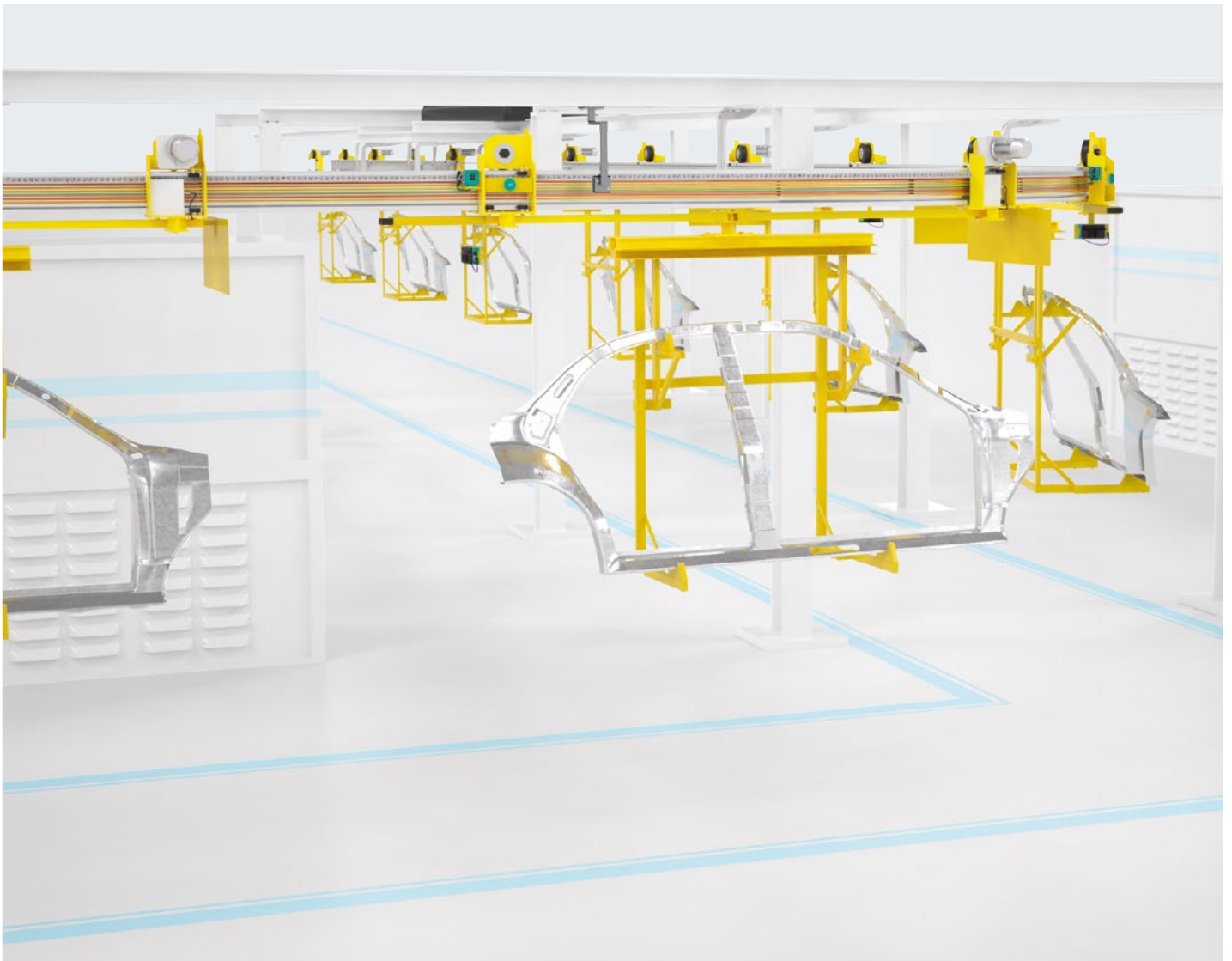


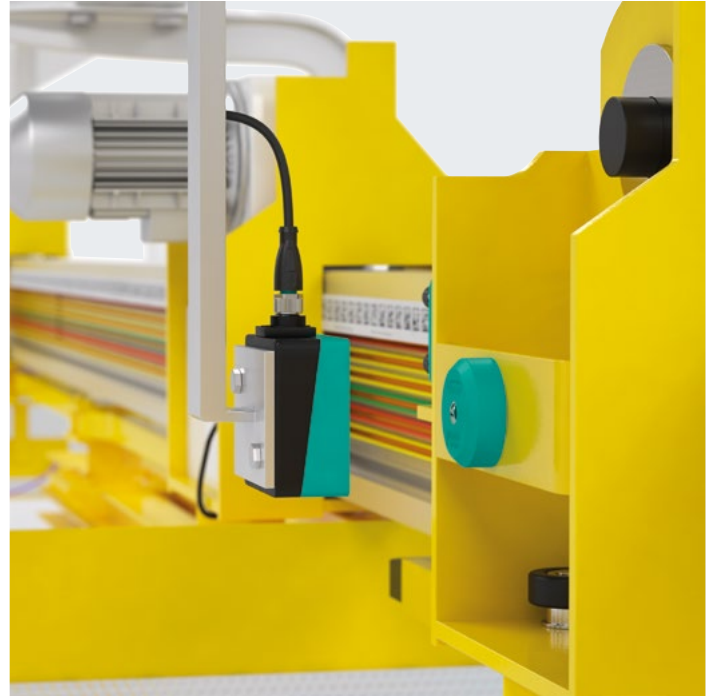
Identification of Workpieces on Monorail Conveyors

RFID System Optimizes Automatic Process Control

At a Glance:

- Reliable identification of workpieces
- Rugged, durable solution
- Automated triggering of auxiliary processes and manufacturing steps
- Automated ejection of defective products
- Optimized process control





The Application

Overhead conveyors are used to transport workpieces in many production plants. One frequent area of use is the automotive industry. The advantages of overhead conveyors include the fact that the floor remains accessible and that they can be mounted at an ergonomically optimal height. The speed of the overhead conveyors is usually less than one meter per second. Their drive motors produce strong electromagnetic interference fields.

The Goal

For targeted control of the manufacturing processes, workpieces on the conveyor system need to be automatically identified and assigned. Based on this information, the required auxiliary processes and manufacturing steps are then initiated by the process control. In addition, defective or incorrectly assigned products can be automatically ejected. To ensure these processes happen, the individual hanger attachments must be detected and identified as they pass specific points.

The Solution

