

Car Wash

*The OEM and Installers Guide to Control
Components for Car Washes*



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About c3controls

Since 1976 c3controls (c3controls.com) has provided OEMs and electrical equipment builders a comprehensive portfolio of industrial control products that meet the most demanding applications. By maintaining strict control over the development and manufacturing of all products, c3 can provide customers extraordinary value through unmatched quality, competitive pricing, same-day shipping and a lifetime product warranty. This vertically integrated approach coupled with a direct sales model brings c3 closer to the end-user, fostering a degree of innovation that leads the industry.



Glossary of Terms

- Automatic Car Wash:**
A facility equipped with machinery and technology designed to automatically clean vehicles without manual labor. Common types include In-Bay and Tunnel Wash.
- Control Panel:**
An enclosure with an assembly of switches, indicators and other devices used to operate and monitor electrical equipment.
- Conveyor:**
A motorized track, typically consisting of a series of belts or rollers, that guides a vehicle along a predetermined path to facilitate a consistent and efficient cleaning process.
- Detailing:**
An extensive car care service involving the cleaning and restoration of a vehicle's interior and exterior surfaces to enhance its appearance and condition.
- Dryer:**
A dryer, or air-blower, removes excess water from the vehicle's surface at the end of the wash to leave it clean and streak-free.
- Equipment Room:**
A designated area within a car wash facility that houses tanks, pump stations, motors, control panels and more equipment necessary for car wash operation.
- Friction Wash:**
A wash method in which cleaning is achieved by rotating brushes, cloths or other physical elements touching the vehicle.
- Full-Service Wash:**
A comprehensive cleaning in which service staff execute an automatic or manual exterior wash along with an interior cleaning.
- In-Bay Wash:**
A facility where vehicles remain stationary in a designated wash bay while an automatic or manual wash takes place.
- Motor Starter:**
An device that controls the activation and operation of electric motors, initiating their function and ensuring safety and efficiency.
- Pump Station:**
A station, typically equipped with pumps, valves and controls, that is responsible for supplying water and cleaning solutions to the car wash while regulating flow and pressure.

- Rotating Brush:**
A tool attached to rotating machinery that physically scrubs and cleans the vehicle's surface with bristles or soft material.
- Safety System:**
A set of controls such as sensors, breakers and emergency stop buttons that ensure safe operation in a car wash facility.
- Service Station:**
An area at the beginning of a car wash in which a customer can select service and make payment to initiate the washing process.
- Signal Light:**
A visual indicator used in car wash facilities to communicate instructions or status updates to drivers during the washing process.
- Sprayer:**
A device that sprays cleaning solutions, water or wax onto the vehicle's surface.
- Touchless Wash:**
A wash method in which cleaning is achieved by high pressure sprayers and dryers so that no contact with the car is made.
- Tunnel Wash:**
A type of automatic car wash in which a conveyor moves vehicles through a tunnel-like structure with automated cleaning equipment.
- Water Reclamation System:**
An eco-friendly car wash feature that recycles and filters used water from the washing process, removing contaminants and impurities to make water suitable for reuse.

Car Wash Overview

Car washes play a vital role in maintaining the appearance and lifespan of vehicles. These establishments offer a diverse range of services, such as conveyor-based tunnel washes, in-bay automatic systems and self-service options. The overall industry is experiencing a surge in demand, driven by factors including increasing car ownership, busy lifestyles and new technologies such as touchless wash and water recycling systems.

However, competition in the industry remains fierce, holding new-age car washes to a higher standard. Businesses are expected to improve safety and sustainability while simultaneously improving the customer experience. This must also be accomplished in a way that yields higher profitability for all members of the car wash supply chain. Thus, OEMs must select cost-effective controls that uphold the highest standards of reliability, safety and sustainability.

