

Synchronous Detection of Various Objects on Load Carriers

RFID System for Complete
Booking In and Out in Warehouse
Management

At a Glance

- The F190 UHF read/write head detects up to 40 objects in a single read operation, regardless of their position
- The compact housing design allows mechanical integration in tight spaces
- High transmission power enables reading on approach, without a loading delay
- Various interfaces available for signal transmission

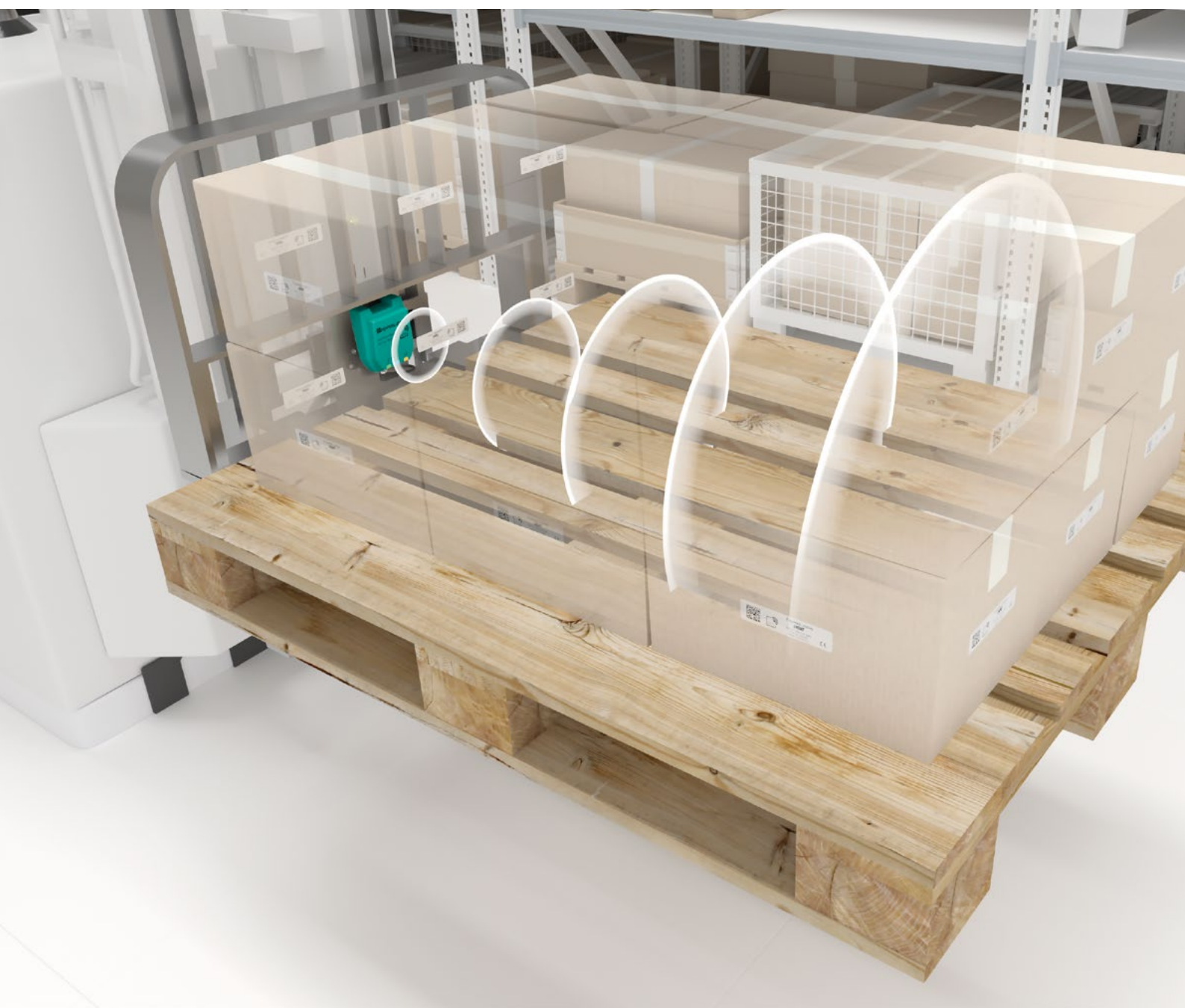


The Application

Correctly identifying the objects included in a transport order is a prerequisite for functioning intralogistics. This applies to the use of both manned and autonomous transport vehicles. This task can be complicated if different products are stacked on the same load carrier, such as on a pallet. Assignment is made more difficult, and there is increased risk of incorrectly executed transport operations and corresponding knock-on effects. Warehouse and production sites are often subject to harsh conditions, meaning the sensor technology used can be exposed to high thermal and mechanical stress. There is little space available in and around the vehicles for the required sensors.

The Goal

An indefinite number of different objects on a load carrier should be identified simultaneously and reliably. Detection should enable transparent and complete tracking of items booked in and out of the warehouse management system. Incorrect readings must be prevented, especially false positive readings due to too-large detection ranges. Subsequent installation should also be possible where space is limited. The sensors must withstand both thermal and mechanical stress, and must not be affected by EMC interference. The same applies to signal transmission interference due to metal or liquids in the surrounding environment.



The Solution

The F190 series read/write head is ideally suited for installation in vehicles, for example in the fork carriage of a forklift. As a UHF reader, it has a medium detection range of up to 6 meters and a very high reading speed. The device can record up to 40 different tagged packets on a pallet in a single read operation using multi-tag detection. It features an extremely rugged, compact IP67 cast housing. An integrated industrial Ethernet interface or an IDENTControl interface is available for signal transmission.

The Benefits

Due to the high transmission power of the F190 read/write head, the tags can be detected as soon as the vehicle approaches the load carrier, so that no loading delay occurs. The integrated, automatically switching antenna polarization allows for reliable identification of tags in unknown or variable positions.

Technical Features

- The most compact device in this performance class (114 × 112 × 63 mm)
- Rugged design
- Frequency range: 865 MHz ... 928 MHz
- Typical operating distance: 2 m
- Degree of protection: IP67
- Multi-tag reading possible
- Transmission power: 1000 mW ERP

