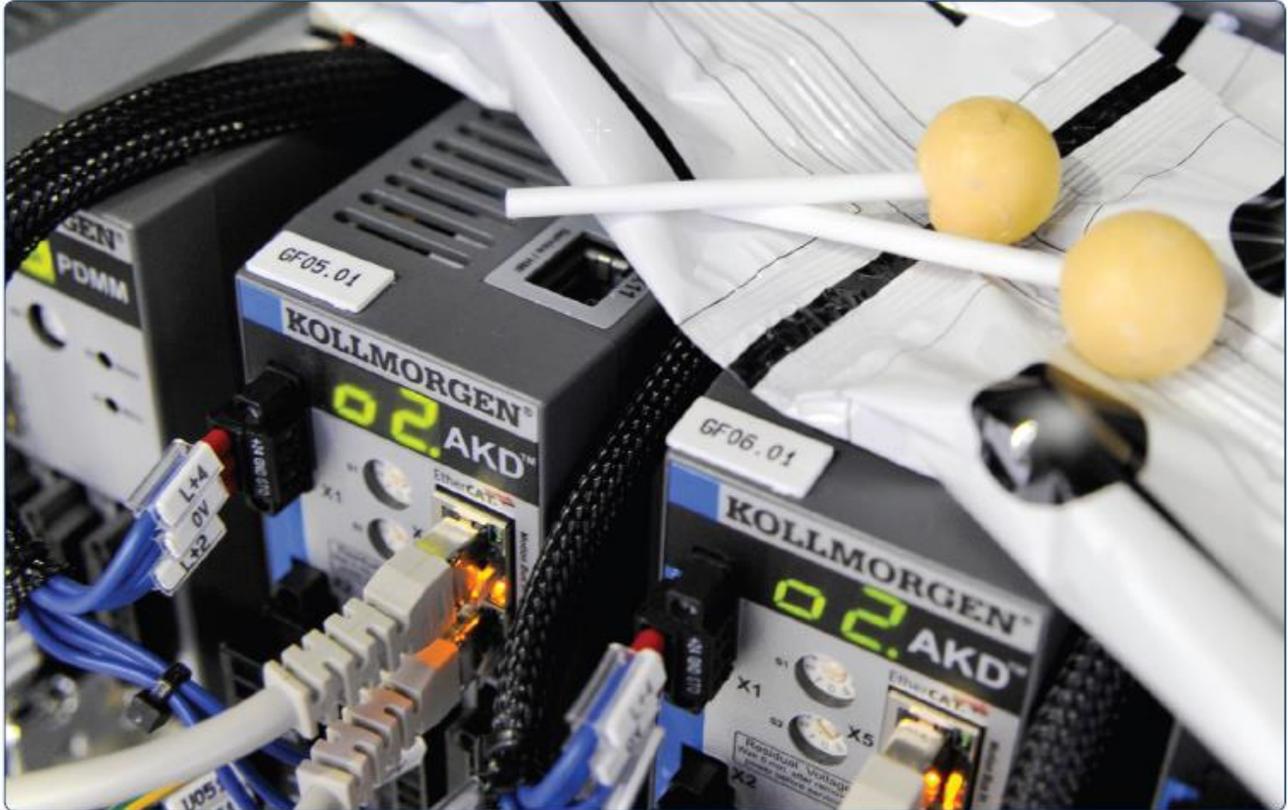# Schleck enjoy the aromatic double

Intelligence and motion in the controller: How are new product ideas from innovative packaging machines

Lollipops as a double core of the packaging machine is an intelligent servo controllers KOLLMORGENAKD PDMM series with integrated PLC and Motion Control.

Three in one: the Italian packaging machine builders Lafer has an integrated drive and automation solution streamlines its duly cabinets. The company near Verona to date a combination of PLC, Motion Controller and servo amplifiers, Lafer uses today with the number of KOLLMORGEN AKD PDMM a device series, which provides all three functions under one roof.

The look in the cabinet of an earlier generation of machines makes compared to the current series the advantage of drive-based automation at a glance clear quickly. On the one hand, the separate control hangs next to the quite bulky acting motion controller, in turn controls the servo controller to the left placed. In contrast, the housing solution with the AKD PDMM devices from KOLLMORGEN has significantly slimmer. Less hardware, less cables, only the devices themselves are due to the integrated intelligent control a touch larger than the pure controller. "The

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KOLLMORGEN solution is much smarter, because it offers the same performance at a lower price," says Paolo Formilan, sales manager at Lafer, the benefit together from the perspective of the machine builder. "We also save a lot of cabinet space and can also easily integrate other axes in the composite."

