



**Express Bay  
Controller**

**Tech Guide**

# WASHLINK SYSTEMS

## Express Bay Controller

This document provides comprehensive information for using the Express Bay Controller (EBC).

The EXB gives the ability to add pre and post functions to a rollover/automatic car wash. Functions are controlled by package and photo eyes (or any input device)

When emailing or calling for assistance, you must have the following information available:

Location Name: \_\_\_\_\_

Contact Person: \_\_\_\_\_

Contact Phone: \_\_\_\_\_

Distributor Name: \_\_\_\_\_

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## 1 Features

### Features of Washlink Systems Express Bay Controller:

The ability to assign functions to packages

Entrance & Exit door control with thermostat input

Easy installation

Individual function fuse protection with blown fuse indicator.

Isolation relays on all outputs.

Built in counters for each input.

Built in counters for each output.

Industry proven components from Siemens Worldwide.

Corrosion proof non-metallic enclosure.

Works on ALL brands of car wash equipment and tunnel controllers.

UL Listed and CE compliant.

## 2 Installation





The Washlink Systems EBC should be mounted securely to a stable and permanent wall. Choose a location in the equipment room that is easily accessible and provides protection from the elements.

### 2.1 Power Requirements

The Washlink Systems EBC requires 110-230vac (15A max) branch circuit protection for PLC and Output Relay Switched power.

These power circuits is provided by the customer.



These circuits should be connected to **Fuse 101 PLC & Fuse 103 AUX.**

	<b>Warning:</b> All electrical work should be performed by a qualified and licensed electrician. All electrical work should meet or exceed National and Local codes and ordinances.
	<b>Warning:</b> Risk of electrical shock. More than one disconnect may be required to be de-energized before servicing equipment.
	<b>Warning:</b> To reduce the risk of fire, connect only to a 110-230vac circuit provided with 15a maximum branch circuit protection in accordance with the NEC, ANSI/NFPA 70 and local codes.
	<b>Warning:</b> Bonding between conduit connection is not automatic and must be provided as part of the installation.

### 2.2 Inputs

The EBC Input power is supplied by the PLC.

All inputs are 24vdc normally open.

	<b>Warning:</b> All Inputs are 24vdc. Any other voltage will damage the Controller and void warranty.
	<b>Note:</b> An interface relay may be needed to give the correct input contact type

### 2.3 Outputs

Each of the EBC outputs have a double pole double throw isolation relay.

Each output relay has a test button as well as a manual override switch.

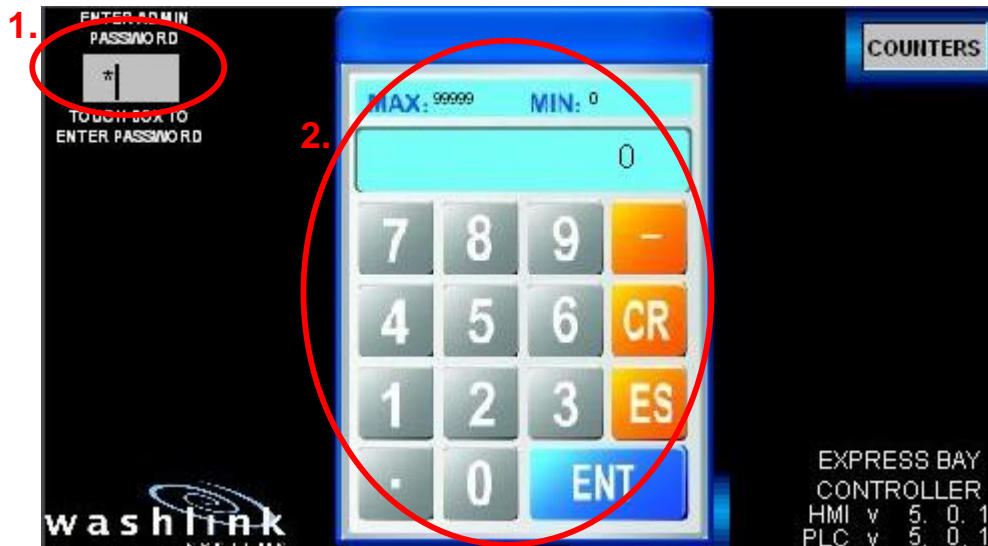
The green indicator light on each relay will be illuminated when coil power is present.

Each Output has 24vac and 120vac pre wired to fuses.

The devices to be wired to each relay are the responsibility of the customer.

### 3 Programming

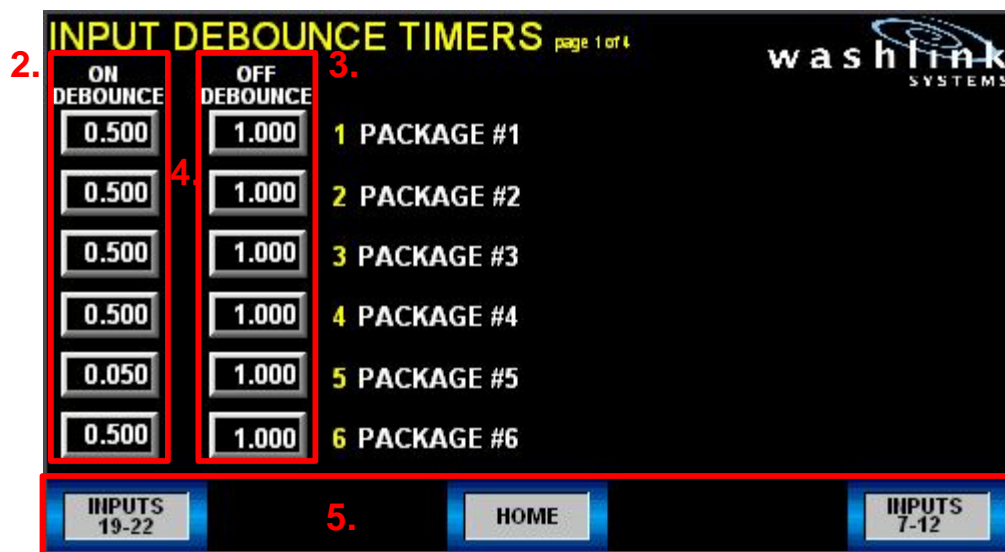
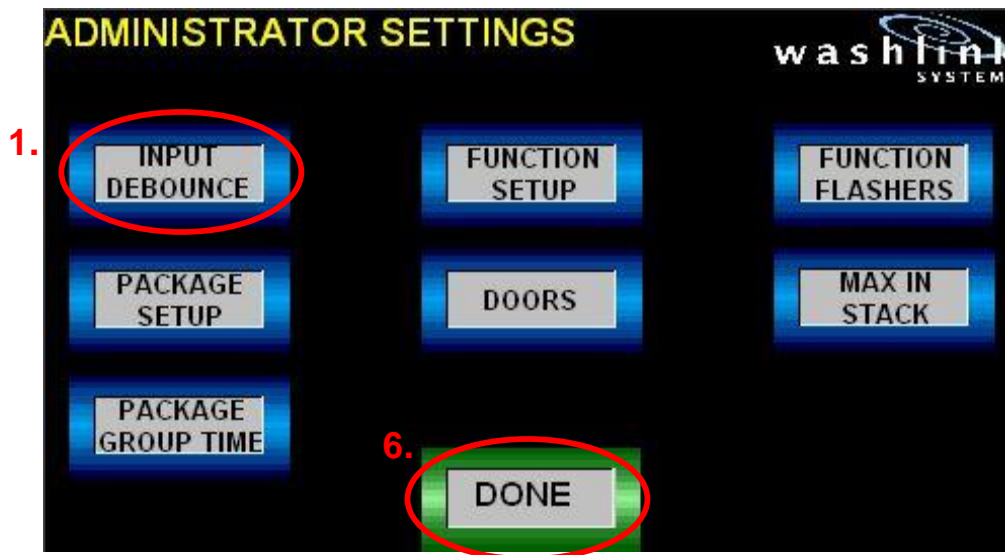
#### 3.1 Administrator Settings



