

SUCCESS STORY

VFD MAXIMIZES PROFIT FOR AUTOMATED CAR WASH

INFORMATION

Industry

Automotive

Application

Car Wash Multi-Axis Panel

Product

Yaskawa GA500 Series VFD

Yaskawa GA800 Industrial VFD



Yaskawa GA500 Series VFDs
reducing utility bills maximizing profit
in competitive car wash applications.

COMPANY HIGHLIGHTS

A company that operates a chain of tunnel-style car wash facilities was in need of equipment upgrades and automation improvements. They turned to a Yaskawa distributor located in their region to update the automation and install new variable frequency drives (VFDs) at several of their car wash facilities.

THE VFD APPLICATION

This type of tunnel car wash works on a conveyor system. A conveyor pulls the vehicle through the tunnel where the various steps of the car wash are performed. All of the components of the car wash, from pre-soak to drying, are contained within the tunnel system.

APPLICATION CHALLENGES

The customer chose a PLC-based (programmable logic controller) system that offers vehicle conveyor synchronization. They selected a PLC and began the job of coordinating operation of the VFDs that control all of the car wash processes, including the synchronized conveyor, various pumps, sprayers, brushes, and dryers.

THE YASKAWA SOLUTION

One solution would have been to pair the PLC with VFDs of the same brand. However, the customer chose Yaskawa **GA500 and GA800 Series VFDs** due to their outstanding ability to manage higher than typical motor starting currents on the high-inertia, large-capacity motor loads.

The soft-start capability of the Yaskawa **GA500 Series VFDs** greatly improves the motor control for the conveyor and the efficiency of all of the pumps, sprayers, and brushes. This saves energy and reduces utility bills for more profit in the competitive car wash market. The Yaskawa **GA800 Industrial VFDs** operate the air dryers that dry the vehicles at the end of the conveyor. All of the GA500 and GA800 drives were easily coordinated by the PLC due to their simple integration using Yaskawa's pre-engineered code. This integration makes it easy to control and troubleshoot each individual drive from a central location further reducing the operating costs of the car wash.

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The conversion utilizes Yaskawa VFDs at several of the customers' car wash facilities. The projects consisted of 38 Yaskawa **GA500 Series VFDs**, with capacities from 3 HP to 25 HP, along with four, 30 HP Yaskawa **GA800 Series VFDs**. The washing facilities with these Yaskawa upgrades continue to maximize profits for the customer today due to the energy savings. These reputable, high-quality Yaskawa products will operate worry-free for years to come.

KEY GA500 FEATURES

The Yaskawa **GA500 Industrial VFD** brings a set of notable advantages:

- 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

KEY GA800 FEATURES

The Yaskawa **GA800 Industrial VFD** brings a set of notable advantages:

- 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

Contact Yaskawa today to learn more about how you can use Yaskawa AC drives to perfect your automotive industry applications!

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