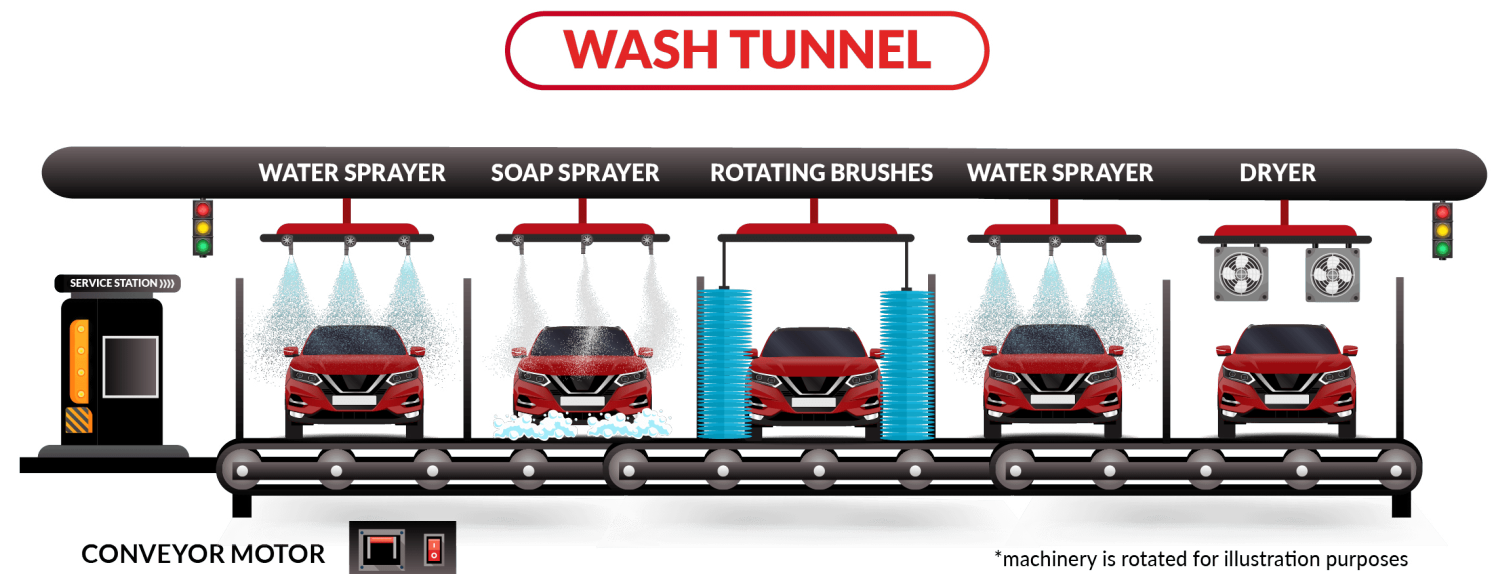
That’s where c3controls comes in, it’s what we do. For almost 50 years, c3controls has specialized in manufacturing high-quality electrical controls required in car washes. Vertical integration allows us to operate more efficiently and respond to market conditions quicker. That means lightning quick delivery for control products supporting:

- Pump Stations
- Conveyors
- Visual Indication
- & more!

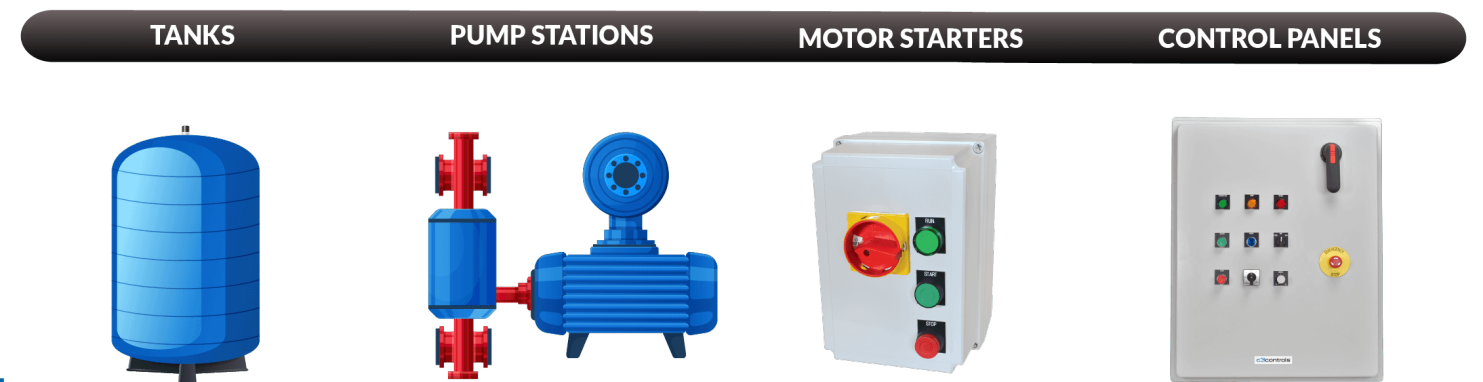
With over seventeen million product configurations and a complete UL508A panel shop, c3controls stands ready to help you capitalize on every car wash opportunity! Contact us today and discover how we can wash away your control headaches.

