USING RFID TO CONTROL MATERIAL FLOW ACROSS DIFFERENT AREAS

Intralogistics controls material flow between different plant areas – from incoming goods to warehouse, production areas and final assembly to order picking and shipping. To ensure consistent tracking of all process steps (traceability), the materials used need to be identified. This is made possible by RFID data carriers and barcodes which you attach to your containers and pallets.

Reading and writing data carrier information on small load carriers with HF-RFID for gapless tracking

Individual identification of the individual product and simultaneous detection of multiple data carriers with UHF-RFID

The demands on data acquisition in material flow are numerous: containers must be detected on conveyor belts and products registered on pallets when they leave a plant through a door. Writing and reading of process information, for example, takes place automatically at various detection points, so that the product is identified at all process steps and can be tracked with no gaps.

This comprehensive transparency means you can optimize the process steps – including material supply from your vendors. Consistent data acquisition also means you can take targeted corrective measures.

Different data carriers for various container types

HF read/write head, HF reader/writer and UHF antenna for various distances and surroundings

Multi-frequency processor unit in an RFID system for using multiple RFID read/write heads or antennas

When selecting the right RFID technology you need to determine whether you have a stationary application with short read distances or a dynamic application with read ranges over several meters and a need to detect multiple objects at the same time (multi-tagging). The stationary application is solved using HF (high-frequency), and the dynamic application with UHF (ultra-high frequency).

Data carriers are available for both technologies in a variety of formats with various properties.

HF read/write heads are available with or without integrated processor unit in various form factors. Alternately **UHF antennas** bridge large gaps and are used for multi-tagging.

Process units allow you to operated up to four read/write heads or antennas at different frequencies and connect to the control level through various fieldbuses.