1. From the HOME screen, press the password box.
2. Enter the Admin password and press ENT (default is 95125).
3. The ADMIN SETTINGS button will now appear, press it.
4. You will now have access to the Admin Settings (see following pages)

### 3 Programming

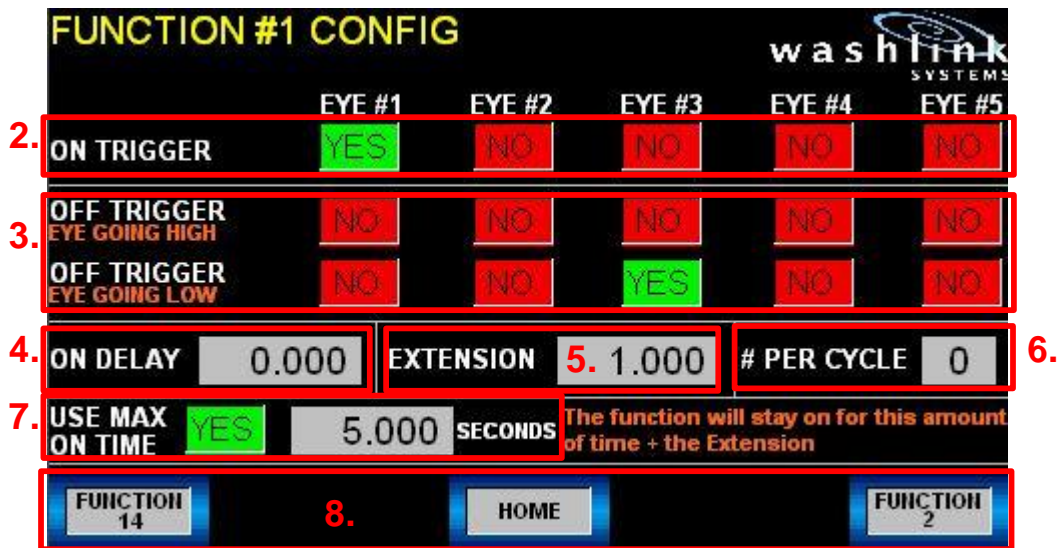
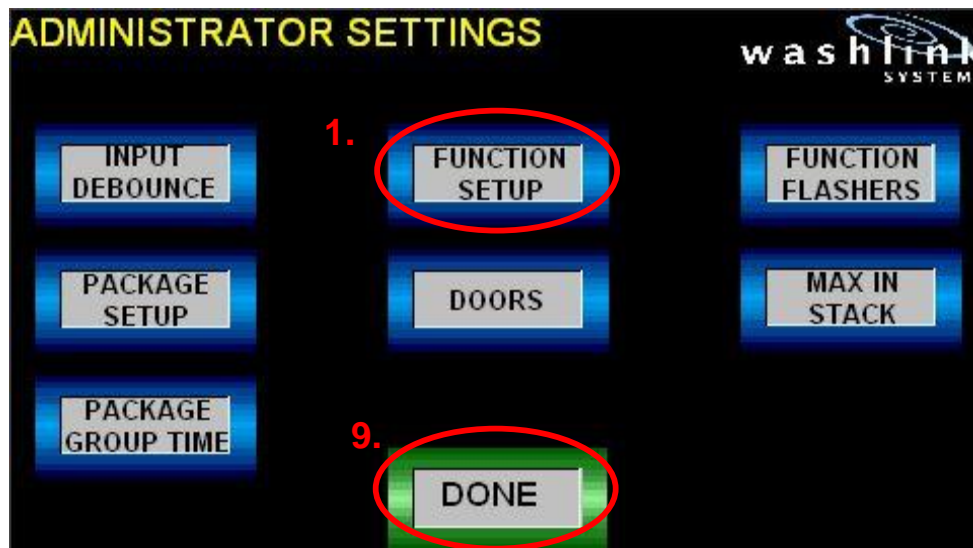
#### 3.2 Input Debounce



1. From the Administrator Settings page, press INPUT DEBOUNCE.
2. On Debounce, this delays by the amount of time in seconds, until the controller reacts to the input.
3. Off Debounce, this extends the amount of time in seconds the controller thinks the input is activated.
4. On & Off Debounce values in xx.xxx seconds.
5. Press to go to other inputs to adjust or press HOME when finished.
6. Press DONE when finished.

### 3 Programming

#### 3.3 Function Setup

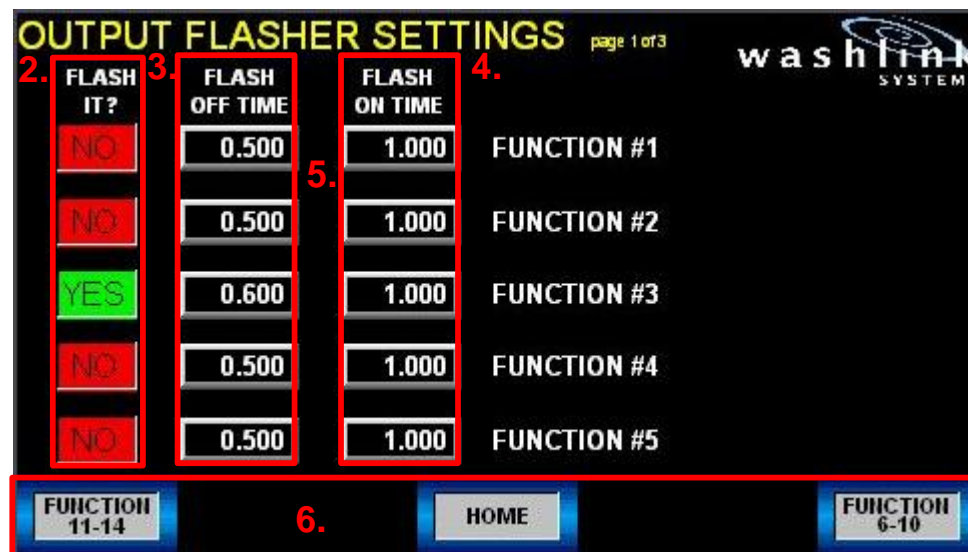
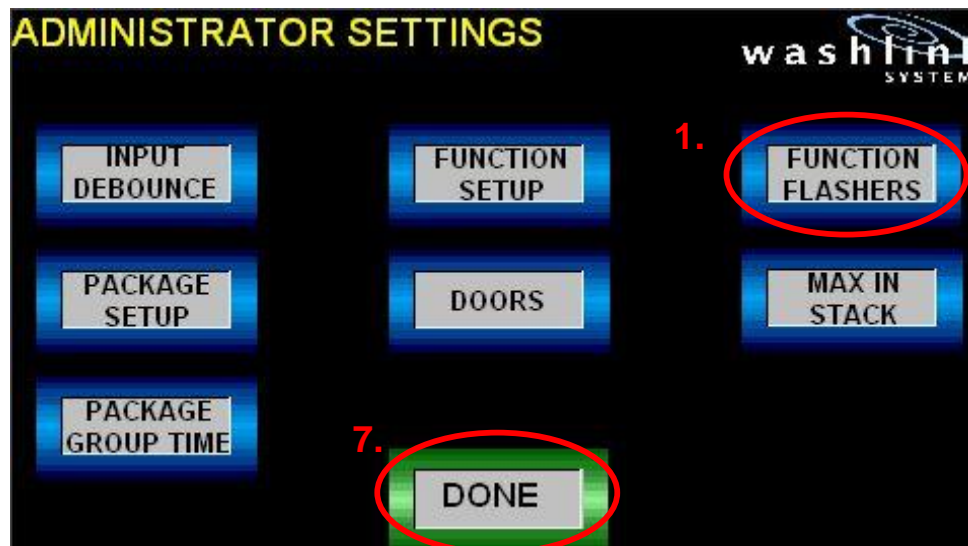


1. From the Administrator Settings page, press **FUNCTION SETUP**.
2. On Trigger, turn on function based on this eye.
3. Off Trigger, turn off function based on this eye.
4. On Delay, time after on trigger eye is high before function will turn on.
5. Extension, amount of time after the off trigger before function will turn off.
6. # Per Cycle, number of times to allow function to work (if a tire eye, set to 2).
7. Use a Max amount of time to be on, if yes set a value.
8. Press to go to other inputs to adjust or press **HOME** when finished.
9. Press **DONE** when finished.



