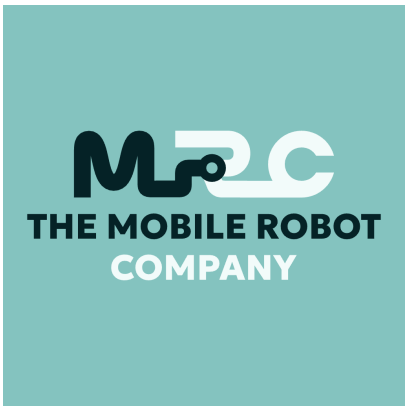

The Mobile Robot Company

Knowledge Center — Autonomous Operation · 2026-08-04

https://info.mobilerobot.com/documentation/user-guides/autonomous-operation

Autonomous Operation

In automatic mode the J1600 drives itself to saved destinations (https://info.mobilerobot.com/documentation/user-guides/location-management/), avoids obstacles on the way, and delivers pallets at floor level. Autonomous work always starts with a person: the operator creates the task, confirms the mode change, and can take over at any moment (https://info.mobilerobot.com/documentation/user-guides/operator-manual/).

Starting an autonomous run

1. Pick up the pallet manually (https://info.mobilerobot.com/applications/scenarios/manual-pickup-and-autonomous-delivery/) and select or create a task on the touchscreen — see Task Management (https://info.mobilerobot.com/documentation/user-guides/task-management/).
2. Execute the task. The robot asks to enter automatic mode (https://info.mobilerobot.com/support/troubleshooting/robot-will-not-enter-autonomous-mode/).
3. Confirm with the physical LED start/resume button. The key switch (https://info.mobilerobot.com/safety-compliance/safety-functions/mode-selection/) must be in the automatic position.
4. Step clear when the interface instructs you to. The robot moves only after confirmation.

While the robot drives

- Top speed (https://info.mobilerobot.com/products/j1600/dimensions-and-performance/) is 5.4 km/h (1.5 m/s / 3.4 mph).
- The robot localizes on the 3D map built during manual driving and plans its own route to the destination — no fixed paths, wires, or reflectors. See Creating the First Map (https://info.mobilerobot.com/documentation/getting-started/creating-the-first-map/).
- It detects and avoids obstacles (https://info.mobilerobot.com/products/j1600/navigation-and-obstacle-avoidance/) in dynamic environments, routing around people and objects (https://info.mobilerobot.com/applications/scenarios/operation-in-crowded-environments/).
- Preferred travel zones can be defined for safer routing through production areas.

- A 360-degree protective field, monitored by two 2D safety LiDARs and an independent safety controller, covers forward and reverse travel. The field changes with speed (https://info.mobilerobot.com/safety-compliance/safety-functions/safety-field-adjustment/) and expands at higher speeds.
- Blue floor-light strips display the protected area and the vehicle's status.

Person detection (https://info.mobilerobot.com/safety-compliance/safety-functions/person-detection/) and braking (https://info.mobilerobot.com/safety-compliance/safety-functions/braking/) carry certified safety Performance Levels (https://info.mobilerobot.com/safety-compliance/safety-functions/performance-levels/) — see How J1600 safety works (https://info.mobilerobot.com/safety-compliance/safety-overview/how-j1600-safety-works/).

Delivery and after

The robot drops the pallet at floor level, then performs the post-delivery action from the task: return to origin or operator (https://info.mobilerobot.com/applications/scenarios/deliver-and-return/), proceed to another point or parking, or stop and wait (https://info.mobilerobot.com/applications/scenarios/deliver-and-wait/). With Advanced software (https://info.mobilerobot.com/products/software/advanced-software/) it can also be called to a location ("come to me (https://info.mobilerobot.com/applications/scenarios/come-to-me/)") via a mobile app or web interface, and it can drive itself to an automatic charger — see Charging (https://info.mobilerobot.com/documentation/user-guides/charging/).

Operating limits in automatic mode

- Level floors (https://info.mobilerobot.com/documentation/installation/floor-requirements/) only: automatic gradeability is 0° / 0%. Slopes and dock plates are manual work.
- Indoor operation (https://info.mobilerobot.com/documentation/installation/operating-environment-requirements/) within 5–40 °C and 20–80% non-condensing humidity.
- Automatic delivery is floor-level only; higher drops are a manual capability.

Taking over

Manual control is immediately available at all times:

- grab or move the tiller to regain manual control;

- use any of the three emergency-stop buttons (https://info.mobilerobot.com/safety-compliance/safety-overview/emergency-stops-and-manual-takeover/) or the belly button (stop and reverse);
- the tiller-position switches (https://info.mobilerobot.com/safety-compliance/safety-functions/tiller-detection/) provide emergency stop and manual control.

See Manual and Autonomous Modes (https://info.mobilerobot.com/documentation/getting-started/manual-and-autonomous-modes/) for the full mode model and Manual Operation (https://info.mobilerobot.com/documentation/user-guides/manual-operation/) for manual work.