



The Mobile Robot Company

Knowledge Center — Tiller Detection · 2026-08-04

<https://info.mobilerobot.com/de-de/safety-compliance/safety-functions/tiller-detection>

Tiller Detection

Tiller-position detection is a certified J1600 safety function rated **Performance Level c (PL c)**. The tiller — the handle familiar from any walk-behind electric pallet jack — doubles as a safety device.

Two tiller-position switches

The [safety architecture](https://info.mobilerobot.com/de-de/safety-compliance/safety-overview/safety-architecture/) (https://info.mobilerobot.com/de-de/safety-compliance/safety-overview/safety-architecture/) includes two dedicated tiller-position switches:

- **Emergency-stop switch.** One tiller position acts as an emergency stop.
- **Manual-control switch.** Another tiller position enables manual control.

Certified detection of the tiller's position is what makes both behaviors reliable.

Instant takeover

During autonomous operation, grabbing or moving the tiller returns the vehicle to manual control immediately. There is no menu, code, or delay — immediate human intervention is central to the [dual-mode](https://info.mobilerobot.com/de-de/products/j1600/dual-mode/) (https://info.mobilerobot.com/de-de/products/j1600/dual-mode/) concept. Tiller takeover works alongside the three emergency-stop buttons and the belly button; the full set of stop controls is listed in [Emergency stops and manual takeover](https://info.mobilerobot.com/de-de/safety-compliance/safety-overview/emergency-stops-and-manual-takeover/) (https://info.mobilerobot.com/de-de/safety-compliance/safety-overview/emergency-stops-and-manual-takeover/).

A familiar tool by design

One of the product's [design principles](https://info.mobilerobot.com/de-de/company/about/our-approach-to-automation/) (https://info.mobilerobot.com/de-de/company/about/our-approach-to-automation/) is that the tiller and manual behavior should feel like a conventional electric pallet jack, so an experienced operator needs only about 30 minutes of training. The [safety design](https://info.mobilerobot.com/de-de/safety-compliance/safety-overview/how-j1600-safety-works/) (https://info.mobilerobot.com/de-de/safety-compliance/safety-overview/how-j1600-safety-works/) builds on that familiarity: the natural reaction of reaching for the handle is also the takeover mechanism.

Related pages

- [Mode selection](https://info.mobilerobot.com/de-de/safety-compliance/safety-functions/mode-selection/) (https://info.mobilerobot.com/de-de/safety-compliance/safety-functions/mode-selection/) — the key switch and confirmation sequence (PL c).
- [Manual and autonomous mode safety](https://info.mobilerobot.com/de-de/safety-compliance/safety-overview/manual-and-autonomous-mode-safety/) (https://info.mobilerobot.com/de-de/safety-compliance/safety-overview/manual-and-autonomous-mode-safety/) — safety behavior in each mode.
- [Performance levels](https://info.mobilerobot.com/de-de/safety-compliance/safety-functions/performance-levels/) (https://info.mobilerobot.com/de-de/safety-compliance/safety-functions/performance-levels/) — all assigned levels in one table.

PRELIMINARY SPECIFICATION

The assigned Performance Levels are preliminary January 2026 specifications and subject to change.