### 3 Programming

#### 3.4 Function Flashers

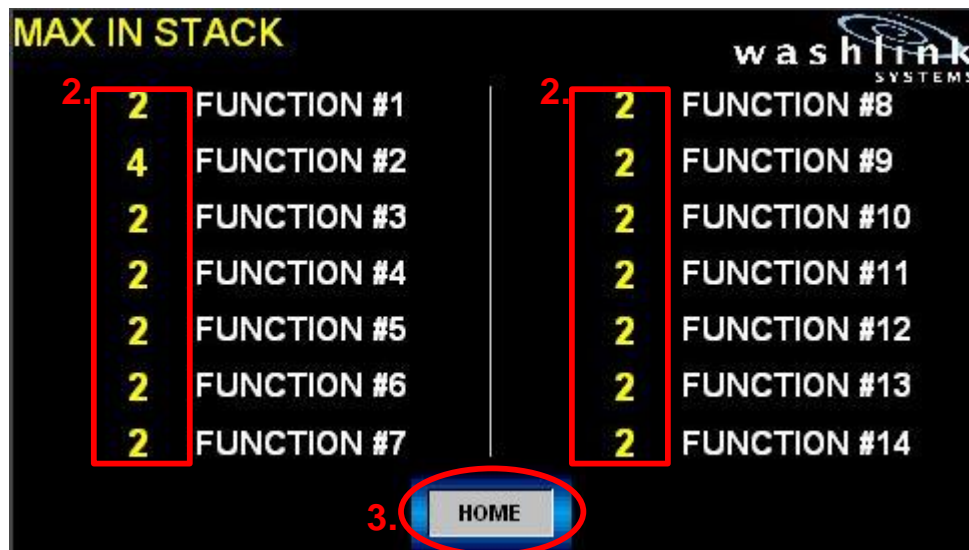
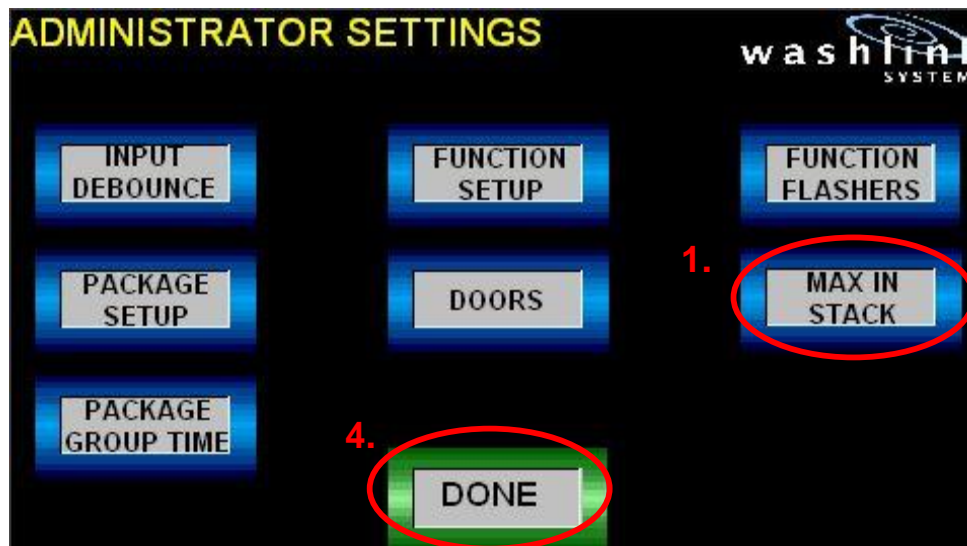


1. From the Administrator Settings page, press FUNCTION FLASHERS.
2. Flash It, do you want this function to flash NO or YES.
3. Flash Off Time, the amount of time the flasher is off between on cycles.
4. Flash On Time, the amount of time the flasher is on between on cycles.
5. Off & On Time values in xx.xxx seconds.
6. Press to go to other inputs to adjust or press HOME when finished.
7. Press DONE when finished.



### 3 Programming

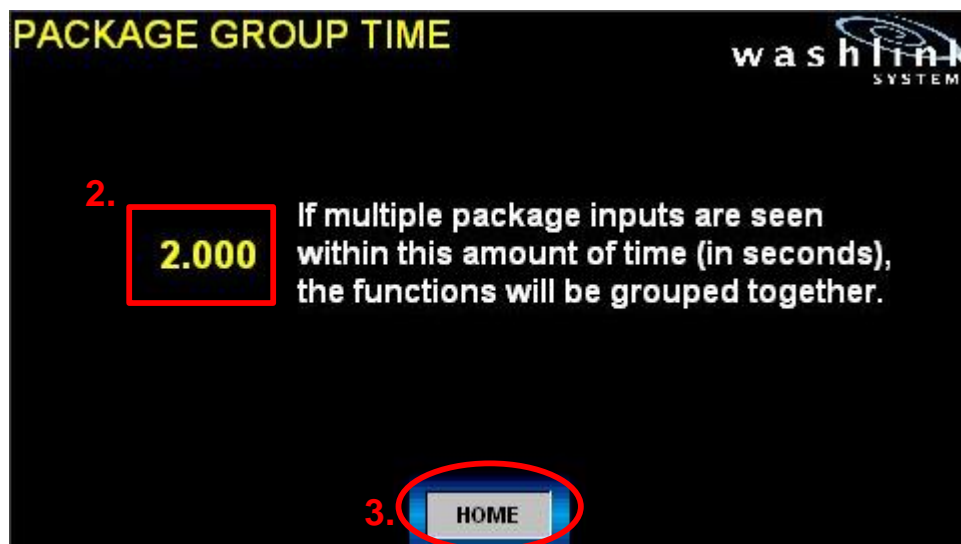
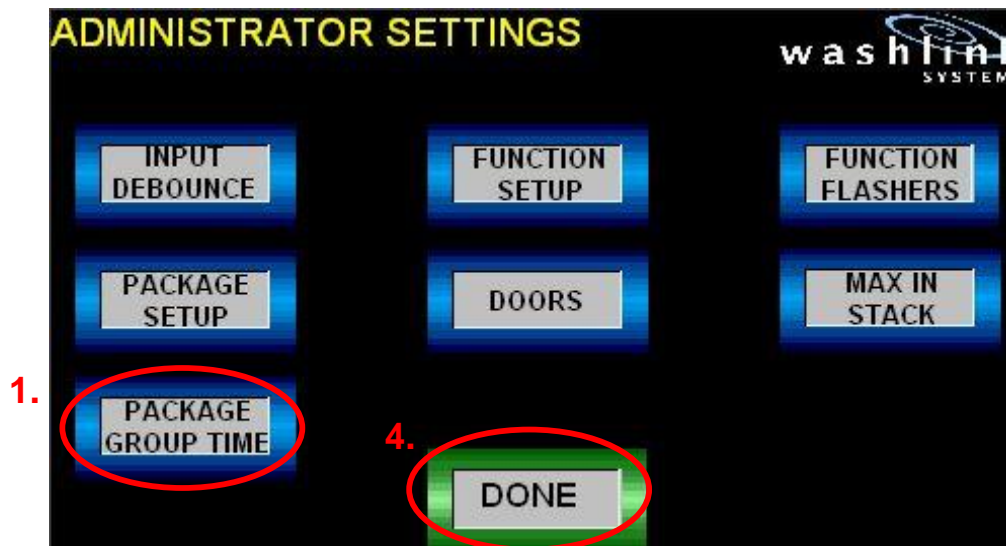
#### 3.6 Max in stack



1. From the Administrator Settings page, press MAX IN STACK.
2. This number represents the max number of times the function can be stacked, to change tap number and enter new value
3. Press HOME when finished.
4. Press DONE when finished.