RFID read/write heads are mounted in decentralized fashion at the defined points and connected to the fieldbus or the plant control system. With the correct sensor design, the sensors' function will not be affected by the surrounding electromagnetic fields. With an appropriate reading range selected, the RFID read/write head reliably reads the data from the tag as the hanger attachments pass. Tags with a ferrite core allow direct mounting on metal and flush-mounted, protected installation on the hanger attachment. With typical speeds for overhead conveyors, it is usually not necessary to adjust the reading time but this is possible if needed. The FP series RFID read/write heads are ideally suited for installation in monorail conveyors.

The Benefits

Perfect shielding is achieved in combination with the IDENTControl control interface and with shielded connection cables. Identification via RFID enables localization of the workpieces at any time and can be used for optimized control. The writable tags are rugged and provide the basis for a long-lasting solution. Defective products can be ejected automatically.

Technical Features

QH1-FP-V1 read/write head

- Connection via V1 (M12 x 1) plug connection
- Dual-LED for function display
- Degree of protection IP67
- For connection to IDENTControl control interface

IQC21-58 transponder

- Battery-free read/write tag
- Degree of protection IP67
- Mounting holes for simple installation
- High resistance against water, chemicals, transformer oil, petrol and heating oil

For more information, visit www.pepperl-fuchs.com/rfid