CASE STUDY | LOGISTICS

Making sure that parcels are securely sealed when sent to the customer

The OGD Reflectivity Time-of-Flight sensor reliably monitors the correct application of adhesive strips

Our customer:

Operating one of the largest platforms for online mail order, our customer runs a large number of complex logistics centres worldwide. There, the goods ordered with a click are expected to be picked and sent off to the buyers with as little waiting time as possible. The company ships a wide range of products covering various consumer segments in parcels of different sizes.

The mail-order company's goal is a smooth shopping experience built on the intuitive use of digitalisation, high availability, good customer service and sustainability. Online trade has experienced an enormous boom in these past years, not least due to the global pandemic. Compared to high street retail it has been able to significantly expand its market share. The promise to customers is clear: fast and reliable ordering, safe delivery within 24 hours including the receipt of faultless and undamaged goods.

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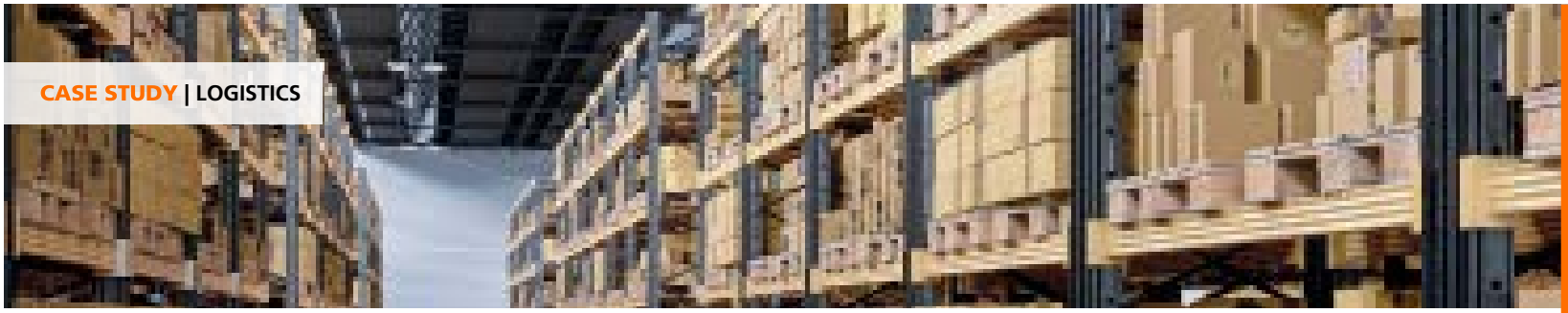

The challenge:

Online retailers must ensure a consistently high level of availability, both for the end customer and also for suppliers, as well as in their own logistics process where errors and plant downtimes must be avoided at all cost. Otherwise, operability and fast delivery would be compromised. High reliability is particularly relevant during so-called "peak weeks", when mail order companies sometimes generate 70 percent of their annual turnover. Such peak weeks are around "Black Friday" in November and before Christmas.

To be able to reliably deliver the large number of parcels to the end customer, mail order companies have moved towards automating large parts of the logistics process in recent years. This also includes the automatic application of adhesive strips on parcels that are ready for dispatch. The process is central to a reliable logistics workflow: when errors occur at this stage, the plant comes to a standstill or the products in the parcels can be damaged. Conventional photoelectric sensors often fail to reliably detect the transparent and reflective adhesive strips in the machines. As a result, correct parcel sealing had to be checked manually up to now.

The solution – why ifm?

In cooperation with the customer, ifm's experts found a solution to this problem:
The OGD Reflectivity time-of-flight sensor. Given the process, the sensor had to meet two requirements: it had to reliably detect the distance and at the same time evaluate the reflectance. This combined sensor is used in plants where the reliability of process control needs to be increased by using several pieces of information. The

OGD Reflectivity provides continuous visualisation of process values via IO-Link and can be easily and flexibly integrated into the existing plant infrastructure. What is more, a 2-colour display on the device ensures easy reading. All parameters are set via three buttons.

In the logistics centre, this has enabled our customer to automate the process of closing the parcels quickly and safely: using the sensor has reduced the number of returned goods, as fewer parcels arrive damaged at the end customer. Manual and time-consuming quality checks are also no longer necessary, leading to cost reductions in the long term. With the installation of the OGD Reflectivity, ifm and the customer have taken a big step towards a better online shopping experience. Having successfully tested the first machines, plans are already in place to convert further plants and to use the system also in other locations of the company.

Results:

- Secure application of adhesive strips on the parcels
- Reduction in returned goods
- Cost savings through error prevention
- Automation of the entire process of applying the strips

Reliable quality control

Error notification

Reduction in the return of goods

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