### 3 Programming

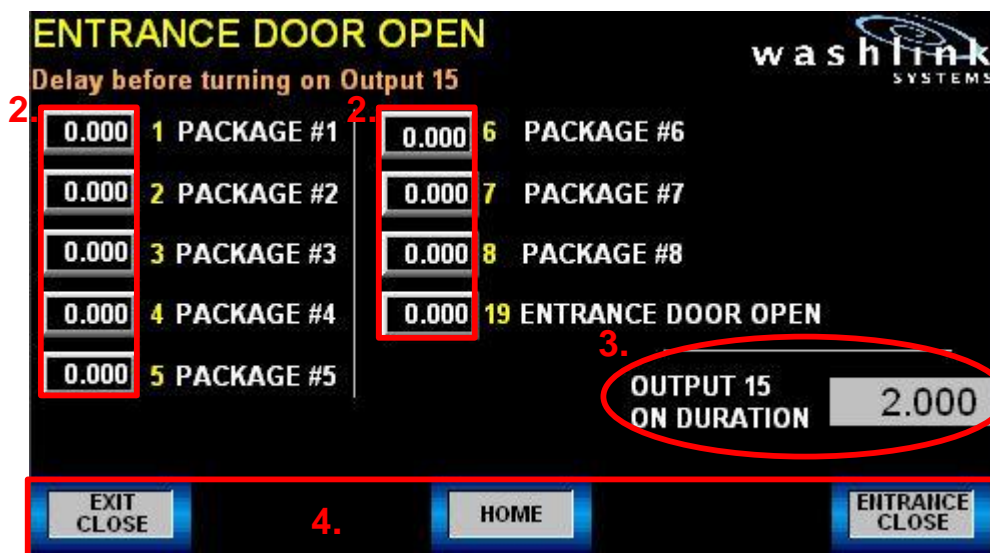
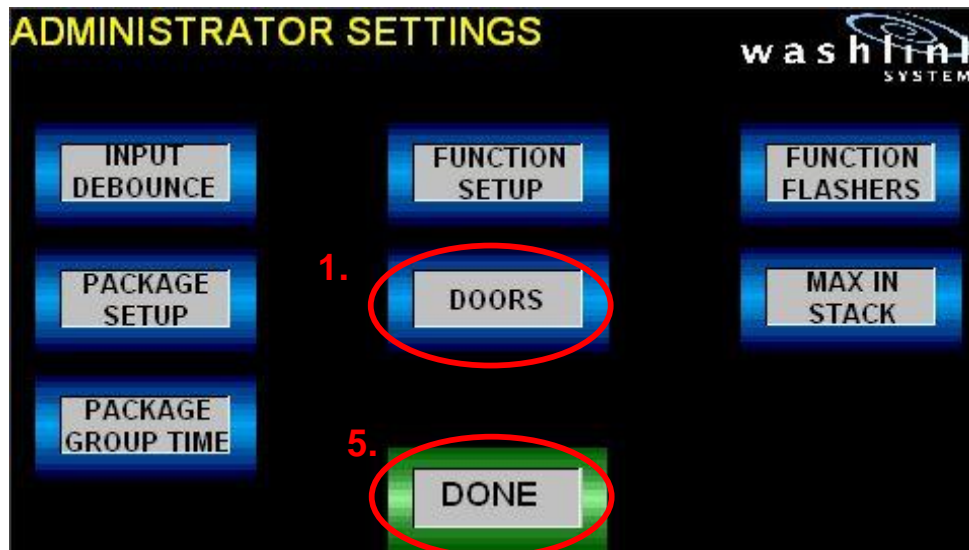
#### 3.7 Package Group Time



1. From the Administrator Settings page, press MAX IN STACK.
2. This value is a delay that will allow multiple package inputs to be used on the same vehicle, when more than one package inputs are seen within this amount of time, it will combine the functions together for the vehicle.
3. Press HOME when finished.
4. Press DONE when finished.

### 3 Programming

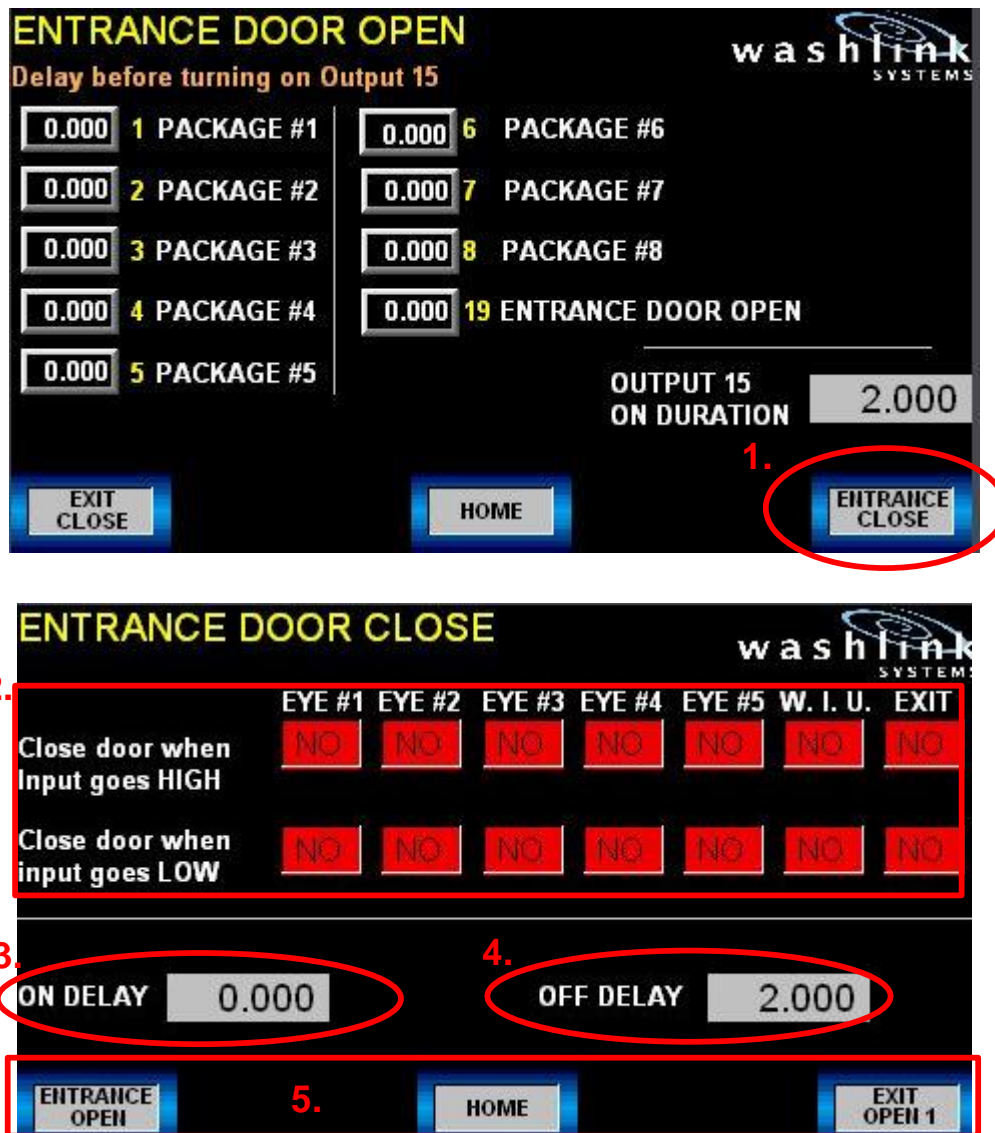
#### 3.8 Entrance Door Open Control



1. From the Administrator Settings page, press DOORS.
2. Delay time in seconds after the input goes high before turning on the open entrance door relay 15.
3. Amount of time in seconds the open entrance door relay 15 is on for.
4. Press to go to other door settings or press HOME when finished.
5. Press DONE when finished.

