles</b>	CE, EN1525, ANSI B56.5, ISO3691-4, RIA15.08, ISO13849-1

## Safety

<b>Personnel detection safety function</b>	Triggered by a human or other obstacle in the path of travel
<b>Emergency stop</b>	Triggered by pressing the Emergency stop button.
<b>Manual control in robot interface</b>	Token-based system for accessing the manual control. The robot issues only one token at a time.
<b>Safe guarded stop</b>	Yes
<b>Safe load position</b>	Triggered if the speed exceeds 0.3 m/s while the lift (if applicable) is not in the low position.
<b>Overspeed avoidance</b>	Prevents the robot from driving faster than the predefined safety limit

## Communication

<b>Safety I/O connections</b>	6 digital inputs, 6 digital outputs
<b>WiFi (internal PC)</b>	Router: 2.4 GHz and 5 GHz. Internal computer: WiFi adapter: 2.4 GHz and 5 GHz, 2 internal antennas
<b>Aux. power for top applications</b>	Yes
<b>Aux. safety functions</b>	Yes
<b>Ethernet</b>	M12 plug, 4p. 10/100 Mbit Ethernet with Modbus protocol, adapter for external antenna
<b>General purpose I/O</b>	Yes

## Sensors

<b>SICK safety laser scanners</b>	2 pcs SICK Microscan3. FoV: 360 degrees
<b>3D cameras</b>	2 pcs 3D camera Intel RealSense™ D435 FoV height: 1 800 mm   70.9 in. FoV distance in front of robot: 1 200 mm   47.2 in. FoV horizontal angle: 114°. FoV minimum distance in front of robot for ground view: 250 mm   9.8 in
<b>Proximity sensors</b>	8 pcs
<b>Light conditions</b>	Must comply with the requirements for the Intel RealSense D435 camera.

## Lights and audio

<b>Audio</b>	Speaker
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**Light conditions**

Must comply with the requirements for the Intel RealSense™ D435 camera

**Signal lights**

8 pcs, 2 on each corner

**Maintenance**

**Maintenance hatches**

Maintenance hatches on four sides of the robot

**Service intervals**

6 months or according to user guide

