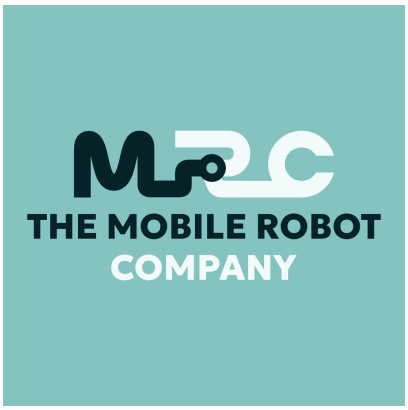

The Mobile Robot Company

Knowledge Center — Dual Mode · 2026-08-04

https://info.mobilerobot.com/products/j1600/dual-mode

Dual Mode

Dual mode means the J1600 (https://info.mobilerobot.com/products/j1600/overview/) combines two operating behaviors in one vehicle. It is the product's defining distinction and places it in a tier between manual electric pallet jacks and conventional AGVs (automated guided vehicles) (https://info.mobilerobot.com/documentation/concepts/mobile-robot-terminology/) or fully automated systems.

The two modes

- **Manual mode:** a person controls the tiller and lift functions like a conventional electric pallet jack. Manual operation (https://info.mobilerobot.com/documentation/user-guides/manual-operation/) supports nuanced pickup, handling up to 1.6 m, difficult approaches, sensitive or unstable loads (https://info.mobilerobot.com/applications/use-cases/sensitive-or-unstable-loads/), and exceptions (https://info.mobilerobot.com/applications/scenarios/handling-exceptions-and-irregular-loads/).
- **Automatic mode:** after the operator selects a saved destination and confirms the change of mode (https://info.mobilerobot.com/safety-compliance/safety-overview/manual-and-autonomous-mode-safety/), the vehicle drives autonomously (https://info.mobilerobot.com/documentation/user-guides/autonomous-operation/), performs a floor-level pallet drop, and follows its configured return, park, or wait behavior.

Handover between modes

The operator initiates autonomous work with the task interface and the physical go/start-resume button. The robot asks for confirmation and instructs the person to step clear before it starts. Manual control can be regained at any time through the tiller and the safety controls:

- tiller-position switches (https://info.mobilerobot.com/safety-compliance/safety-functions/tiller-detection/) control emergency stop and manual control;
- grabbing or moving the tiller enables immediate manual takeover (https://info.mobilerobot.com/safety-compliance/safety-overview/emergency-stops-and-manual-takeover/);
- a three-position key switch (https://info.mobilerobot.com/safety-compliance/safety-functions/mode-selection/) selects power-off, manual-only, or automatic mode.

White lights indicate manual mode; blue floor lights display the protected area in automatic mode.

Capability ladder

Level	Capabilities
Manual functions	Pallet pick and drop up to 1.6 m; full manual tiller control
Basic automation	Start automatic tasks on-screen; save locations; floor-level pallet drop; self-drive to saved locations; return-to-me; go-to-parking
Advanced automation	Come-to-me; automatic charging; VDA 5050 fleet manager; API integrations

This capability ladder is separate from the Standard and Advanced software packages — see Software and integrations (https://info.mobilerobot.com/products/j1600/software-and-integrations/).

Why dual mode is used

Full automation can become expensive and rigid when the final, judgment-heavy portion of a task requires warehouse-management-system (WMS) and fleet integration (https://info.mobilerobot.com/applications/results/lower-integration-complexity/), precise load data, and tightly controlled processes. Dual mode leaves those decisions to a person and automates the long travel. The intended balance is roughly 80% automation rather than 100% (https://info.mobilerobot.com/applications/results/productivity-improvements/), with greater flexibility (https://info.mobilerobot.com/applications/results/operational-flexibility/) and a lower entry cost.

Manual judgment stays valuable for situations such as damaged pallets, unstable or top-heavy loads, plastic-wrap snags, misplaced pallets, steep dock plates, crowded floors, and urgent reprioritization. Autonomous-mode gradeability is 0°, which reinforces the manual role on slopes and dock plates. The reasoning is laid out in Human-in-the-loop automation (https://info.mobilerobot.com/documentation/concepts/human-in-the-loop-automation/).

In practice, an operator uses manual judgment for sensitive or unstable loads — barrels, for example — and confined maneuvering, then hands the long transport

portion over to autonomous mode.

Related pages

- How it works (https://info.mobilerobot.com/products/j1600/how-it-works/) — the full setup and delivery workflow.
- Safety overview (https://info.mobilerobot.com/products/j1600/safety-overview/) — mode selection, takeover, and the layered safety architecture.
- Features and benefits (https://info.mobilerobot.com/products/j1600/features-and-benefits/) — what dual mode delivers in operation.