### 3 Programming

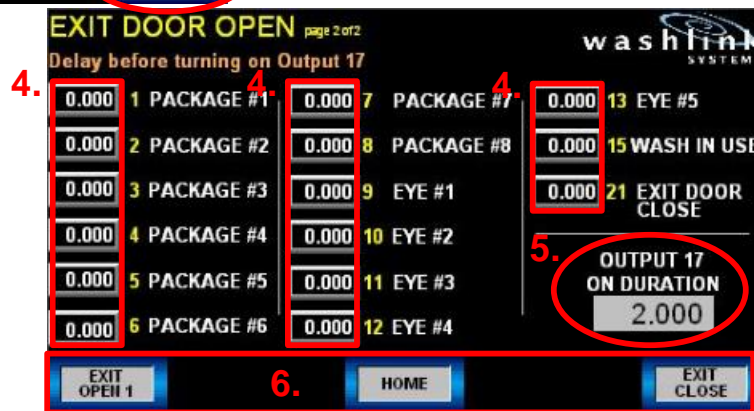
#### 3.9 Entrance Door Close Control



1. From the Entrance Door Open page, press ENTRANCE CLOSE.
2. Chose what photo eye, wash in use or exit eye input you want to use to activate the close entrance door close relay 16.
3. Amount of time in seconds to delay activating relay 16 after your activation input has gone high or low.
4. Time in seconds to keep the entrance door close relay 16 turned on for.
5. Press to go to other door settings or press HOME when finished.

### 3 Programming

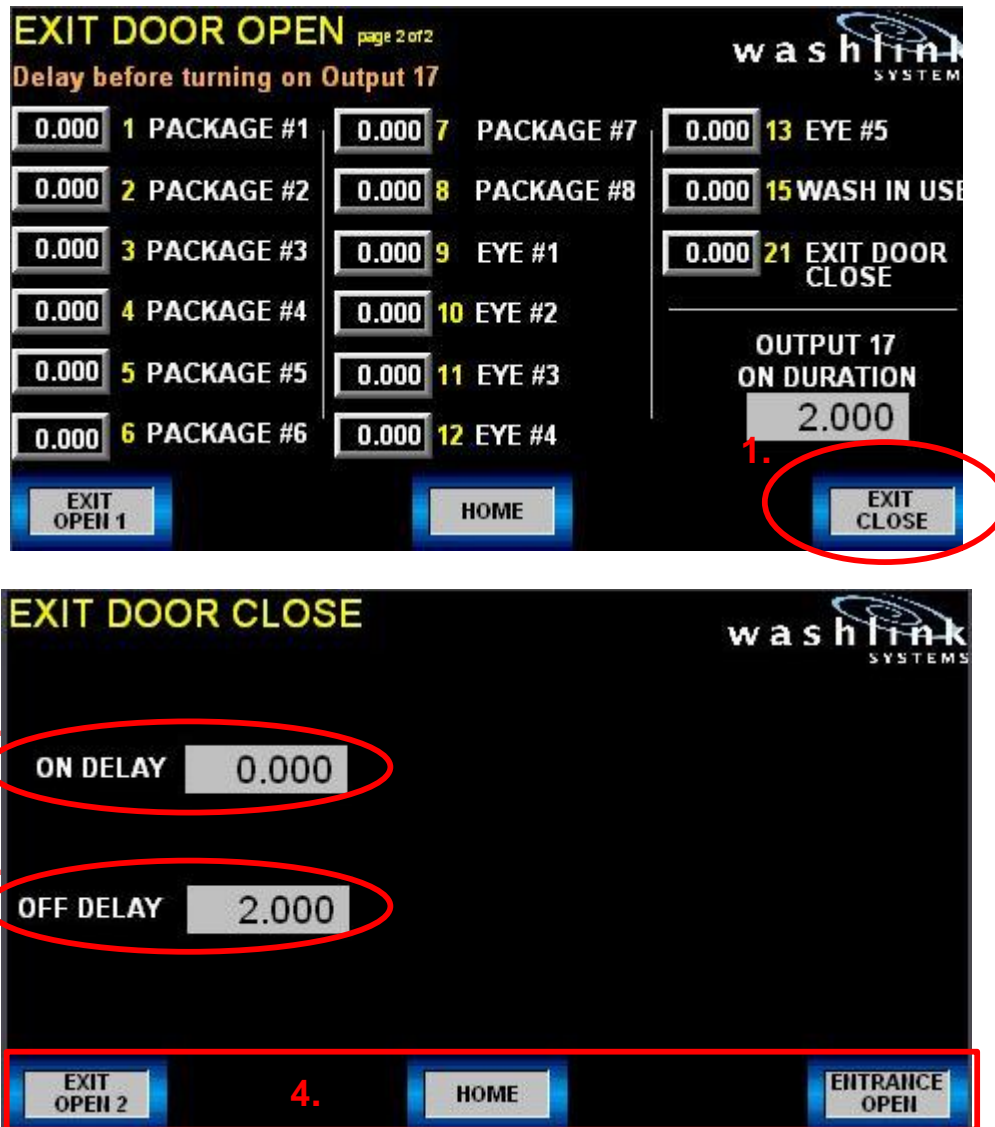
#### 3.10 Exit Door Open Control



1. From the Entrance Door Close page, press EXIT OPEN 1.
2. Chose what input you want to use to activate the open exit door relay 17.
3. Press EXIT OPEN 2 .
4. Enter a Delay in seconds to wait after the inputs that are selected to open the exit door relay 17.
5. Time in seconds to keep Exit Door Open relay 17 turned on for.
6. Press to go to other door settings or press HOME when finished.

### 3 Programming

#### 3.11 Exit Door Close Control

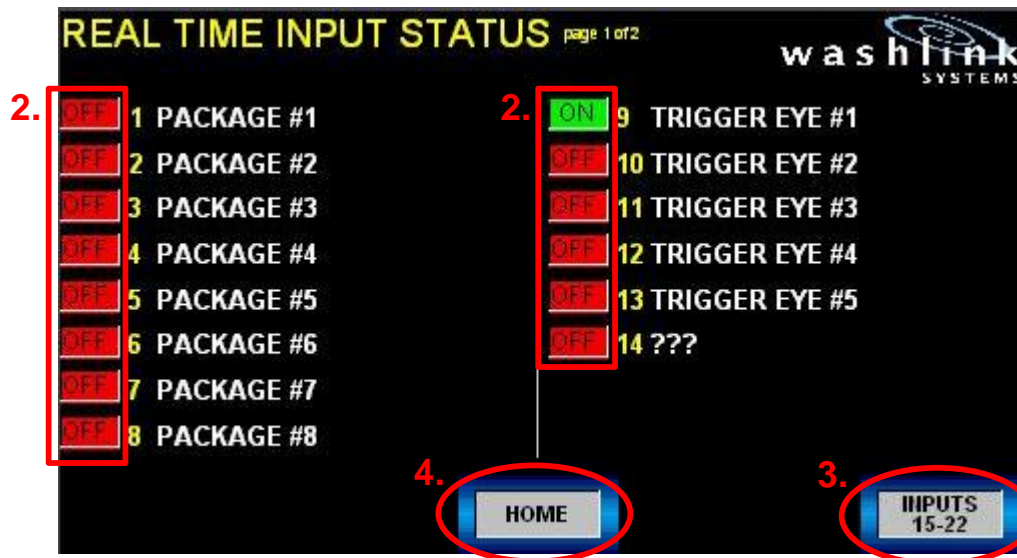
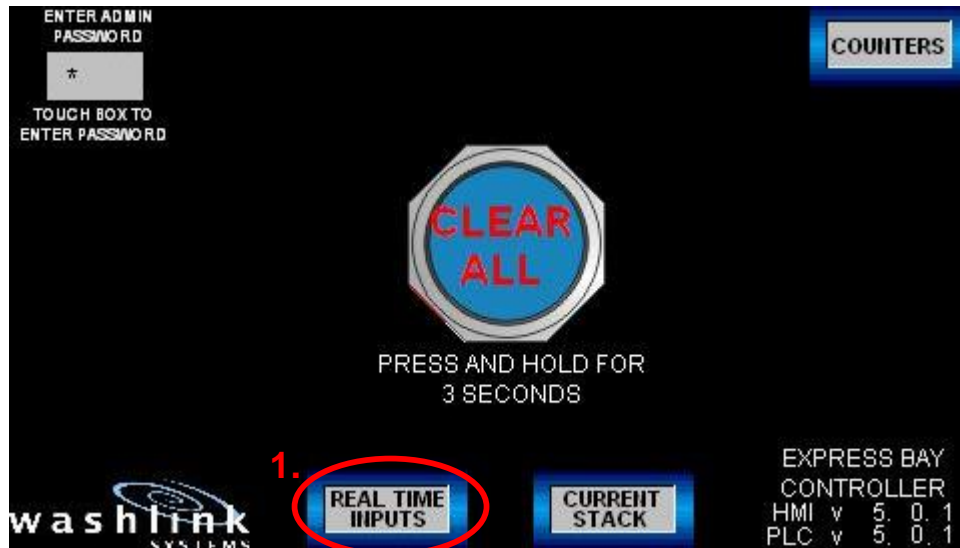


