



Eaton's SmartWire-DT streamlines Renegade's machine processes

Location:

Reedsburg, WI, USA

Segment:

Machine Building

Challenge:

Automation of parts washers

Solution:

SmartWire-DT®

Results:

Drastic reduction in wiring time and a more intelligent machine

"Our customers demand a lot of what the PLCs can offer. The ability for consumers to access statistics such as cycle counters, calendars and number of washes is an extremely useful capability."

*Dave Barney, Owner/Founder,
Renegade Parts Washers*

Background

Reedsburg, Wisconsin based Renegade Parts Washers manufactures heavy-duty parts washing machines for numerous applications. Founded in 1996, the company has grown from offering a single solution to now having the capability to manufacture customized solutions built to their customers' specifications. Expanding their focus beyond washing, Renegade keeps a sharp eye on process cleaning as a whole and continues to improve the art of machine part sanitization.

Challenge

While the number of parts washer manufacturers may be small, the demand is extremely high and the need for sanitized parts continues to climb. Customers depend on a solution that will quickly and efficiently clean a high volume of parts and demand the shortest lead time between production and final end-user installation.

"Each part has to meet a cleanliness specification. Customers are looking for consistent cleaning and repeatability," said Dave Barney, founder and owner of Renegade Parts Washers. Barney goes on to explain the ever-increasing complexities that his original design faces as the need for more efficient cleaning becomes more apparent. With each addition of a new process—whether it is a rinse cycle, a drying cycle, or a movement as simple as a door automatically opening and closing—his machines, namely the electrical systems, become more intricate.



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Solution

An intelligent control panel wiring solution, Eaton's SmartWire-DT is an innovative product that reduces panel and machine wiring complexity by consolidating complex circuit wiring into a single, durable cable. The unique, cost-effective solution simplifies device installation, connects to standard networks, and streamlines machine construction, installation and commissioning.

After wiring an entire control panel and parts washing machine using the SmartWire-DT solution, Renegade quickly realized the benefits that an Eaton solution would bring to their operation over traditional wiring methods for controls.

Results

SmartWire-DT has drastically reduced the complexity of connecting control panel components to the sensors and actuators outside of the panel. Altogether, wiring time on these highly sophisticated machines has been condensed from a 4-hour process to an exercise that can now be completed in as little as 40 minutes.

Outside of the panel, industry standard M12 connectors are used to enable quick and easy connection of sensors and actuators via a single power and communications cable; thereby eliminating the need for large wiring trays or other means to protect cable bundles. Use of the M12 connections also enables easy disconnection and reconnection of devices if needed for shipping.

In addition, the SmartWire-DT system opens the door to more refined diagnostics. "From a programming standpoint, it gives you much more capability," said Trent Barney, Operations Manager and programmer with Renegade. To support the highest possible machine uptime, the SmartWire-DT solution allows for immediate and precise detection of faults and failures within the machine to speed troubleshooting.

"Our customers demand a lot of what the PLCs can offer," said Dave Barney. "The ability for consumers to access statistics such as cycle counters, calendars and number of washes is an extremely useful capability. The solution also offers the ability to add the self-diagnosing stage which we're very excited about," he added.

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