



Eaton's SmartWire-DT speeds things up and provides unique wiring solution

Location:
Randolph, New Jersey

Segment:
Machine building

Challenge:
Complex wiring and excessive troubleshooting time

Solution:
Eaton's SmartWire-DT®

Results:
Enhanced overall line efficiency

"Eaton's SmartWire-DT control panel wiring solution has enhanced the overall efficiency of our production lines, improved customer equipment effectiveness and allowed us to provide our customers the products and services they desire."

Clifford Smith, president, Modular Packaging.

Background

With 50 years of experience, Modular Packaging Systems Inc. is a leader in providing packaging machines and solutions to a wide range of customers in pharmaceutical, nutrition and vitamin industries.

The company specializes in the development and manufacturing of machinery for the efficient packaging of dry line products such as pills and capsules – offering a wide range of solutions from singular packing machines to fully integrated and customized packaging lines.

A large part of the company's success is due to its ability to fully integrate solutions within its facility prior to shipment, with solutions ready for a quick install and startup upon arrival at a customer's facility. To support this key aspect of its business, Modular Packaging is constantly looking for new and innovative ways to streamline manufacturing processes and machine accuracy to better serve its customer base.

Challenge

A consistent challenge for

Modular Packaging is to reduce costs while increasing manufacturing capacity and accuracy. In the packaging machine-building segment, reduced troubleshooting and the ability to quickly customize production lines to meet customer needs creates a shorter time to market and enhanced cost competitiveness. As a result, the company is constantly evaluating new technologies that enable faster time to market without sacrificing the performance or reliability of their machine systems.

Additionally, because each of its customers require different machines with completely different interfaces to integrate into new or existing packaging lines, Modular Packaging is faced with the challenge of enhancing production line efficiency despite constantly changing communications and wiring tasks.

To combat this challenge, the company was looking for a new control panel wiring solution that would simplify manufacturing and troubleshooting processes—with the inherent ability to quickly adapt to constantly changing control platforms.



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Solution

After consulting with Eaton's machine control experts, Modular Packaging decided to move forward by integrating Eaton's SmartWire-DT into its packaging lines. Before Modular Packaging's work with Eaton, the machines contained a traditional troughing system that held many control wires, all of which lead back to the main enclosure system.

"Our interest in integrating the SmartWire-DT into our lines was sparked when we met with Eaton at PackExpo," said Clifford Smith, Modular Packaging. "We were keen on the idea of incorporating a product into our systems that would facilitate building packaging lines quicker, increase product support for our customers and enhance our control systems."

The company identified assembly time savings potential in Eaton's SmartWire-DT panel wiring solution, a single and durable eight-pole cable that can consolidate complex circuit wiring. Modular Packaging's initial assessment showed that the technology would allow it to establish flexible production lines with:

- Reduced operator control station wiring and installation time
- Reduced costs for engineering, wiring, testing and commissioning machines
- Improved flexibility for incorporating user-specified options

With SmartWire-DT, all wiring is consolidated within could one flat cable, which makes control panel building and configuration much easier. Further, the solution can be connected using many common industrial communication interfaces. This capability meant that all SmartWire-DT components connected downstream could be standardized to simplify the time-consuming engineering tasks normally associated with integrating intelligent control platforms.



Results

The biggest reservation Modular Packaging had was the concern that mounting the SmartWire-DT platform would take more time than they desired. "We were pleasantly surprised that the overall mounting time of the SmartWire-DT was significantly less than originally anticipated," said Smith.

Modular Packaging saw immediate results after the SmartWire-DT integration. "Eaton's SmartWire-DT allows us to connect different sensors and valves to different products all in one connection instead of having every cable run back to the main enclosure," said Smith. "It has enhanced the overall efficiency of our production lines, improved customer equipment effectiveness and allowed us to provide our customers the products and services they desire."

Beyond simplifying the wiring process, SmartWire-DT also streamlines testing, and reduces commissioning and troubleshooting to reduce labor time and costs. Connected nodes on the SmartWire-DT provide LED indicators that clearly display the status of each connected device. These visual indicators allow Modular Packaging's staff to immediately determine if wiring is correct, and completely mitigated the manual process of testing each wire individually.

Eaton's unique control panel wiring solution delivers proven competitive advantages as the components work together to simplify and speed up the design and build of machines, while also significantly reducing costs. For Modular Packaging, this means a more effective control panel design with reduced labor and complexity, and a shorter time to market.



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