SICK
Sensor Intelligence.

PRESS RELEASE

Reliable object detection in gapless conveyor throughput

Waldkirch, Germany, May 2014 - SICK is exhibiting the MultiTask photoelectric sensor DeltaPac as "Man's victory over the gap", at the Interpack 2014 trade fair. The sensor lives up to the claim "we detect every object" through a new detection process: the patented Delta-S technology. This enables the detection of individual objects, even where they are lined up end to end, forming a gapless, continuous stream. This is an enormous leap forward for the construction, design and availability of packaging machines, as thanks to DeltaPac, verifiable, resource-conserving and continuously smooth production can be achieved - thereby improving packaging processes.

The DeltaPac combines intelligent Delta-S technology, which comprises four PinPoint 2.0 LEDs and two high-resolution energy scales, each with two receiver elements, with the innovative SICK ASIC SIRIC® technology and an integrated distance measurement system for the purposes of background suppression. The first technology of its kind in the world, the unique application of the highly compact DeltaPac (42 mm x 42 mm x 45 mm) ensures error-free object identification in a gapless material stream. It enables the reliable detection of up to 200,000 packages per hour at speeds of up to 3 m/s, either from above or the side – key performance figures indicative of the future of high-performance packaging installations.

Patented Delta-S-Technology® analyses edge contours

The DeltaPac's principle of operation utilizes the edge contours of packages and folding boxes. The light beams from four PinPoint2.0 LEDs pass over the front of the object. In this state, the four receivers of the two energy scales receive the same amount of light. There is a balance. If the leading edge of an object moves into the light beam, the balance is interrupted. This produces a definite energy and a switching signal, the quality of which is unaffected by such factors as color, object size, surface, detection background, dazzle, contrast changes, or unevenness in the packaging's surface structure. This method reliably detects object contours with radii between 1 mm and 20 mm at switching distances of between 30 mm and 40 mm.

Ex works configuration, optional optimization on-site via IO-Link.

Quick commissioning without having to adjust any settings, or targeted process optimization by means of individual configuration – the DeltaPac offers both options to sensor system integrators and manufacturers of packaging machines. This means that, pre-configured versions of the sensor are available specifically for round or prismatic packages or those with rounded edges, as well as for folding boxes with virtually rectangular edges, without any setting elements for potentiometers. For applications which require individually optimized device configuration, there is a variant of the DeltaPac with IO-Link. With just a few mouse clicks the SICK specific SOPAS-ET software is able to enter the packaging radius, the packaging width, and the conveyor speed in order to configure the DeltaPac parameters individually. It is also easy to set up communication with the machine automation system so that specific parameter values can be transferred to the DeltaPac when switching between different types of packaging. The flexibility with which the sensor can be configured via the machine controller is of particular benefit for machines which frequently switch between products or packaging variants.

DeltaPac introduces 'constructive' paradigm changes

DeltaPac opens up new possibilities in the construction of packaging machines. There is no longer a need for machine elements to buffer and pile up packages, or for the use of separating mechanisms. This cuts costs and improves the room balance of the machine. The product stream and production process are stabilized because packages no longer fall over, thus preventing collisions. Machine downtimes, incorrectly positioned labels or straws, incorrect placement when grouping packages, and loss of quality due to crashes are all reliably eliminated – with positive results for the efficiency of the packaging machine in terms of time, energy, and availability.

End to end conveyance, gapless detection, reliable distinction and error-free counting – the SICK DeltaPac is the innovative and intelligent solution for efficient packaging monitoring, and reliable quality in packaging processes.