SOAK UP THE SAVINGS

VFD MAXIMIZES AUTOMATED CAR WASH PROFIT

YASKAWA SUCCESS STORIES

In high-volume car wash operations, every second counts—and every system must perform flawlessly.

A company operating a chain of tunnel-style car wash facilities turned to a Yaskawa distributor to modernize its automation system, which controls the speed and timing of the wash tunnel.

Their goal was to integrate variable frequency drives (VFDs) to achieve better control, more consistent performance, and easier troubleshooting.

Product GA500 Series VFD, GA800 Industrial VFD

Industry Automotive

Application Car Wash Multi-Axis Panel

CHALLENGE

The customer required a tightly integrated system to synchronize conveyor movement and coordinate multiple VFDs controlling pumps, sprayers, brushes, and dryers. Achieving this level of control depends on robust, real-time communication between the PLC and VFDs to ensure precise timing across all components.

SOLUTION

The customer chose Yaskawa GA500 and GA800 VFDs for their seamless integration with the existing PLC system, made easy by Yaskawa's pre-engineered code. This simplified setup and programming, enabling centralized control, streamlined troubleshooting, and ensured robust real-time communication between the VFDs and PLC.

In addition to easy integration, the drives offered outstanding performance, including the ability to handle high starting currents on high-inertia loads. Across multiple facilities, 38 GA500s and four GA800s were installed. The GA500's soft-start capability improved conveyor motor control and system efficiency, while the GA800s delivered reliable, energy-efficient performance for the air dryers.

COMPANY HIGHLIGHTS

This company operates tunnel-style car wash facilities that are fast, efficient, and built for high-volume cleaning. Vehicles move continuously through automated wash, rinse, and dry stations, ensuring consistent results while maximizing throughput. Ideal for busy locations, tunnel washes also use water and chemicals more efficiently and deliver an elevated customer experience.

IT'S PERSONAL

YASKAWA

Yaskawa America, Inc. 1-800-YASKAWA | Email: info@yaskawa.com | yaskawa.com
Document No. AR.DRV.190 | © 2025 Yaskawa America, Inc.

RESULTS

The solution delivered measurable improvements across the board. Synchronized PLC and VFD operation enabled tighter process control, faster system response, and simplified diagnostics—all from a central location.

The VFDs enhanced motor control, reduced mechanical stress, and optimized energy usage across key equipment such as conveyors and air dryers. These improvements lowered maintenance needs, increased uptime, and cut operating costs, ultimately boosting productivity and driving long-term profitability across multiple car wash facilities.

KEY FEATURES

- **GA800 Industrial VFD:**
  - Standard control inputs which include eight digital, three analog, two safe torque off, and one pulse input
  - Standard monitor outputs include four digital, two analog, one pulse, and a 24 Vdc supply
  - Stall Prevention & Torque Limit features to manage motor current and machine stress to acceptable levels
  - Capable of controlling various motor types, including induction, permanent magnet (both SPM & IPM), and synchronous reluctance motors
- **GA500 VFD:**
  - Stall prevention to limit current to acceptable levels
  - Overtorque and Undertorque to detect abnormal conditions
  - The GA500 Series VFD allows programming without connecting main power by use of the DriveWizard® Mobile application. Simply plug into one of your PC's USB ports or any USB on-the-go device and start programming
  - Capable of controlling various motor types, including induction, permanent magnet (both SPM & IPM), and synchronous reluctance motors

Looking to maximize profits at your automotive-adjacent business? Contact Yaskawa today.

SCAN HERE

For more information on the GA800 Series VFD visit: www.yaskawa.com/GA800

For more information on the GA500 Series VFD visit: www.yaskawa.com/ga500

IT'S PERSONAL

YASKAWA

Yaskawa America, Inc. 1-800-YASKAWA | Email: info@yaskawa.com | yaskawa.com
Document No. AR.DRV.190 | © 2025 Yaskawa America, Inc.