



Fig. 2

Label maker sticks to Leuze

Herma, manufacturer of self-adhesive labels and label machinery, has long used Leuze electronic's label detection sensors so, when the company built a new warehouse and logistics centre, it opted for Leuze electronic's sensors for a range of detection, identification and protection tasks throughout the building

With the introduction of an advanced coating plant for its adhesive materials, Herma also needed an exceptional intra-logistics solution. To support the production hall, a high-bay warehouse for storing material on rolls was built along with conveyor connections to the cutting machines and packaging systems. Leuze electronic equipped the entire system with sensors.

Goods receiving & roll transport

If you were to follow the flow of materials through the warehouse you would start at the goods receiving area where paper and foil rolls are unloaded from trucks and placed on the lifting table by a clamping truck (Fig. 1). A Solid-2E safety light curtain with a protected field height exceeding 2m can be seen on the right of the photo, as can a BCL 80 high-speed barcode reader on the ceiling. Precision positioning of the rolls is achieved using a BPS 34 barcode positioning system which uses optical position determination. This avoids any mechanical wear and slippage issues, and removes the need for reference points.

A vertical conveyor then transports the roll to the interior of the goods receiving hall where a fully automatic gripper, gently places it on a transport system pallet. The pallet uses 46B series retro-reflective photoelectric sensors (Fig. 2) to detect presence, exact position and to supply signals to the fire door control. Solid-2E Safety light curtains are again used for the protection of personnel.

High-bay storage

Transport carts whose position is determined by another BPS 34 barcode positioning system, then transport the rolls to the storage



Fig. 1

hall, where they are accepted by one of two high-bay storage cranes. A DDLS 200 data transmission photoelectric sensor continuously transmits the position data of the high-bay storage crane to the control system PLC. The position of these high-bay cranes is also ascertained using the BPS 34 barcode positioning system.

Another feature at the high-bay storage area is the use of Rotoscan RS4 safety laser scanners to protect maintenance staff. If, during the course of maintenance, inspection or repair, they need to enter the 'storage aisle' danger area, an RS4 laser scanner (mounted on the high-bay crane near to floor level) reliably safeguards the traversing area. If a person enters the danger area of a moving crane the system is shutdown.

The advantage is that for example if one high-bay crane is shut down for maintenance then the other crane is able to continue to work, providing that the safety laser scanner does not detect it approaching the maintenance engineer's location, in which case it will also be shut down.

Transport portal/distribution cars

The raw materials required for an order are retrieved from the high-bay storage unit on a 'channel car' and delivered to the roll-out conveyor. Here, the roll is unpacked and then taken by the automatic transport portal, specially developed for Herma. This portal stores the roll in a buffer or transports it directly to the roll unwinding/ winding machine via a distribution car. At the transport portal/distribution car interface, Leuze electronic's Robust multiple light beam safety devices safeguard access points.

PRK 96 retro-reflective photoelectric sensors control the start/stop function at the transfer station, with reflective foils posing no problems. Grippers for the rolls also have retro-reflective photoelectric sensors and BPS positioning systems.

Jak Pluder, responsible for technology and maintenance at Herma, says "For all of the special tasks and exceptional requirements in automation, be it detection, positioning or safety-related sensor systems, we can count on the employees from Leuze electronic to be at our side with help and advice."

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KEY FACTS:

- Included in the range of sensors supplied to Herma are Rotoscan RS4 laser scanners that protect maintenance staff
- Catalogues, industry specific brochures, samples and advice are available from Leuze electronic