

Figure 1

Consistent modularity for greater flexibility

Wilhelm Rasch GmbH & Co. KG surprised attendees at ProSweets Cologne 2013 with its introduction of a fully servo-driven confectionery packing machine. The machine's impressive flexibility is the successful result of a modular design that incorporates mechanical aspects, electronics, and software. The company formed a project partnership with Schneider Electric to automate the machine with PacDrive 3.

Core of the automation solution:

Figure 1: One SH motor (below) and one ILM servo drive with integrated control technology; Figure 2: The PacDrive Logic Motion controller with shared power supply for the complete servo solution and Lexium LXM62 servo drives; Figure 3: The safety solution with Sercos III bus coupler, and safe I/O terminals

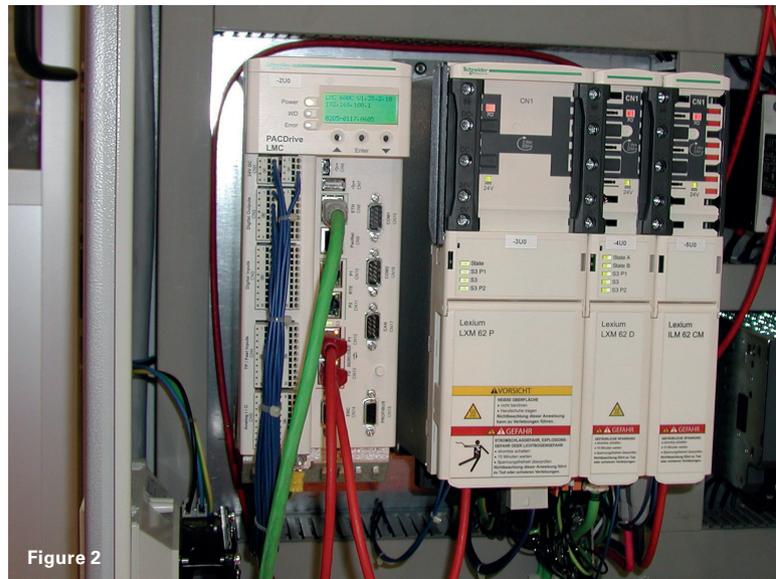


Figure 2

For more than 60 years, Cologne-based Wilhelm Rasch GmbH & Co. KG has been a well-known name in the confectionery industry. This year, Wilhelm Rasch now has introduced the first fully functional prototypes of its brand-new wrapping machine, known by its acronym RU 2: Operating at a speed of up to 160 units/minute, it can package anything that can be wrapped or folded in material with dimensions of 40 to 200 mm in width and length, including chocolate eggs, balls, and barrels, symmetrical and asymmetrical hollow figures, flat products, and bars.

Option design with short change-over times

Starting from a base version for backfolding, the machine design can be expanded with optional modules for front folding, bottom folding, double twist, labeling, and even heat sealing for figures and pralines. A string attachment option is also currently in preparation.

Thanks to quick-change devices for the modules and, where possible, design of the optional modules as a mono-block, the machine can be quickly retooled to handle different products.

Cabinet-free automation wherever possible

The machine shows how optimal support was provided for mapping a highly modular mechanical design to the automation solution. A central logic motion controller of the PacDrive series from Schneider Electric runs the machine and synchronizes all eight servo drives in the

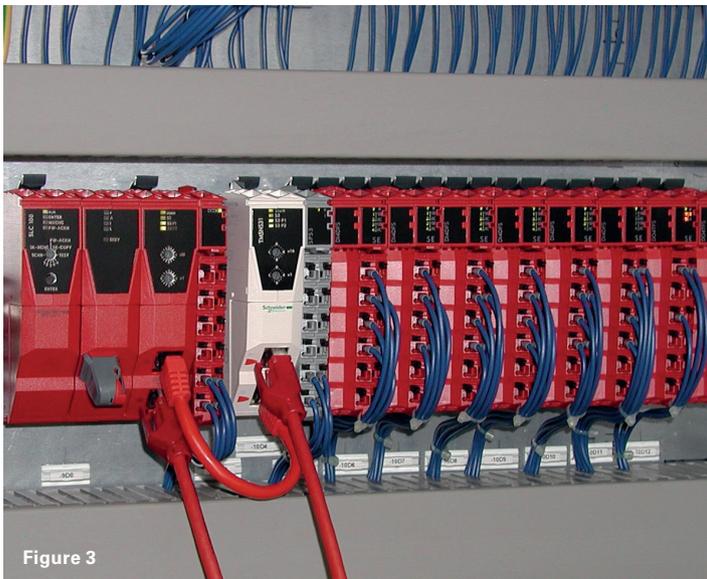


Figure 3



Figure 4: The Rasch RU 2 wrapping machine in its first public appearance in the Wilhelm Rasch exhibit at ProSweets Cologne earlier this year

