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## Sensor Solutions For Shuttle Systems In Intralogistics

Operators in the field of intralogistics are under pressure to achieve greater throughput, while remaining agile and flexible. And this necessitates ever more efficient utilisation of space as well as more sustainable use of resources including shuttle solutions.

This, in turn, places higher demands on the growing requirements for small but still powerful sensor solutions and automation components. This requirement should also be seen in the context of Industry 4.0, including networked devices.

Leuze offers high-end solutions with application know-how in all areas of intralogistics, and the significant advantage of this is that the solution is from a single source.

One mega trend in intralogistics, which can be attributed to the rapidly developing e-commerce sector, is the volatility of markets and competitive conditions. On the one hand, there are increasing volumes of parcels that need to be shipped. This results in increases order picking and associated processing.

And on the other hand, smaller orders cause growing uncertainty for the manufacturer and this impacts on forward planning. As a result, procurement, production and distribution become considerably more complex.

This scenario makes innovation topics such as Industry 4.0 ever more important for intralogistics. And increases the need to create integrated networking and transparency as well as to constantly improve speeds, precision, flexibility and availabilities.

The growing demands that all intralogistics applications place on sensors are particularly evident in modern shuttle solutions. Shuttles are extremely flexible, dynamic and, not least, also resource-friendly with regard to space utilisation and energy consumption.

For systems such as these, reliable, space saving sensors are needed for fine positioning, for the detection of free spaces, presence monitoring and for collision prevention. For all these tasks, Leuze

offers suitable solutions that ensure availability and can be easily and quickly mounted and commissioned.

Optical distance sensors are used in shuttle systems for compartment occupation checks, collision protection or positioning applications. These smart sensors have a high tolerance to colour and material differences, and offer precise surface and angle detection making for reliable operation.

Whether organic surfaces such as wood, metal or plastics, and whether matt, deep black or glossy, the Leuze ODS 10 and HT 10 optical distance sensors offer a constant switching point. These sensors function reliably even in changing environmental conditions or materials as well as with various object detection angles. This is particularly useful with objects that are not exactly aligned or that are being rapidly transported. As a result, detection errors are avoided and complicated readjustment is eliminated.

Also with respect to the electrical connections and the number of I/Os, the Leuze ODS 10 and HT 10 sensors can be adapted to individual application requirements, offering optimum flexibility.

Both device models also provide an IO-Link interface ready for Industry 4.0. In this way, diagnostic data can be transferred in real time and alert the user timeously to any impending failure, for example excessive soiling of goods being handled or misalignment.

In addition to these measuring distance sensors, miniaturised sensors, such as photoelectric sensors and light diffuse sensors, are preferred for use in shuttles. This is due to the limited available space.

Leuze LSR 2 throughbeam photoelectric sensors or Leuze PRK 2 retro-reflective photoelectric sensors are ideal on the outer edge of the shuttle where overhang controls can be implemented simply but very effectively. Leuze PRK 3B retro-reflective photoelectric sensors or Leuze HRT 3B diffuse sensors can be used at the end of aisles or for reference runs. This will allow detection of the reference points with maximum precision using scanning or reflective technology.

Leuze HRTL 3B diffuse sensors are predestined for compartment fine positioning, while Leuze 3B series sensors offer a range of unique features and the largest selection of functions available from any device currently available on the market.

In addition to the sizes and sensor types already mentioned, Leuze offers an extensive range of products with countless functions for every application field in intralogistics.

These include automation components such as data transmission photoelectric sensors for contactless and wear free optical communication when mechanical systems reach their limits.

Communication is a buzzword for Industry 4.0 topics which are becoming increasingly relevant in the area of intralogistics.

Leuze's range of sensing solutions is available in southern Africa from official distributor, Countapulse Controls. The company has an in-depth understanding of the application of 21<sup>st</sup> century sensing technology in local operations, and can assist customers to leverage the advantages that these will bring in terms of flexibility, agility and increased productivity.

SENSORS IN SHUTTLES PIC 01 : Leuze electronic offers high-end solutions with application know-how in all areas of intralogistics, and the significant advantage is that this is from a single source.

SENSORS IN SHUTTLES PIC 02 : For all these tasks, Leuze electronic offers suitable solutions that ensure availability and can be easily and quickly mounted and commissioned.

SENSORS IN SHUTTLES PIC 03 : Optical distance sensors are used in shuttle systems for compartment occupation checks, collision protection or positioning applications.

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