



The Mobile Robot Company

Knowledge Center — Automatic Charging · 2026-08-04

<https://info.mobilerobot.com/applications/scenarios/automatic-charging>

Automatic Charging

With the optional [automatic charger](https://info.mobilerobot.com/products/chargers-and-accessories/automatic-charger/) (<https://info.mobilerobot.com/products/chargers-and-accessories/automatic-charger/>), the J1600 keeps itself charged: it drives to the station, positions itself at the charger, and a charging interface extends to the charging plates on the vehicle. Idle minutes become charge — opportunity charging without anyone plugging in a cable.

How automatic charging works

1. The robot drives to the charging station and positions itself in front of the charger.
2. The charging interface extends from the station to the vehicle's charging plates.
3. Charging runs while the robot is not busy; the vehicle is available for work again when needed.

Automatic charging is an **advanced automation** capability, alongside come-to-me, [VDA 5050](https://info.mobilerobot.com/documentation/concepts/vda-5050-explained/) (<https://info.mobilerobot.com/documentation/concepts/vda-5050-explained/>), fleet management, and [API integrations](https://info.mobilerobot.com/documentation/technical-integration/rest-api-documentation/) (<https://info.mobilerobot.com/documentation/technical-integration/rest-api-documentation/>). When the automatic charger is purchased with the [installation and commissioning package](https://info.mobilerobot.com/products/j1600/overview/) (<https://info.mobilerobot.com/products/j1600/overview/>), its setup is part of on-site Day 1.

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 a certified safety function rated Performance Level b — 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/>).

Manual charging

Without the automatic station, charging works like any electric pallet jack: plug in the [manual charger](https://info.mobilerobot.com/products/chargers-and-accessories/manual-charger/) (<https://info.mobilerobot.com/products/chargers-and-accessories/manual-charger/>) during a break or whenever the machine is idle — before lunch, between waves, at shift end. Combining a manual charger with a saved parking spot near it keeps the routine simple — see [Deliver and Park](https://info.mobilerobot.com/applications/scenarios/deliver-and-park/) (<https://info.mobilerobot.com/applications/scenarios/deliver-and-park/>).

Battery, drain, and charge rates

Parameter	Value
Battery	24 V, 200 Ah lithium iron phosphate (LiFePO4)
Charging rate	approx. 47 percentage points per hour
Drain, driving fully loaded	approx. 13% per hour
Drain, driving unloaded	approx. 12% per hour
Drain, standby	approx. 2% per hour

Runtime exceeds eight hours in a typical duty cycle. The [drain rates](https://info.mobilerobot.com/documentation/technical-reference/battery-specifications/) (<https://info.mobilerobot.com/documentation/technical-reference/battery-specifications/>) imply roughly 7.7 hours of continuous fully loaded driving or 8.3 hours unloaded, but these are calculated figures — not guaranteed runtimes — before allowing for standby, lifting, duty cycle, battery reserve, and operating conditions. For a single-shift operation, a break-time plug-in or an opportunity-charging station comfortably covers the day.

Fitting charging into task flows

- End a run at the charger with [Deliver and Park](https://info.mobilerobot.com/applications/scenarios/deliver-and-park/) (<https://info.mobilerobot.com/applications/scenarios/deliver-and-park/>) or as the final leg of an [A-to-B-to-C task](https://info.mobilerobot.com/applications/scenarios/a-to-b-to-c-transport/) (<https://info.mobilerobot.com/applications/scenarios/a-to-b-to-c-transport/>).
- A waiting robot ([Deliver and Wait](https://info.mobilerobot.com/applications/scenarios/deliver-and-wait/) (<https://info.mobilerobot.com/applications/scenarios/deliver-and-wait/>)) burns only ~2% per hour, so short waits rarely need a charge stop.
- Call the robot off the charger when work resumes with [Come-to-Me](https://info.mobilerobot.com/applications/scenarios/come-to-me/) (<https://info.mobilerobot.com/applications/scenarios/come-to-me/>).

Charger list prices

Item	End-user list price (2026)
Manual charger	€3,600
Automatic charger	€8,400

Full electrical specifications: [J1600 technical specifications](https://info.mobilerobot.com/products/j1600/technical-specifications/) (<https://info.mobilerobot.com/products/j1600/technical-specifications/>). For charger questions, see the [product and capabilities FAQ](https://info.mobilerobot.com/support/fag/product-and-capabilities/) (<https://info.mobilerobot.com/support/fag/product-and-capabilities/>).