Car Wash Isometric

Here’s an example of the components that make up an automatic car wash tunnel operation:



EQUIPMENT ROOM

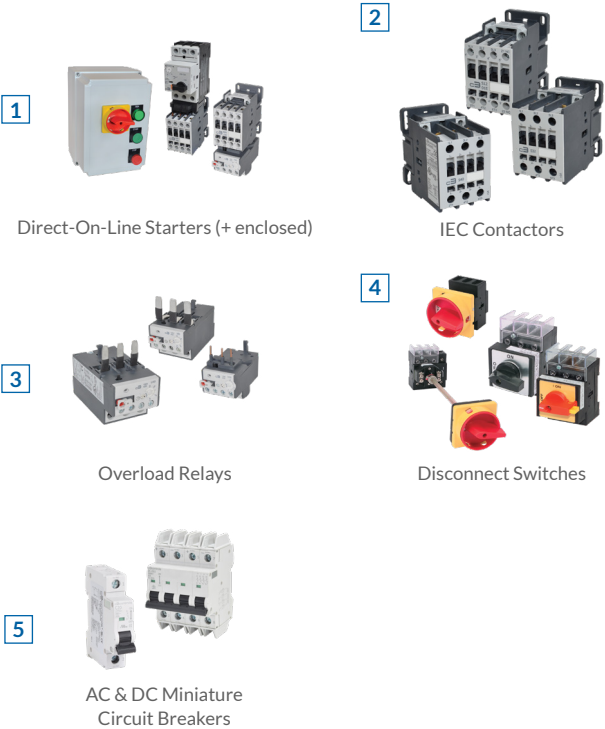


-Car Wash Products

c3controls can support all key function areas in your car wash

Power & Actuation

Disconnect, control, and/or protect a circuit from a ground fault, short-circuit, or overload current.



Control Logic

Devices that control other products in a control circuit in a logical sequence or based on a defined period of time.



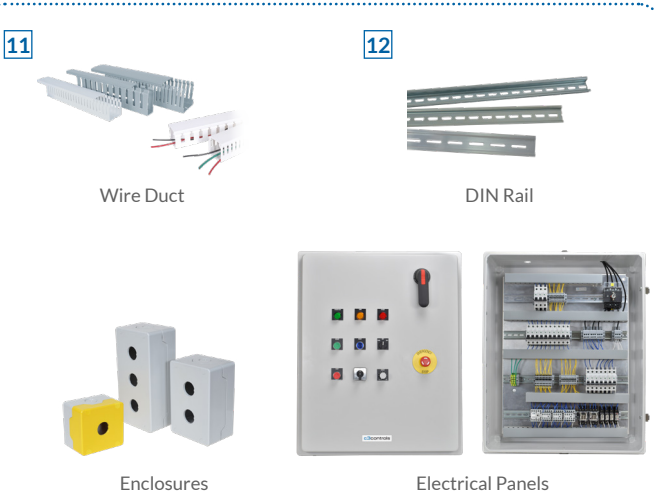
Human Machine Interface

Actuated by a person to direct the operation of another device and/or indicate the status of an operating system.



Panel Solutions

Support and protect electrical components that control and monitor a number of mechanical processes.



