



Light barriers keep VW safe

Volkswagen's factory at Emden on the north-west coast of Germany near the border with Holland, manufactures the VW Passat. Its press shop supplies 20,000 pressed parts each day and relies upon **Leuze electronic** to help protect its workforce from the dangers of large loads and tooling dies moving around



The press-shop at Emden includes two large capacity crossbar presses with a total press capacity of 73,000kN, running at a speed of up to 15 strokes per minute. The high capacity presses help create the 20,000 pressed parts per day, while consuming vast volumes of sheet metal. The movement of these parts plus moving large die-tools, requires carefully controlled production systems, which include machine safety protection from Leuze electronic.

Steel blanks are stacked onto RFID tagged pallets, which are used to transport the sheets around the press shop. To optimise the material flow to match the production demand, these pallets and hence the sheets can be placed into an automated heavy load shelving system for interim storage.

Staff safety is a top priority in the press shop and during tool change, pressing tools weighing several tons are driven on automated transfer vehicles. To provide protection for the workers, the danger areas surrounding where the transfer vehicles operate are guarded by Leuze electronic's Robust safety light barriers. The Robust safety



A VW Passat in the press shop where machine safety from Leuze is required



A high-bay crane at the Emden factory

light barriers used in the tool change areas are in some locations installed in UDC equipment columns. These columns have springs in their base to provide an automatic return to the correct position after a mechanical knock or importantly in this application to provide immunity to vibrations from the presses.

Pressings are examined within a measuring room, using a measurement robot, with Leuze electronic's Compactplus safety light barrier being used to protect workers. The Compactplus range offers an integrated muting function which cleverly

enables pressings to enter and exit uninterrupted, but prevents personnel from entering a danger area and coming to harm. Integration of this safety control functionality within the curtain rather than within a separate control panel offered a faster original installation and because the curtains are self-contained there are fewer cables and no control panel within the measuring room.

The highest possible levels of reliability are required to ensure continuous material flow within the automotive industry as they are in other demanding industries such as materials handling and food and drink packaging. For this reason Leuze electronic carefully designs and manufactures its sensors to provide a performance reserve enabling reliable operation in real-world applications.

Leuze electronic offers a wide portfolio of safety products which are complemented by its machine safety inspection service.

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Light curtains protect operators on high-speed printing press

Printing systems manufacturer and market leader in web offset manroland AG's Colorman offset print press is a premium system not only because of its flexible handling of colour and dynamic production changes, but also because it features an Automatic Plate Loading (APL) system with reliable safety sensor systems from Leuze electronic.

The APL is a robotic system for full-automatic loading of the Colorman's printing cylinders with printing plates. The dimensions and weight of the cylinders plus the high-speeds involved in the change-over of the printing plate meant manroland wanted to ensure press operators safety and chose safety light curtains from Leuze Electronic's SOLID range.

These long-lasting and versatile sensors suit machines demanding high system availability and few industries demand this more than the print industry. The Colorman uses the self-testing SOLID-2E safety light curtains of type 2, (IEC/EN 61496), and SIL 2, (IEC 61508 & IEC/EN 62061). Despite being robust, the curtains have a slim aluminium housing, measuring 30 x 34mm which fitted perfectly in the press enclosure. The SOLID-2E safety light curtains feature high interference rejection which prevents even the frequent overspray of ink near the printing cylinder affecting its reliability.

After the operator has arranged the new plates and removed the used plates, he leaves the area near the printing cylinder and initiates the loader from a control panel alongside the machine's front. The safety light curtains then ensure operators cannot approach the moving automatic plate loader as it swivels an arm towards the new plates and uses suction to pick up the pre-programmed number of plates. It then swivels back to the cylinder and deposits the plates. As the swivel arm returns to its resting position, the cylinders turn and the printing process begins.

With the APL module, even existing Colorman systems can easily be retrofitted keeping in line with manroland's motto of modularity when constructing printing systems and designing them for maximum efficiency. The Leuze electronic safety light curtains on the printing plate changer are an important component in realising this.

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Picture - manroland AG

