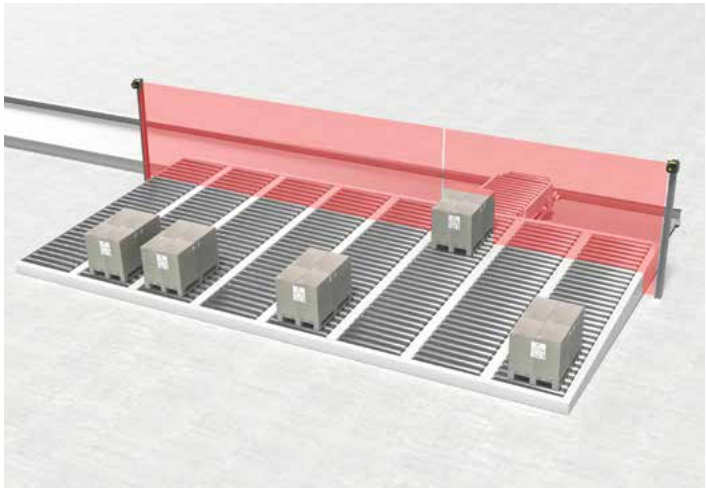
Leuze

Access monitoring on multi-track transportation systems with controlled laser scanner protective field adjustment

Application reference

High-bay pallet retrieval on a multi-track conveyor system



Task definition
Access guarding on a multi-track conveyor system that does not require additional trigger sensors for material transportation and, in compliance with the normative framework conditions, only releases the designated lane and continues to secure the remaining transport area against access.

Customer requirement
The pallet dispenser of a high-bay warehouse must be safe guarded against access to the danger zone. The pallets are supplied via a 5-lane gravity conveyor, which is fed via a cross conveyor. The protective device should only release the lane for the transfer on which the pallet is to be provided.

Safety functions
- Stopping the hazard(s) in the event of a protective field interruption or the detection of a discrepancy in the format of the material after the process has been initialized
- Monitoring of a selected material gating area within a laser scanner protective field
- Resetting the protective field area after successful material transfer

Objective
Gapless and favorable access protection on a multi-track gravity conveyor system to the hazardous area behind it danger zone (cross conveyor), which ensures a high level of system availability. However, for design reasons, the use of several neighboring muting lines is not possible.

Benefit
- Scalable to up to 10 lanes
- Gapless safety including optimum bypass protection during transport cycles
- High reliability and availability
- No additional trigger sensors required
- Easy to retrofit
- PL d/SILCL 2

On the way to a safe machine, Leuze and the responsible master electrician at Südzucker subjected the system to a complete safety check. Together, they looked for a new safe and efficient safety solution and finally implemented it.
Those responsible persons for automation and electrical engineering at the Südzucker warehouse in Ochsenfurt are delighted with the safe Leuze sensor solution that was ultimately found.

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