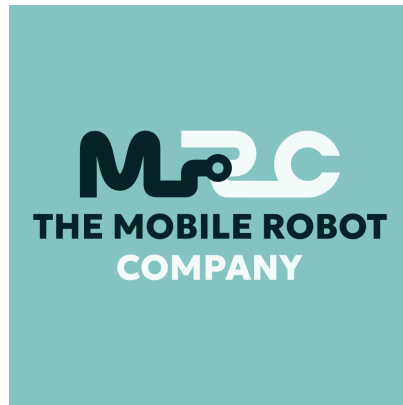




The Mobile Robot Company

Knowledge Center — J1600 User Manual · 2026-08-04

<https://info.mobilerobot.com/documentation/user-guides/j1600-user-manual>

J1600 User Manual

This manual is the day-to-day reference for the J1600 self-driving pallet jack: its [controls](https://info.mobilerobot.com/documentation/technical-reference/interface-specifications/) (<https://info.mobilerobot.com/documentation/technical-reference/interface-specifications/>), capabilities, operating limits, and software. For the operator's role and working practices, see the [Operator Manual](https://info.mobilerobot.com/documentation/user-guides/operator-manual/) (<https://info.mobilerobot.com/documentation/user-guides/operator-manual/>); for step-by-step procedures, see the [How-To Guides](https://info.mobilerobot.com/documentation/user-guides/how-to-guides/) (<https://info.mobilerobot.com/documentation/user-guides/how-to-guides/>).

PRELIMINARY SPECIFICATIONS

The January 2026 specifications are preliminary and subject to change. Use current product documentation for deployment decisions, and see the [technical specifications](https://info.mobilerobot.com/products/j1600/technical-specifications/) (<https://info.mobilerobot.com/products/j1600/technical-specifications/>) for the master list.

The machine at a glance

The J1600 is a compact, electric, [dual-mode](https://info.mobilerobot.com/products/j1600/dual-mode/) (<https://info.mobilerobot.com/products/j1600/dual-mode/>) self-driving pallet jack for indoor, floor-to-floor pallet transport. It is operated with a tiller like a conventional walk-behind electric pallet jack or sent autonomously to saved locations. It carries up to 1,600 kg (about 3,500 lb), picks and drops manually at up to 1,600 mm (63 in), delivers autonomously at floor level, and travels at up to 5.4 km/h (1.5 m/s). It is [CE marked](https://info.mobilerobot.com/safety-compliance/certificates/ce-declaration-of-conformity/) (<https://info.mobilerobot.com/safety-compliance/certificates/ce-declaration-of-conformity/>) and made in Denmark. See the [product overview](https://info.mobilerobot.com/products/j1600/overview/) (<https://info.mobilerobot.com/products/j1600/overview/>).

Controls and interface

Control	Function
15-inch multi-touch HMI	Task creation, location saving, tutorials, help and support menu
Tiller	Manual driving and lift control; grabbing or moving it returns the vehicle to manual control
Key switch	Three positions: power off, manual only, automatic mode
LED start/resume button	Physical confirmation and resumption of automatic task execution
Emergency-stop buttons	Three, for hard stops
Belly button	Stop and reverse
Floor-indicator lights	White in manual mode; blue strips display the protected area in automatic mode
Audio speaker	Audible signals

Sensing and compute: a 3D navigation LiDAR, an RGB AI camera, an industrial NVIDIA Jetson AI computer, two 2D safety LiDARs (front and rear), a lifting-height sensor, and a [load-detection sensor](https://info.mobilerobot.com/safety-compliance/safety-functions/load-detection/) (<https://info.mobilerobot.com/safety-compliance/safety-functions/load-detection/>). HMI is short for human-machine interface; other terms are in the [glossary](https://info.mobilerobot.com/documentation/concepts/glossary/) (<https://info.mobilerobot.com/documentation/concepts/glossary/>).

Key specifications

Parameter	Value
Rated payload	1,600 kg / approximately 3,500 lb
Maximum manual pick/drop height	1,600 mm / 63 in
Autonomous delivery height	Floor level
Top speed	5.4 km/h / 1.5 m/s / 3.4 mph
Truck weight	980 kg
Vehicle size (forks lowered)	1,893 × 850 × 2,060 mm
Turning radius	1,501 mm
Fork dimensions	1,150 mm long, 180 mm wide, 60 mm thick; outer distance 680 mm, inner 320 mm
Fork height range	90 mm lowest to 1,600 mm highest
Battery	24 V, 200 Ah lithium iron phosphate (LiFePO4)
Drive motor	AC, 1.5 kW
Lift motor	2.2 kW
Wheels	Polyurethane; drive wheel 75 × 230 mm; load wheels 70 × 80 mm
Ground clearance	30 mm
Wheelbase	1,106 mm

[Lifting speeds](https://info.mobilerobot.com/documentation/technical-reference/electrical-specifications/) (<https://info.mobilerobot.com/documentation/technical-reference/electrical-specifications/>): 0.10 m/s unloaded and 0.08 m/s at full load; lowering 0.08 m/s unloaded and 0.12 m/s at full load.

Operating limits

Parameter	Limit
Gradeability, automatic mode	0° / 0% — level floors only
Gradeability, manual mode	2.86° / 5% unloaded; 1.72° / 3% at full load
Maximum traversable bump	25 mm / 1 in
Maximum traversable gap	20 mm / 0.8 in
Operating temperature	5–40 °C / 41–104 °F
Relative humidity	20–80%, non-condensing
Floor flatness	TR34 FM3 / FF 25, FL 20
Ingress protection	IP21

Loads must be open-base carriers within a 1,250 × 1,250 mm envelope and 1,700 mm load height — see [Supported Pallets and Loads](https://info.mobilerobot.com/documentation/user-guides/supported-pallets-and-loads/) (<https://info.mobilerobot.com/documentation/user-guides/supported-pallets-and-loads/>).