1		Direct-On-Line Starters (+enclosed)	Open-style starters consist of either a Contactor & Overload Relay, or a Motor Protection Circuit Breaker & Contactor	Enclosed starters come pre-wired with a variety of pilot device options	Factory assemblies provide the convenience of a single catalog number and shorter control panel bill of material	
2		IEC Contactors	9to105Amps	100kA SCCR @ 480V and 600V with Class J fuses	AC and DC - electronic coil control on DC devices	Integral auxiliary Up to 75 HP @ 400V (55kW @ 400V)
3		Bimetallic Overload Relays	Current Adjustment Range of 0.28 - 112 Amps	FLC ratio of 1:1.5	100kA SCCR @ 480V and 600V with Class J fuse	Trip Class 10 Single phase sensitivity
4		Disconnect Switches (+ Enclosed)	Door mount, panel-base mount, and panel mount with integral operator	Certified for use in Manual Motor Controller applications suitable as Motor Disconnects	16 - 125 Amps in 3, 4, and 5 pole configurations	Variety of operating handle styles and colors rated for Type 1, 2, 3, 3R, 4/4X, 12, and 13, IP55 and IP65 ABS plastic, polycarbonate, and carbon steel enclosures with Type 1, 4X, 12, 13 and IP65 ratings
5		AC & DC Miniature Circuit Breakers	UL489 & UL1077 in 1, 2, and 3 pole configurations. Rated 60Vdc single pole and 125Vdc two pole	UL489B (DC) in 1, 2, 3 and 4 pole configurations. Rated 250Vdc per pole for up to 1000Vdc	Compact 17.5mm per pole construction with both thermal and magnetic trip elements	Operating current configurations from 0.5 to 63 Amps 10kA SCCR on all constructions
6		Pilot Devices	Modular range of 30mm, 22mm, 16mm, and 13mm	Type 1, 2, 3, 3R, 4/4X, 12, and 13	Non-Illuminated, Illuminated and Keyed Operators in both maintained and momentary operations	Color-coded, snap-on contact blocks with angled captive screws and pressure plates Full voltage, multi-voltage, resistor, and dual input light units in a wide range of voltages up to 600Vac/Vdc
7		Control Stations (+ E-Stops and Alarm Silence Stations)	Screw Clamp, Spring Clamp, and Miniature	5mm - 25mm widths	25 - 230 Amps	Feed Through, Ground, Multi-Conductor, Double & Triple Level, Fuse Holder, Power Distribution, and more DIN Rail mounting; snap-on, snap-off assembly
8		World Tower Lights	Stackable design for up to 5 modules in a single assembly	Mounting options in three styles: 50mm direct mount, 50mm panel-mount short base, and 50mm panel-mount tall base	Voltage options available in 24V AC/DC, 120V AC, and 240V AC	Three styles of illumination: continuous, flashing and rotary Continuous or intermittent sound modules with 80dB or 100dB sound output
9		Industrial Power Supplies	Leading 93% efficiency	Adjustable voltage options in 12, 24, and 48V	Output power range from 60W to 480W	DC OK relay contacts are standard on 240W and 480W Compact design - 43mm wide, up to 60mm
10		IEC Terminal Blocks	Screw Clamp, Spring Clamp, and Miniature	5mm - 25mm widths	25 - 230 Amps	Feed Through, Ground, Multi-Conductor, Double & Triple Level, Fuse Holder, Power Distribution, and more DIN Rail mounting; snap-on, snap-off assembly
11		Wire / Cable Duct	13 Selectable dimensions from 25mm wide up to 80mm, and up to 2m in length	Narrow and Wide Slot	Rigid "U" shaped duct with non-slip-cover in gray or white	Optional adhesive backing DIN Rail mounting; snap-on, snap-off assembly
12		DIN Rail	35mm rails in steel and aluminum	1m (3.28ft) or 2m (6.56ft) lengths	Each simply fasten by screws to the mounting surface	Standard package quantities, or pallet options available

For illustration purposes only. Other c3controls solutions may be applicable depending on your application design requirements.

Product Portfolio

Our 17 million+ product configurations deliver durability and reliability—even in the most punishing environments—meeting and exceeding global standards for quality and safety.

