

Interpack 2014: Convert challenges into opportunities with intelligent sensors.

Waldkirch, Germany, May 2014 – Global market requires the use of all available resources. Machines must become more flexible and operator-friendly, and service provisions must be available worldwide. At Interpack 2014, SICK is showing how much potential there is to be gained here: Simple and efficient engineering, reduction of manufacturing costs, shortening of production lines (time to market) and flexibility. These are today's challenges for packaging machine manufacturers.

Trends and tasks in the field of packaging are varied. Brands and brand differentiation are becoming more and more important, globalization and concentration processes are advancing, market conditions are changing more and more dynamically, and topics such as sustainability and demographic change are gaining increasing significance. For packaging machine manufacturers, there are three decisive trends that stand out above all:

1. Engineering must be simpler and more efficient,
2. Manufacturing costs and delivery times must be significantly reduced,
3. Machines must be designed and used highly flexibly.

One of the most promising starting points with great economic leverage is the use of innovative and intelligent sensor and control systems. Even if they represent only a tiny fraction of the cost of a packaging machine, they nevertheless have the potential to improve value creation sustainably. The perception of machine manufacturers has changed accordingly:

Sensors and control systems are no longer a "means to an end" – it reflects their significance that they are now being considered earlier and earlier in the design and construction process of a machine.

"Easy Engineering" for improved value creation

Packaging machines, especially those for branded items and consumer goods, are in many cases designed for individual requirements. Even if standardized construction methods and modular designs are juggled by most packaging machine manufacturers, the proportion of engineering costs can amount to up to 25% of the subsequent sale price of the machine. Above all, efficiency potential can be realized, if repeatedly recurring tasks can be solved intelligently and at little cost.

With its Smart Sensor Solutions, SICK shows how this can function. The design is based on the use of state-of-the-art sensor technology and its integration into the global communication standard IO-Link. One of its key areas of focus is creating remote "smart" automation functions in a network – as these have a direct effect on the efficient engineering of packaging machines and the efficiency of packaging processes. Here, a distinction is made between standard functions, such as sensor parameterization via the control system, condition monitoring, electronic documentation or sensor visualization and the "advanced" functions, e.g. high-speed counting or time measurement that create a genuine increase in value in the engineering of packaging machines. These and other tasks are a regular component of engineering processes. Through the use of the Smart Sensor Solutions technology, they can be carried out in a simple and efficient manner. They show how important it is to take account of the use of intelligent sensor systems right at the design phase and make use of their efficiency potential.

Down with delivery times and manufacturing costs: 1.5 million meters closer to the customer

Continuous and increasing dynamic change are typical of many sectors in which packaging machines are used. The more important the packaging itself is as a part of branding and marketing activity, the shorter the delivery times for machines must be. The shortest possi-

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ble "time to market" will also be possible with the new HIPERFACE DSL interfaces standard that in principle halves the integration expenditure on cabling and time for motor-regulator communication. As far as sectors are concerned, the size of this innovation is particularly clear: For around 300,000 servo drives that are installed in packaging machines every year with an average motor cable length of 5 m, HIPERFACE DSL saves approximately 1.5 million meters of cable.

It is, however, not just intelligent sensors and interface technology that are in a position to positively affect delivery times. With the Flexi Soft safety controller and technology platform and intelligent integration elements, SICK will thus fulfill the requirement for cost-saving cascading of reliable switches and sensors for safety doors and service panels on packaging machines. This minimizes expenditure on cabling and therefore reduces assembly time. The SICK portfolio therefore opens up both important time and cost benefits to packaging machine manufacturers. The sensor and control systems are available at short notice as standard, or, if required, as customer specific special products. They are technically reliable and future-proof as well as efficient for the engineering, manufacture and operation of machines.

Flexibility: Production factor for professional packaging

Seasonal sales drives, differing package sizes, new product variants in new packaging designs – the behavior of consumers has a direct effect on the design and operation of packaging machines. So that such things as promotional

packages can also be available at short notice and up-to-date, flexible technologies are required that allow format changes in a few seconds. In this respect, too, the intelligence and communications capability of SICK Smart Sensor Solutions opens up fresh potential for greater machine flexibility and productivity. The opportunity to download parameters via the automation system and to adjust sensors so flexibly is of particular benefit for packaging machines, which frequently switch between formats, configurations or product variants. This

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does not just contribute to an occasionally dramatic reduction in changeover times and machine down time, it also prevents adjustment errors and can be continuously documented. For their part, the sensors support the condition monitoring of machines effectively, as they provide timely information on the current machine condition and the quality of the current process, as well as a great deal of additional data on the operational status of the sensor system.

Implement customer wishes, support industry trends

At SICK, the requirements of the packaging machine industry are attended to by an international network of experts in the field. The approach focuses on the food and confectionery, beverages, pharma and cosmetics, and consumer goods sectors. Whether it is detection, identification, tracking and tracing, protection, position determination, feature checks, follow-up or protection against product or brand piracy – the aim is always to produce solutions that are technically reliable, commercially efficient and that can be replicated for the sector, so as to satisfy the requirements of machine manufacturers as well as end users.