From product idea to the machine

With the current development Lafer "Motion-02" an international food company currently packed two sweet lollipops in various flavors aroma protected in a double-bag. Was "Such a machine is still pending. Was the catalyst for the development – as so often in the packaging machinery -

From product to packaging to the 'new ideamachine: Paolo Formilan Lafer.

anew product idea including innovative packaging, "explains Paolo Formilan. The plant isolated at the beginning of the process through turning rotary boiler the lollipops in each 40 shots on the outside walls and fitted it with an adjacent conveyor pairs for the lollipop. A feed unit performs the confectionery into the packaging film tube, which is replaced immediately after its inner sealing seam. In a further step closes a synchronously clocked weldingbar, the packaging film transversely to the direction of production. The separation of Double packs done according to the order stored in the control formulation in individual packs or longer strands for hygienic storage. Up to 550 Lollipops can be packaged per minute. For programming of the complete sequencing of the Italian system integrator Logitronic from Carrè consistently uses in the region Vicenza mechatronic programming with the Pipe Network. The engineering tool belongs to the KOLLMORGEN Automation Suite and is the machine architecture from including the dependencies between the axes of an application in a very short time, clearly and accurately. User as Logitronic-owner Raffaele Cortese draw virtually the machine and program it at the same time. Instead of complex steps with the Pipe Network graphic descriptions come with drag-and-drop functions. Starting with a virtual master, all functions and relationships between components and all movements and define settings with graphical description blocks. In addition are the five standard IEC 61131-3 languages for control flow and PLC open motion control function blocks for motion control.

"We work with Kollmorgen together for a long time," says Raffaele Cortese of Logitronic.

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Cam profile for smooth movements

From the perspective of the motion control out Lafer uses for flow wrappingmachine mainly electronic cams. With these profiles, the company adaptsthe clocking perforation and sealing bar motions as to the continuous webspeed, the tools always come in sync to the web speed is used. When servocontroller for the perforation is additionally a separate register control via software module integrated. The data of a camera that detects a color bar,the controller reads directly.The packaging machine works with eight controllers, which in turn are two virtual master axes (electronic line shafts) in the composite. Therefore this application is a typical example of the benefits drive-based control systems and motion control represents Background: Especially with a mean number to be controlled axes - in the example Lafer in total eight - adult IPC solutions are priced usually too expensive. Who now but relies on a compact controller takes compromising machine performance into account because just at fast cycle packaging machines for the low-cost consumer goods market, the short cycle times are obtained from the scheme no longer sustainable. "We synchronize to a millisecond," says Paolo Formilan. The control is possible in real time, because the integrated into the servo controller series AKD PDMM

About two dials, driven by KOLLMORGEN torque motors, the lollipops isolated and the packaging supplied.

PLC and motion control is realized based on a proprietary controller with Power PC architecture. Thus, the devices are not subject to the constraints of limited processing resources.

Regulators collect data

The AKD Servo PDMM Logitronic also uses as a repository for signals.The standard inputs and outputs are consistently used in order to receive signals from sensors outside the actual movement and gather feedback tobe processed directly in the drive PLC. On the cross-communication with EtherCAT, it is also immaterial, in which unit the bond accrues the data."Wealth is not the number of interfaces in the drives out, we take the I / Osystem from KOLLMORGEN before the targeted expansion, without having to make costly changes to programming. That's just the advantage of a scalable system, "said Raffaele Cortese. Within this system - KOLLMORGEN Automation Suite - expanded the continuity and the choice of drive technology hardware. On the onehand allows the AKD PDMM combine servo controller with the pure servo amplifiers of the AKD and secondly this kit extends to the engine it self Means that machine builders and system integrators can freely choose whether to the servo controller with established synchronous and a synchronous servo motors connect and get additional individual tasks with linear or rotary direct drives. This rule freedoms create the basis to drive tasks can equip really perfect - without having to take on controller side constraints consideration must. In Lafer as synchronous servo motors operatefrom AKM simultaneously with KBM torque motors that drive the roundtables to separate the Lollipops.

KOLLMORGEN has supplied to the welding beam drive one recessed fully assembled motor-gear solution.

Conclusion

Lafer The example shows the single high-performance products are not sufficient to compact packaging machines similar to automate slim. What is needed is an open space with solution components that are easily combined. "We also work with our system partners is becoming increasingly important. Here we work with KOLLMORGEN together for a long time, "says Raffaele Cortese. Packaging machinery manufacturers as Lafer may change because of the cooperation

of system integrator and drive technology manufacturer much more intense focus on the development of new packaging concepts – and therefore bring machines to market faster.

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About KOLLMORGEN
KOLLMORGEN is a leading provider of motion systems and components for machine builders around the globe, with over 70 years of motion control design and application expertise. Through world-class knowledge in motion, industry-leading quality and deep expertise in linking and integrating standard and custom products, Kollmorgen delivers breakthrough solutions unmatched in performance, reliability and ease-of-use, giving machine builders an irrefutable marketplace advantage.
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