1. From the Exit Door Open 2 page, press EXIT CLOSE.
2. Amount of time in seconds you want to delay after exit eye goes low before turning on the close exit door close relay 18.
3. Time in seconds to keep the exit door close relay 18 turned on for.
4. Press to go to other door settings or press HOME when finished.



## 4 Real Time Input Status

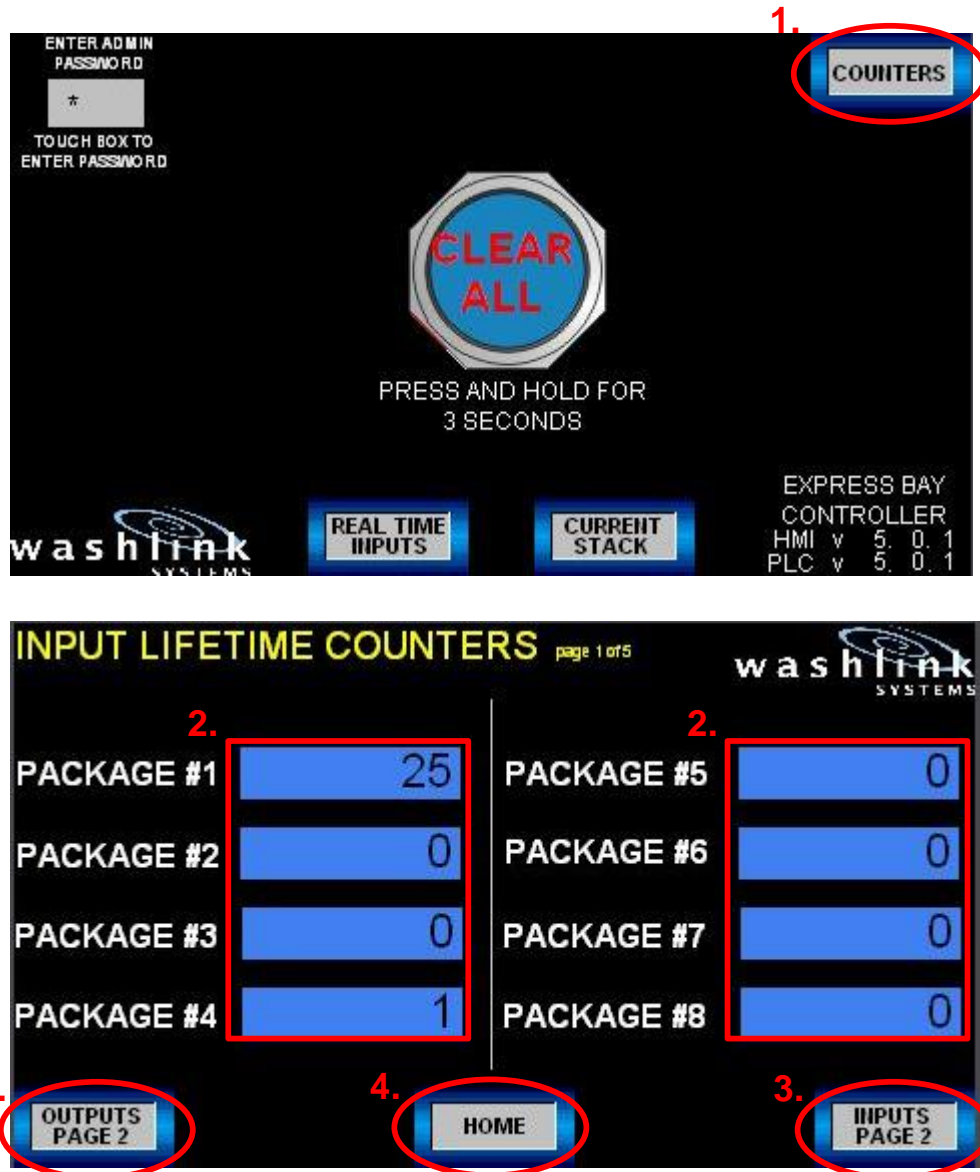
### 4.1 Real Time Input Status



1. Press the REAL TIME INPUTS button from the HOME screen
2. OFF = Input low, ON = Input high.
3. To view more inputs, press this button.
4. When finished, press HOME.

## 5 Counters

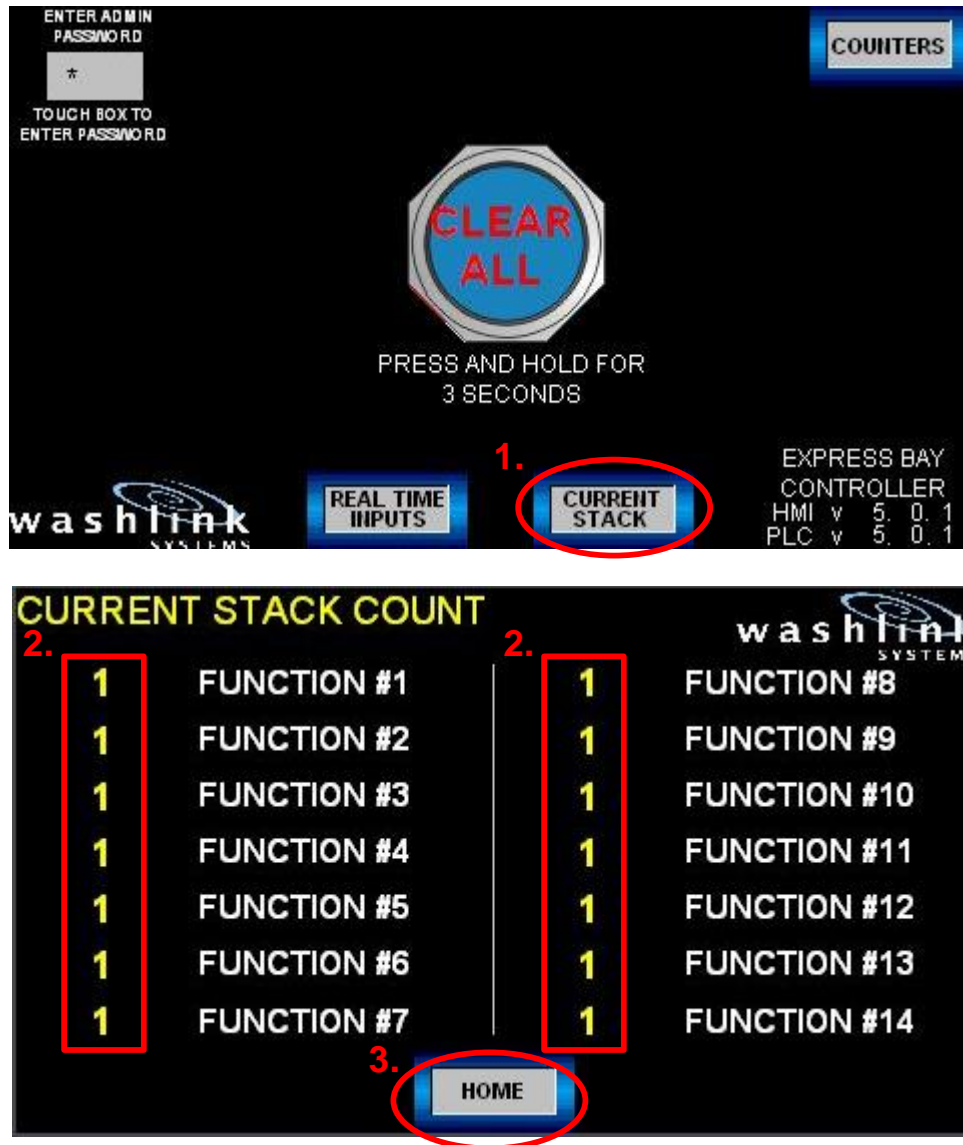
### 5.1 Counters



1. Press the COUNTERS button from the HOME screen
2. Input or Output lifetime counts.
3. To view more counters, press one of these buttons.
4. When finished, press HOME.

