Automatic adaptable format adjustment

Waldkirch/Düsseldorf, May 2014 - Rapid, precise, reliable: the Rapid Changeover (RapCo) system solution from SICK meets these requirements for automatic format adjustment in packaging machines. It also permits the technically and economically efficient operation of complex packaging machines with numerous adjustment points and format variants, even with small batch numbers or frequent product or packaging changes. RapCo can be integrated regardless of the machine type or its producer, opening up maximum flexibility for machine users and ensuring optimum availability of packaging processes through its user-friendly maintenance.

RapCo is a complete plug&play system solution for automated format adjustment and consists of positioning drives, sensors, a control unit, software, a display and wiring. In technological terms RapCo, which supports up to 500 different formats, offers a range of advantages over manual adjustment of auxiliary axes with hand wheels and counters. RapCo thus makes it possible to adjust all axes simultaneously at the press of a button, drastically reducing the time required and effort involved for a format change. Whereby up to 100 adjustment points can simultaneously be very precisely altered and, if necessary, readjusted. The adjustments made are checked and documented – reliably cutting out operating errors and incorrect adjustments. 40 digital I/Os are available with each RapCo system. These can be used to control, for example, warning lights, valves, horns or other signaling equipment.

**Configuration without programming knowledge**

RapCo can be used wherever it has hitherto been necessary to manually operate adjustment wheels, mechanical guides, valves or pneumatic cylinders to carry out a format change on a packaging machine, e.g. in a carton erector. OEMs, integrators and end-users can rapidly and easily configure automatic format adjustment via the graphic user interface – without the need for any special programming knowledge. The user-interface language can be individually selected and

changed according to the country. The storage and recovery of parameterizations can be carried out at any time using standard industrial PC systems.

**Automatic format adjustment offers multiple advantages**

RapCo format adjustment systems allow efficient operation even with small batch sizes, frequent product changes, a wide range of individually dimensioned and shaped packaging, or varying product sizes because they do not require complex manual setup and adjustment. As a result, they offer technically optimized and economically more efficient packaging processes.

Automatic format adjustment with RapCo improves machine productivity: what can take hours to achieve by hand is automatically carried out in less than two minutes. The investment in this positioning solution is often correspondingly rapidly amortized – within a few months. The optimized quality and reliability of packaging processes contribute towards this: the high repeatability and precision of the format adjustment system prevents rejects on restarting after a format change. Formats can be detected using a hand-held scanner and checked for their plausibility, so that an incorrect selection can be detected immediately. In addition, RapCo’s user-friendly input interface prevents operators introducing errors. In the case of problems, static process monitoring – with which the target and actual values of the adjustment points are detected and documented – allows the adjustments made to be tracked at any time. Format adjustment itself is regulated by enabling and state signals: it only starts after acknowledgement by the machine controller and must be fully completed before the machine resumes productive operation. End-users profit from RapCo’s ease-of-maintenance. The diagnostic concept is very easy, user-friendly and effective, not least due to its fault management system with its stored history, and the context-specific online Help on the user interface.

**Also suitable for retrofitting**

Thanks to RapCo, existing packaging plants with manual adjustment of auxiliary axes are far from ready for the scrap heap – automatic format adjustment can easily be retrofitted without any restrictions regarding machine type or machine producer. Standardized components, supplemented by an intelligent modular system for mechanical adaptation, enable the easy retrofitting of machines – if desired, by one of SICK’s certified integration partners. The configuration and operating concept is designed in such a way that it ensures rapid initial training of machine operators in using the RapCo system.

In short: the more auxiliary axes require positioning, the greater the advantages of decentralized and intelligent automation of adjustment for the end-user. Time savings, precision and reproducibility of adjustment, fewer rejects, greater quality, and a high level of operational reliability and availability – RapCo is becoming increasingly popular among packaging machine producers.