 <p>DISCONNECT SWITCHES</p>	 <p>ENCLOSED DISCONNECT SWITCHES</p>	 <p>MINIATURE CIRCUIT BREAKERS</p>	 <p>CONTACTORS & CONTROL RELAYS</p>
 <p>OVERLOAD RELAYS</p>	 <p>DIRECT-ON-LINE STARTERS CONTACTOR + OVERLOAD RELAY</p>	 <p>ENCLOSED DIRECT-ON-LINE STARTERS CONTACTOR + OVERLOAD RELAY</p>	 <p>MOTOR PROTECTION CIRCUIT BREAKERS</p>
 <p>ENCLOSED MOTOR PROTECTION CIRCUIT BREAKERS</p>	 <p>DIRECT-ON-LINE STARTERS MOTOR PROTECTION CIRCUIT BREAKER + CONTACTOR</p>	 <p>ENCLOSED DIRECT-ON-LINE STARTERS MOTOR PROTECTION CIRCUIT BREAKER + CONTACTOR</p>	 <p>30MM INDUSTRIAL PILOT DEVICES</p>
 <p>30MM PILOT DEVICES FOR HAZARDOUS LOCATION</p>	 <p>22MM IEC PILOT DEVICES</p>	 <p>WORLD TOWER LIGHTS</p>	 <p>CAM SWITCHES</p>
 <p>22MM NEMA PILOT DEVICES</p>	 <p>16MM PILOT LIGHTS</p>	 <p>13MM PILOT LIGHTS</p>	 <p>CONTROL STATION ENCLOSURES</p>
 <p>ENCLOSED UL508A COMBINATION MOTOR STARTERS</p>	 <p>ENCLOSED POWER SUPPLIES</p>	 <p>INDUSTRIAL POWER SUPPLIES</p>	 <p>TERMINAL BLOCKS</p>
 <p>TERMINAL BLOCK RELAYS</p>	 <p>ELECTRONIC TIMING RELAYS</p>	 <p>GENERAL PURPOSE RELAYS</p>	 <p>WIRING DUCT</p>

White Papers

Product professionals AND subject experts!
Check out c3controls' extensive library of white papers:



INDUSTRIAL CONTROL BASICS:
Part 2 - Overload Relays

Overload Relays: Types & Tripping & What is Overload Protection?

Find out how you can protect your motor from a current overload by using an overload relay. Also learn about the different types and their trip classes.

[READ WHITEPAPER](#)




INDUSTRIAL CONTROL BASICS:
Part 3 - Starters

Industrial Control Basics: Motor Control Starters & Magnetic Motor Starter

Don't know which type of motor starter to use? Find out the five basic types of starters, their standards, ratings, and main functions..

[READ WHITEPAPER](#)




Replacing VFDs with Motor Starters

Replacing VFDs with Motor Starters

Unable to source variable frequency drives (VFDs) and soft starters due to the shortages of raw materials? You have a variety of choices when selecting an electric motor starter. Download our paper to see how you might be able to use standard motor control in place of a VFD.

[READ WHITEPAPER](#)



PANEL ESSENTIALS 3:
UL508A Control Panel Design Considerations

Panel Essentials Series 3: UL508A Control Panel Design Considerations

Find out the basic design considerations you need to know when building a UL 508A panel.

[READ WHITEPAPER](#)




Pump Control (Water/ Wastewater/ Irrigation)

Pump Control

Each application to control a pump is unique. Click here for the types of control methods and what to consider when selecting pump control

[READ WHITEPAPER](#)



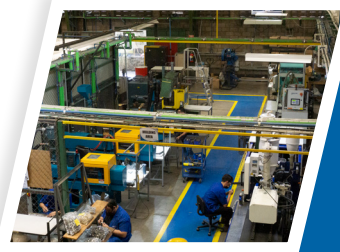
EV Charging Guide

EV Charging Guide

Charging your electric vehicle is super easy with this complete step-by-step guide that covers all key things related to electric vehicle charging. Learn the basics, including what you should know before you charge and which chargers work with your type of car.

[READ WHITEPAPER](#)

Why choose c3controls



Integrated Manufacturing

Vertical integration is the cornerstone of c3controls as it places innovation, development, design, manufacturing, testing, and shipping all within our control. With Everything Under Control, we can ensure the highest quality and customer satisfaction.

Innovation

Product innovation is in our DNA. We approach our products as solutions. Unlike our competition, our business model allows us to provide customers with premium controls without the premium price.



Same-Day Shipping

Reduce inventory. Improve cash-flow. Save money. Our customers enjoy peace of mind knowing they'll get what they need, when they need it. Our promise, guaranteed!

Limited Lifetime Warranty

With total control over engineering and manufacturing, we are able to guarantee the highest quality products on the market—products free of defects in material, workmanship, and design.



Advantage Pricing

Total control means lower overhead and direct sales. For our customers, this translates to savings of up to 40+% on c3controls premium products.

Customer First

Commitment to the success of our customers is a core value and the driving force behind all we do. We promise concierge style service that makes doing business easy, personalized, and responsive.



- Notes

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c3controls®
Everything under control.