## 5 Counters

### 5.1 Counters



1. Press the **CURRENT STACK** button from the **HOME** screen
2. Value represents number in the stack for each function
3. When finished, press **HOME**.

## 6 Clear All

### 6.1 Clear All



- 1. From the HOME screen, if this button is pressed and held for 3 or more seconds, all functions will be cleared.**

**NOTE: if a car is getting a function when pressed, the function will turn off!**

---

## 7 Panel Build Information

The next pages show panel build information, they will show the following;

- PLC internal wiring
- Expansion module internal wiring
- Ethernet module
- Inside layout

PAGE	DESCRIPTION
0	COVER SHEET
1	PLC WIRING
2	EXPANSION MODULE 1 WIRING
3	ETHERNET SWITCH
4	PANEL LAYOUT
5	
6	
7	
8	

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**NOTES:**

1. STANDARD SUPPLY VOLTAGE IS 120VAC 60Hz. OPTIONAL INTERNATIONAL VOLTAGE KIT AT 220VAC 50Hz IS AVAILABLE UPON REQUEST.
2. WASHLINK SYSTEMS RECOMMENDS INDIVIDUAL HOUSE PANEL CIRCUIT. (120VAC 15A or 220VAC 10A MAXIMUM.)
3. CIRCUIT CONFIGURED TO CUSTOMER'S VOLTAGE REQUIREMENTS. VERIFY VOLTAGE PRIOR TO STARTUP OF EQUIPMENT. (IF 24VDC, NO FUSING IS PROVIDED.)
4. ILLUMINATED LED INDICATES BLOWN FUSE.
5. WASHLINK SYSTEMS RECOMMENDS AWG 18 STRANDED COPPER WIRE FOR CIRCUITS LESS THAN 200 FEET.
6. GROUNDING OF 24VAC NEUTRAL AT TRANSFORMER ENSURES PROPER CIRCUIT ISOLATION.
7. TO AVOID RISK OF FIRE AND INJURY REPLACE ONLY WITH MANUFACTURER'S ORIGINAL RATED FUSE.
- 8.
9. CUSTOMER SUPPLIED HARDWARE.



**ALL ELECTRICAL WORK SHOULD BE PERFORMED BY A QUALIFIED AND LICENSED ELECTRICIAN.  
ALL ELECTRICAL WORK SHOULD MEET OR EXCEED NATIONAL AND LOCAL CODES AND ORDINANCES.**



**CAUTION! RISK OF ELECTRICAL SHOCK. MORE THAN ONE DISCONNECT MAY BE REQUIRED TO BE DE-ENERGIZED BEFORE SERVICING THE EQUIPMENT.**



**CAUTION! TO REDUCE THE RISK OF FIRE, ONLY CONNECT TO A 120VAC CIRCUIT PROVIDED WITH 15A MAXIMUM BRANCH CIRCUIT PROTECTION IN ACCORDANCE WITH THE NEC, ANSI/NFPA 70 AND LOCAL CODE AUTHORITIES.**



**CAUTION! BONDING BETWEEN CONDUIT CONNECTION IS NOT AUTOMATIC AND MUST BE PROVIDED AS PART OF THE INSTALLATION.**

**LEGEND**

BK - BLACK (120/220VAC HOT)		ENCLOSURE CONVENIENCE TERMINAL
BK/OE - BLACK W/ ORANGE TRACE (120/220VAC CONTROL CIRCUIT)		FUSE HOLDER
BK/YW - BLACK W/ YELLOW TRACE (120/220VAC CONTROL CIRCUIT)		MOMENTARY N/O PUSH BUTTON
WE - WHITE (120/220VAC NEUTRAL)		MAINTAINED N/C PUSH BUTTON
RD - RED (24VAC CONTROL CIRCUIT)		RELAY COIL
WE/RD - WHITE W/ RED TRACE (24VAC NEUTRAL)		RELAY CONTACT N/O
BE - BLUE (24VDC POSITIVE)		LEVEL SWITCH N/C
WE/BE - WHITE W/ BLUE TRACE (0VDC or 24VDC COMMON)		PHOTO EYE N/O
BN - BROWN (CONTROL CIRCUIT)		PROXIMITY SWITCH N/O
OE - ORANGE (CONTROL CIRCUIT)		LIMIT SWITCH N/O
YW - YELLOW (CONTROL CIRCUIT)		
PE - PURPLE (CONTROL CIRCUIT)		
WE/BN - WHITE W/ BROWN TRACE (CONTROL CIRCUIT)		
WE/OE - WHITE W/ ORANGE TRACE (CONTROL CIRCUIT)		
WE/YW - WHITE W/ YELLOW TRACE (CONTROL CIRCUIT)		
WE/PE - WHITE W/ PURPLE TRACE (CONTROL CIRCUIT)		
FIELD WIRING -----		
ENCLOSURE WIRING _____		

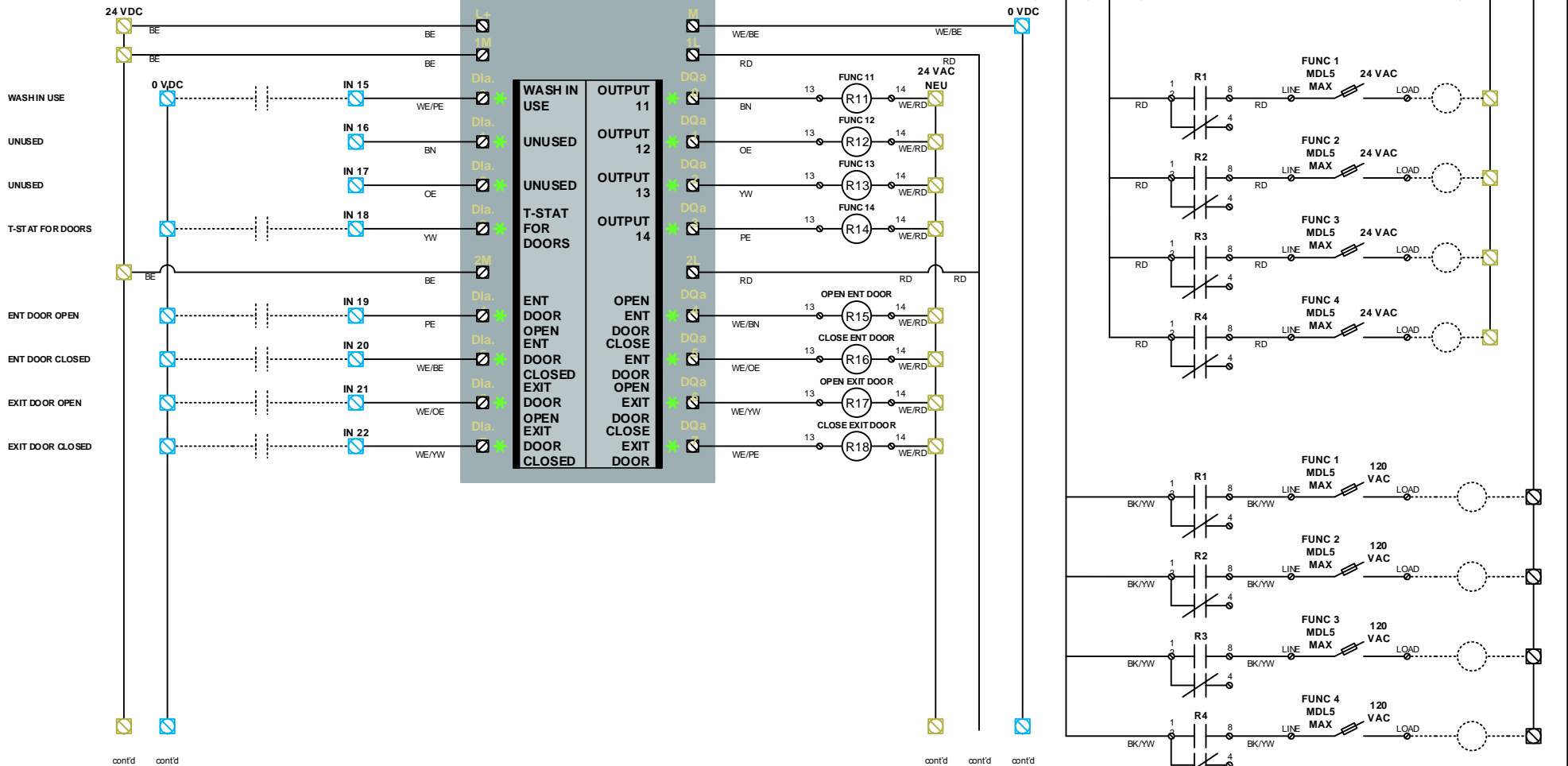
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# EXPANSION MODULE 1

