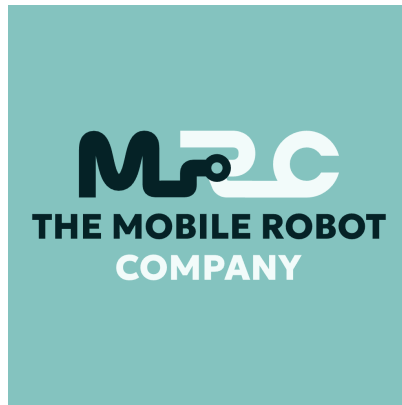




The Mobile Robot Company

Knowledge Center — Electrical Specifications · 2026-08-04

<https://info.mobilerobot.com/documentation/technical-reference/electrical-specifications>

Electrical Specifications

Electrical reference data for the J1600: motors, battery system, charging, and the electrically relevant safety functions. For battery chemistry, drain rates, and runtime, see [battery specifications](https://info.mobilerobot.com/documentation/technical-reference/battery-specifications/) (<https://info.mobilerobot.com/documentation/technical-reference/battery-specifications/>).

PRELIMINARY SPECIFICATIONS

The January 2026 specifications are preliminary and subject to change.

Motors and drive

Parameter	Value
Drive motor	AC, 1.5 kW
Lift motor	2.2 kW
Drive type	Electric
Top speed	5.4 km/h / 1.5 m/s / 3.4 mph

Lift performance

Parameter	Metric	Imperial
Fork lifting speed, no load	0.10 m/s	0.33 ft/s
Fork lifting speed, full load	0.08 m/s	0.26 ft/s
Fork lowering speed, no load	0.08 m/s	0.26 ft/s
Fork lowering speed, full load	0.12 m/s	0.39 ft/s

Battery system

Parameter	Value
Nominal voltage	24 V
Capacity	200 Ah
Chemistry	Lithium iron phosphate (LiFePO4)
Charging rate	Approximately 47 percentage points per hour

Chargers

Charger	Behavior	End-user list price
Manual charger	Plug in during breaks or idle time, as with a conventional electric pallet jack	€3,600
Automatic charger	The robot drives to the station, positions itself, and a charging interface extends to the vehicle's charging plates; enables opportunity charging	€8,400

[Automatic charging](https://info.mobilerobot.com/applications/scenarios/automatic-charging/) (<https://info.mobilerobot.com/applications/scenarios/automatic-charging/>) is an advanced automation capability. When purchased with commissioning, its setup is part of installation Day 1.

Electrical protection and safety

Item	Value
Ingress protection	IP21 — protected against objects over 12.5 mm and vertically dripping water
Charging-current relay safety function	Performance Level b (PL b)

The [charging-current relay](https://info.mobilerobot.com/safety-compliance/safety-functions/charging-safety/) (<https://info.mobilerobot.com/safety-compliance/safety-functions/charging-safety/>) is one of the certified safety functions in the J1600's layered safety architecture; [person detection](https://info.mobilerobot.com/safety-compliance/safety-functions/person-detection/) (<https://info.mobilerobot.com/safety-compliance/safety-functions/person-detection/>), [braking](https://info.mobilerobot.com/safety-compliance/safety-functions/braking/) (<https://info.mobilerobot.com/safety-compliance/safety-functions/braking/>), and emergency-stop functions carry higher [Performance Levels](https://info.mobilerobot.com/safety-compliance/safety-functions/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/) (<https://info.mobilerobot.com/safety-compliance/safety-overview/how-j1600-safety-works/>).

Related reference

- [Battery specifications](https://info.mobilerobot.com/documentation/technical-reference/battery-specifications/) (<https://info.mobilerobot.com/documentation/technical-reference/battery-specifications/>) — drain rates, runtime, and transport testing.
- [Product data sheets](https://info.mobilerobot.com/documentation/technical-reference/product-data-sheets/) (<https://info.mobilerobot.com/documentation/technical-reference/product-data-sheets/>) — the consolidated specification summary.