

# HMI-PLC: “All-In-One” Packaging



In the highly competitive packaging market there is a constant demand for continuous improvements and innovations, whilst customer requirements for flexibility and user-friendly operation are increasing in the same way. This fast-moving market calls for innovative and future-proof control concepts and individual components. Wächter Packautomatik is a company that uses Moeller’s xSystem for its new CartoJet C3A together with a multi-axis system. The new CartoJet offers end customers several packaging operations in one machine: carton set up, filling and sealing, i.e. “all-in-one” – and this is also what’s offered by Moeller’s HPG230 HMI-PLC.

## THE COMPANY

Wächter Packautomatik GmbH & Co KG is a worldwide supplier of final packaging technologies. The family-run business, based in Bad Wünnenberg was founded in 1975. Customers of Wächter Packautomatik are from the food, beverage and also non-food sectors, such as the hardfloor industry in particular. The range of services covers the planning, development, manufacture, installation and commissioning of dedicated machines, right up to complete automatic packaging lines with palletizing, transport and distribution systems.



The CartoJet C3A is a consistent further development of the tried and tested Wächter CartoJet. Its flexible and compact modular design allows effective space utilisation. The system is adapted to customer requirements according to whether the product is fed from the side or in line, whether trays are used with or without covers and wrap around, and whether a steel or painted version is used.

He recently developed product inserter offers the alternatives of loading and inserting, optionally also with several layers. Bendable products are shaped in grouping chains and carefully inserted. All the drives relating to the output are designed with servo motors and synchronous running. This adapts the machine speed to the actual incoming product volume at up to 25 packages per minute. Products and packages are moved on only one manageable and accessible level. The servo technology and the fast changeover system enable the system to be reconfigured for other products or product arrangements at the simple push of a button. The system offers intuitive and user-friendly operation via the 5.7 inch colour touch panel. The display informs the operator at any time about the current state of the system. In the event of a fault, the display outputs a graphic diagnostics message with additional error texts. This enables a rapid response and reduces downtimes.

### All-in-one controls

According to Roman Bense, head of automation at Wächter, the new visualization system of the C3A had to meet the following requirements in full: "Simple handling of the

interface to the multi-axis system, as well as a clear and easy-to-learn programming tool for visualization and the integrated PLC." Roman Bense had had several unfortunate experiences with extremely time consuming systems. The new system had to be implemented in the machine application swiftly and without any problems. The automation specialist chose Moeller's HPG230, a PC-based 5.7 inch infra-red touch display with an integrated IEC61131-compatible PLC. The device comes with Ethernet, CANopen and RS232 interfaces on board, and Profibus DP or the multi-protocol board with MPI possible if required. The front consists of scratchproof, non-breakable glass. The device does not require any rotating parts such as fans or hard disk. An exchangeable CompactFlash memory is used for storing the operating system, program, visualization application and data. Provided with the VxWorks real-time operating system, the device is ideally suited to operation in rugged industrial environments. The integrated web server, an FTP client and server simplify remote diagnostics and teleservice operations and complete the all-in-one system.

### EPAM – standards reduce engineering costs

Wächter nowadays creates its screen pages simply and efficiently using Microsoft Excel. The Moeller add-in, XSoft-EPAM (Easy Page Machine) just has to be integrated in Excel. The visualization application can then be designed without any other software required – with all the standard features provided by Excel. This simplifies engineering and saves time.

The simple connectivity to the multi-axis system was an important feature for choosing HPG230 with EPAM. Both systems are based on CoDeSys from 3S and both use the SymARTI interface (Symbolic Asynchronous Runtime Interface) for communication. Only a symbol file with the variables to be visualized has to be generated in the servo system. This file is imported into EPAM so that all variables are then available immediately for visualization. All that is then necessary for communication to be up and running is to declare the IP address of the servo system in EPAM and connect the two devices via a twisted Ethernet cable. The imported variables of the multi-axis system therefore do not have to be declared twice, which therefore saves the user additional engineering. Compliance with international standards also reduces other costs for engineering.

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## CONCLUSION

Roman Bense, responsible for automation at Packautomatik, expresses his relief: "The Moeller HPG230 touch display PLC offers us a visualization system that we can connect simply and swiftly via Ethernet to our servo system. The Excel-based engineering tool also reduces the time required for project design. This is an important benefit for our customers since they can take advantage of the simple and straightforward operation."

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