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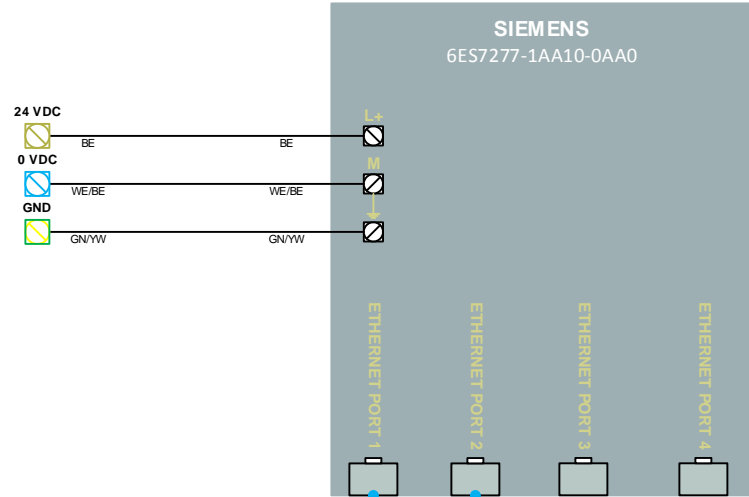
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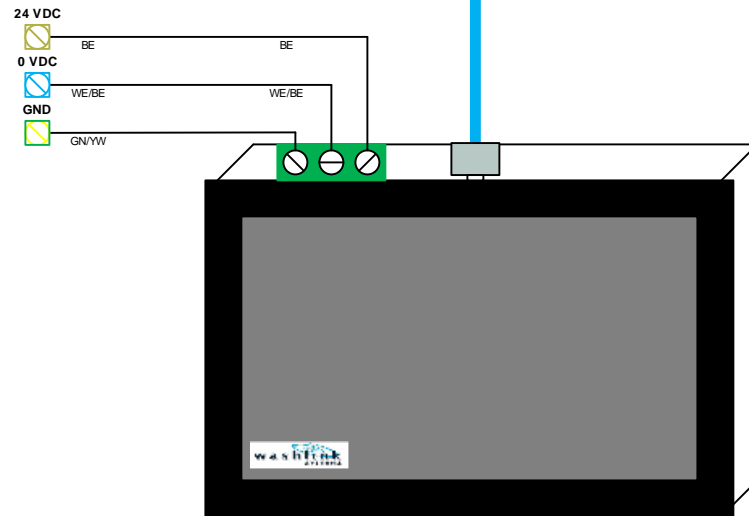
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# ETHERNET SWITCH



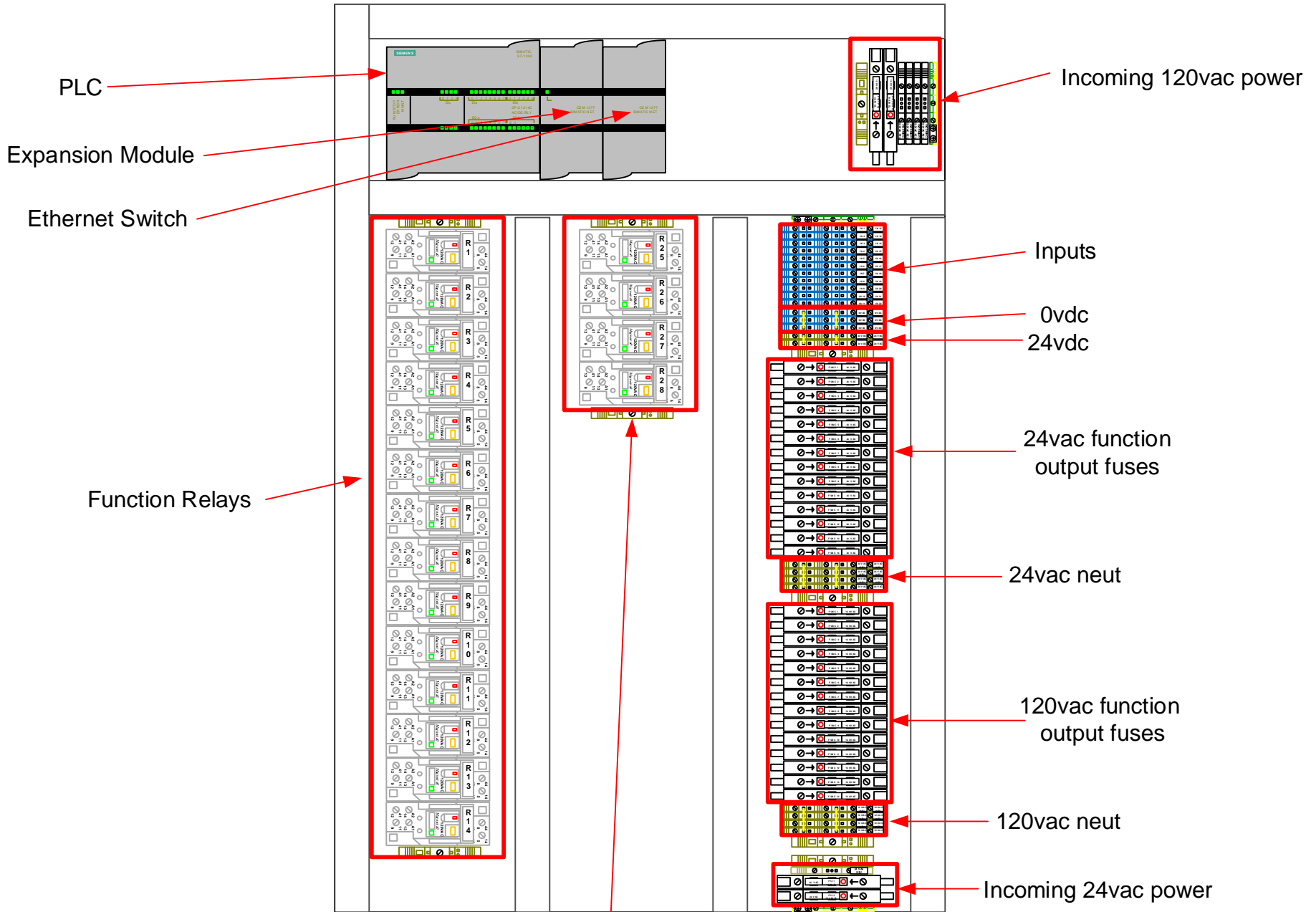
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