basic model. Two of these drives use a Lexium LXM62 double drive, one of the most compact cabinet-based servo systems available on the market.

The remaining six servo axes are designed as integrated ILM62 servo modules, which are powered by the same shared power supply as the LXM62 controller. Together with a networking solution based on pluggable hybrid cables and distributor boxes, ILM62 servo modules pave the way for cabinet-free automation and the design of consistently modular machines. The hybrid cables are leading electrical power and also the Sercos® III motion bus to the decently installed servo modules.

Besides the drive communication also I/O and safe communication are based on Sercos III. A SLC safety controller acts as a Sercos slave to control all safety-related functions. Safe signals are linked using safe TM5 I/O modules. These can be combined with standard terminals to create mixed blocks. Both safe and non-safe terminals can be connected to functionally identical TM7 I/O modules in IP67.

Autoconfiguration when switching modules

Regardless of the actually present modules of an individual configured RU 2 all machines of this type run the same machine program. Each of the available optional modules can be activated automatically using autoconfiguration. All PacDrive motors and servo drives are equipped with electronic name plates. Following a changeover, the PacDrive controller performs a Sercos scan, integrates all of the detected units into the current controller configuration, and activates the corresponding program modules.

These features now allow Wilhelm Rasch to offer its customers fully modular machines with outstanding flexibility. Despite the cutting-edge automation design, the company has still kept complexity to a minimum.

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Machine Solutions and System Consistency Schneider Electric Automation is globally responsible for developing and manufacturing hardware and software products for automation solutions in machine and plant construction. In particular Schneider Electric Automation places an emphasis on the development of solutions for packaging machines, pumping, hoisting and HVAC.

About Schneider Electric

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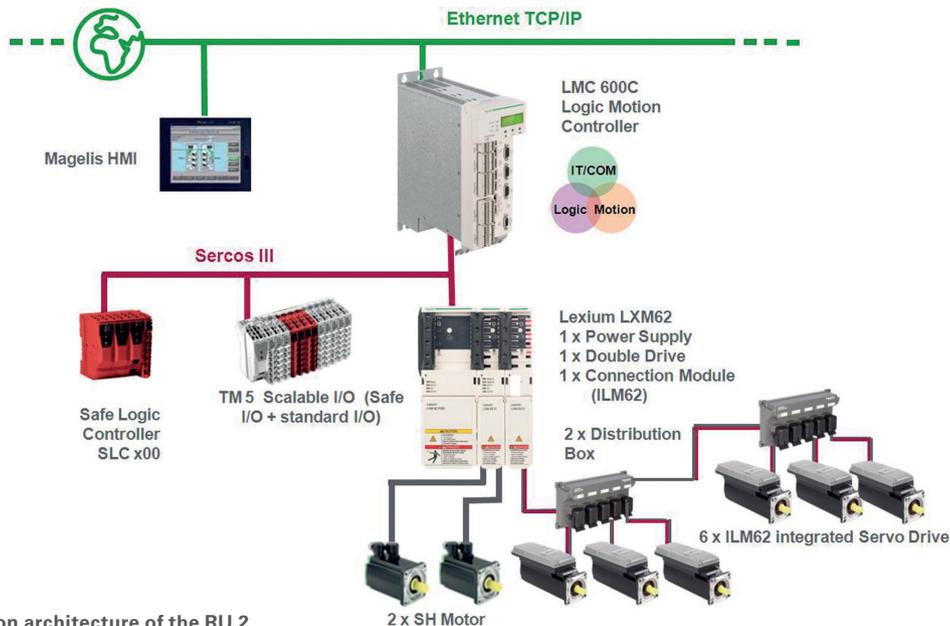


Figure 5: Automation architecture of the RU 2 universal wrapping machine

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