

Application Profile

A Leading System Integrator Reduces Design and Installation Time with Allen-Bradley ArmorStart Distributed Motor Controller

Polytron, Inc. and Rockwell Automation build a new distribution system for a large computer manufacturer

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Polytron, Inc., a system integrator, teamed up with Rockwell Automation to design, build and install a state-of-the-art distribution system for a large computer manufacturer. The design called for multiple production lines feeding into a complex distribution system that featured three control panels, twelve DeviceNet networks, eighty motors and one hundred and sixty I/O's. The project was on an accelerated schedule, and needed to be operational in less than four weeks from beginning of construction.

BACKGROUND

Polytron, located in Norcross, Georgia, provides electrical engineering, project management and training services that focus on manufacturing systems for the food, beverage and consumer products industries. Founded in 1983, Polytron has established a reputation as a leader in the field of automation, information systems, design and controls and has an impressive customer list composed largely of Fortune 100 companies.

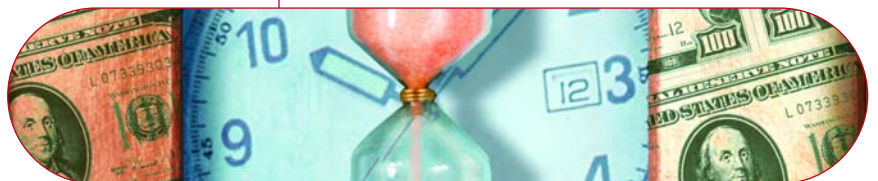
Recently, Polytron has joined Rockwell Automation's Solution Provider Program, a designation reserved for an elite group of system integrators that meet Rockwell Automation's measures for operational excellence, application expertise and customer focus.



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CHALLENGE

The key objectives for this project were to: reduce the cost, design and installation time, provide flexibility for future upgrades, minimize wiring and panel space, and simplify troubleshooting and maintenance. But the greatest challenge was to complete the project on time with a vertical startup. Thousands of personal computers pass through the distribution system everyday, therefore no downtime could be afforded. With a traditional centralized panel design, the installation time could take up to six to eight weeks to complete. This installation had to be operational in less than four weeks from the start of construction. Polytron and Rockwell Automation teamed up to tackle this challenge and provide the end user with an outstanding material handling controls solution.





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SOLUTION

After learning all of the challenges associated with this project, Polytron decided to utilize the latest Rockwell Automation technology suited for On-Machine™ Solutions. With on-machine solutions, components are mounted closer to the application or on the machine, therefore, reducing panel space as well as wiring and conduit requirements. With less manual wiring involved and more plug-and-play components, there are fewer points of failure, resulting in enhanced control system reliability.

As part of the On-Machine Solutions, Polytron used the Bulletin 280 ArmorStart Distributed Motor Controller for its motor starting needs. The ArmorStart is an integrated, pre-engineered combination starter for full voltage and reversing applications. It features a robust IP67/NEMA Type 4 enclosure design and the “plug-and-play” disconnects for the I/O, communications and motor connections.

“When Greg Tiller of McNaughton-McKay showed us the ArmorStart and its benefits, right away, we recognized that this would be an ideal fit for this application.” says Brent Stromwall, Vice President of Polytron.

“Although our initial hardware costs slightly increased, we realized that we would more than make up for it with the reduced design, installation and startup costs.”

As a solution, Polytron deployed eighty three ArmorStarts throughout the distribution system. The ArmorStarts were placed near the motors on the conveyor. Using the quick disconnects, Polytron connected the ArmorStarts to the motors and sensors in a matter of hours (vs. days) and the system was ready to go.

“We were able to eliminate the complex wiring associated with the more traditional approach, saving us valuable time and cost in wiring the installation.” says Todd Turnquist, project manager for Polytron. “The ArmorStarts are neatly tucked in underneath the conveyor thus providing a much cleaner looking system.”

In addition, the ArmorStart provides advanced built-in diagnostics for simplified maintenance and troubleshooting. The ArmorStart’s built-in LED display provides both advisory and fault indication, thus eliminating the need for maintenance personnel to access the control panel each time they check a connection.

“Diagnostics is yet another reason we chose to use the ArmorStart for this project,” says Todd Turnquist, “If a fault occurs, the end user’s maintenance personnel can quickly pinpoint the problem. And with the ArmorStart’s modular plug-and-play design, maintenance workers can quickly replace the starter and have the system up and running in a matter of minutes.”

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RESULTS

By using the ArmorStart Distributed Motor Controller, Polytron had the project operational on time, while achieving outstanding results. Polytron was able to reduce the design and installation time by almost 20 percent. Most importantly, Polytron provided great value to the end user's new distribution system by adding flexibility for future upgrades and making it easier for the end user to perform maintenance and troubleshooting.

“With a traditional controls solution, it could have taken us six to eight weeks to complete this project,” says Todd Turnquist. “But with ArmorStart, we were able to do it in less than three. Working on a tight deadline, there is no way we could have completed this project on-time without the help of ArmorStart.”

Partnering with Rockwell Automation proved to be a successful venture for both Polytron and the end user. And with Polytron enrolling into the Rockwell Automation Solution Provider Program, the partnership between the two companies will continue to grow in the future.

For additional information regarding Polytron Inc. and the products applied in this solution, please visit the following websites:

Polytron Inc.: www.polytron.com

Allen-Bradley Bulletin 280/281 ArmorStart Distributed Motor Controller:

http://www.ab.com/industrialcontrols/products/solid-state_motor_control/distributed_starters-networked/280.html