Safety behavior

The J1600 uses a [layered safety architecture](https://info.mobilerobot.com/safety-compliance/safety-overview/safety-architecture/) (<https://info.mobilerobot.com/safety-compliance/safety-overview/safety-architecture/>): an independent safety controller, two 2D safety LiDARs, three emergency stops, a belly button, tiller-position switches, safety-certified encoders and motor controllers, and a [speed-dependent 360-degree protective field](https://info.mobilerobot.com/safety-compliance/safety-functions/safety-field-adjustment/) (<https://info.mobilerobot.com/safety-compliance/safety-functions/safety-field-adjustment/>). The operator must [confirm entry into automatic mode](https://info.mobilerobot.com/safety-compliance/safety-overview/manual-and-autonomous-mode-safety/) (<https://info.mobilerobot.com/safety-compliance/safety-overview/manual-and-autonomous-mode-safety/>), and the robot instructs the operator to step away before starting. Safety functions carry [Performance Levels from PL b to PL d](https://info.mobilerobot.com/safety-compliance/safety-functions/performance-levels/) (<https://info.mobilerobot.com/safety-compliance/safety-functions/performance-levels/>). Full details: [How J1600 safety works](https://info.mobilerobot.com/safety-compliance/safety-overview/how-j1600-safety-works/) (<https://info.mobilerobot.com/safety-compliance/safety-overview/how-j1600-safety-works/>).

Software versions

One hardware platform supports [two software versions](https://info.mobilerobot.com/products/software/software-comparison/) (<https://info.mobilerobot.com/products/software/software-comparison/>):

- **Standard software** (<https://info.mobilerobot.com/products/software/standard-software/>) — reduced to essential functions for maximum ease of use; configuration-free [teach-and-repeat](https://info.mobilerobot.com/documentation/concepts/teach-and-repeat/) (<https://info.mobilerobot.com/documentation/concepts/teach-and-repeat/>); touchscreen task launch and saved locations; [Wi-Fi optional](https://info.mobilerobot.com/documentation/installation/network-and-wi-fi-requirements/) (<https://info.mobilerobot.com/documentation/installation/network-and-wi-fi-requirements/>). Intended for single-unit deployments [without systems integration](https://info.mobilerobot.com/documentation/technical-integration/integration-overview/) (<https://info.mobilerobot.com/documentation/technical-integration/integration-overview/>).
- **Advanced software** (<https://info.mobilerobot.com/products/software/advanced-software/>) — adds [VDA 5050](https://info.mobilerobot.com/documentation/concepts/vda-5050-explained/) (<https://info.mobilerobot.com/documentation/concepts/vda-5050-explained/>) interoperability, a [REST API](https://info.mobilerobot.com/documentation/technical-integration/rest-api-documentation/) (<https://info.mobilerobot.com/documentation/technical-integration/rest-api-documentation/>), [Fleet Manager](https://info.mobilerobot.com/documentation/technical-integration/fleet-manager-guide/) (<https://info.mobilerobot.com/documentation/technical-integration/fleet-manager-guide/>), advanced mission planning, and advanced [integration with other software and equipment](https://info.mobilerobot.com/documentation/technical-integration/external-system-integration/) (<https://info.mobilerobot.com/documentation/technical-integration/external-system-integration/>). €14,500 list as an upgrade; Fleet Manager is €6,500 list per robot. The upgrade is easiest to install at the factory when ordering; a partner can perform it later, but the customer cannot.

Advanced automation functions include [come-to-me](https://info.mobilerobot.com/applications/scenarios/come-to-me/) (<https://info.mobilerobot.com/applications/scenarios/come-to-me/>), automatic charging, VDA 5050 fleet management, and API integrations.

Getting help

The on-machine **Help/Support** menu provides a QR code through which technical requests can be sent directly. Three [after-sales plans](https://info.mobilerobot.com/support/faq/service-and-warranty/) (<https://info.mobilerobot.com/support/faq/service-and-warranty/>) exist — Free, Basic Care, and Full Care — with remote support, warranty, and parts terms varying by plan. Basic Care lists at €4,900 and Full Care at €13,000 per robot per year; Full Care includes a free loan robot when a repair lasts more than two business days.

Daily use guides

- [Manual Operation](https://info.mobilerobot.com/documentation/user-guides/manual-operation/) (<https://info.mobilerobot.com/documentation/user-guides/manual-operation/>).
- [Autonomous Operation](https://info.mobilerobot.com/documentation/user-guides/autonomous-operation/) (<https://info.mobilerobot.com/documentation/user-guides/autonomous-operation/>)
- [Task Management](https://info.mobilerobot.com/documentation/user-guides/task-management/) (<https://info.mobilerobot.com/documentation/user-guides/task-management/>)
- [Location Management](https://info.mobilerobot.com/documentation/user-guides/location-management/) (<https://info.mobilerobot.com/documentation/user-guides/location-management/>).
- [Charging](https://info.mobilerobot.com/documentation/user-guides/charging/) (<https://info.mobilerobot.com/documentation/user-guides/charging/>)
- [Supported Pallets and Loads](https://info.mobilerobot.com/documentation/user-guides/supported-pallets-and-loads/) (<https://info.mobilerobot.com/documentation/user-guides/supported-pallets-and-loads/>)