6000 Series Full Feature Low Energy Operator

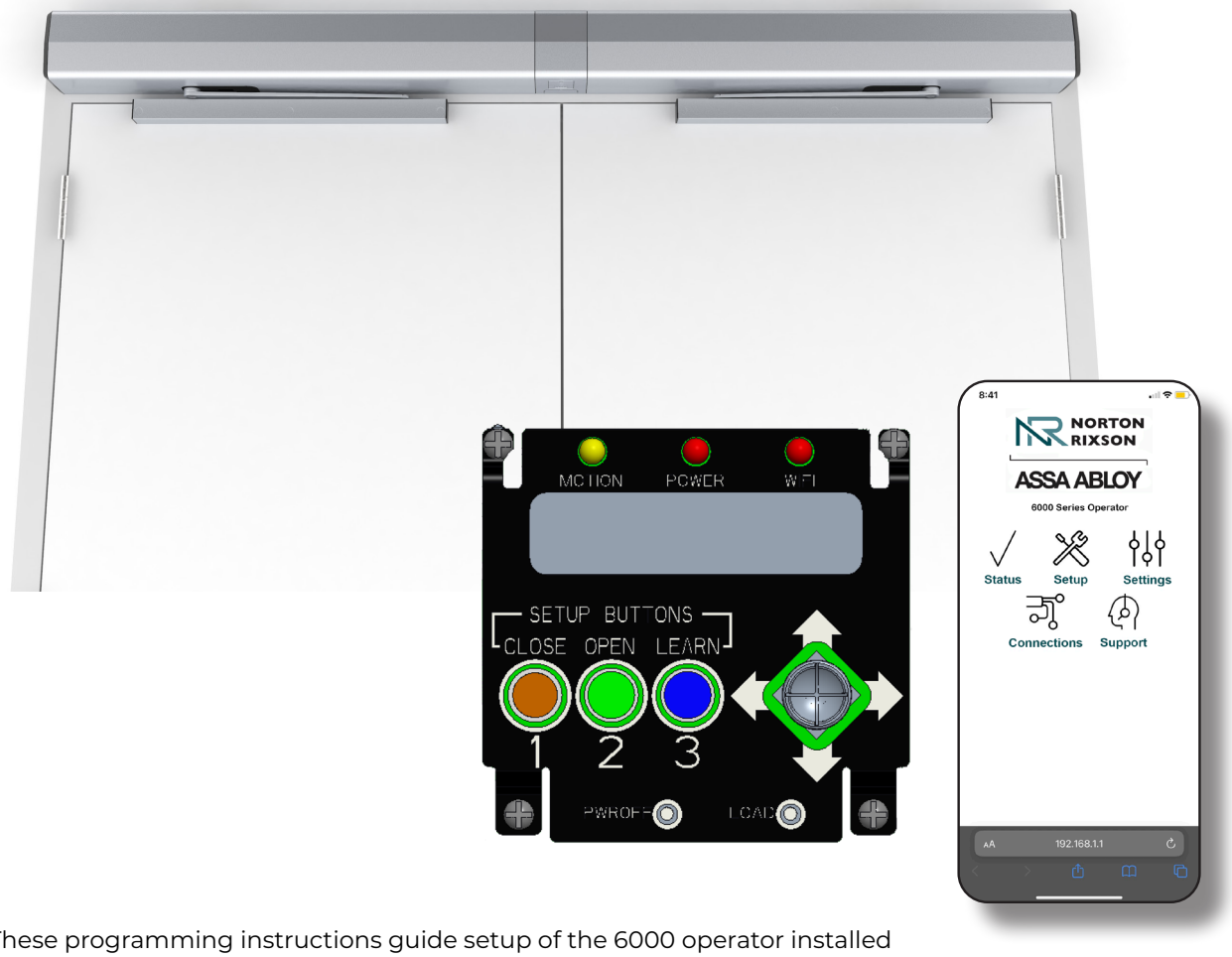
Double Door Installation Programming Instructions

Onboard or Wi-Fi Smart Device

WARNING

This product can expose you to lead which is known to the state of California to cause cancer and birth defects or other reproductive harm.
For more information go to: www.P65warnings.ca.gov.

Pour la version francaise voir NortonRixson.com.
READ AND FOLLOW ALL INSTRUCTIONS.
SAVE THESE INSTRUCTIONS.



These programming instructions guide setup of the 6000 operator installed on a double door via the onboard LCD screen or a Wi-Fi smart device.

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Experience a safer and more open world

Contents

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FCC:

Class B Equipment

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the use is encouraged to try to correct the interference by one or more of the following measures:

• Reorient or relocate the receiving antenna.

• Increase the separation between the equipment and receiver.

• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

• Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Warning:

Changes or modifications to this device may void the user's authority to operate the equipment.

Industry Canada:

This Class A digital apparatus meets all requirements of the Canadian Interference Causing Equipment Regulations.

Cet appareillage numérique de la classe A répond à toutes les exigences de l'interférence canadienne causant des règlements d'équipement.

Declaración de México:

La operación de este equipo está sujeta a las siguientes dos condiciones: (1) es posible que este equipo o dispositivo no cause interferencia perjudicial y (2) este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada.

Initial Wiring

1. **With building power feed turned off**, route 120VAC wiring through the conduit holes in the back plate (for concealed wiring) or through the Union Assembly knock-out (for surface wiring) and connect the conduit to the Conduit Assembly.
2. Connect 120VAC power to the terminal strip on top of the Conduit Assembly (Figure 1):
   - HOT to "+"
   - NEUTRAL to "-"
   - GROUND to the green ground screw.

   NOTE: The Union Assembly may have to be removed for ease of access. Remove AND SAVE the (4) 8-32 x 5/16" Philips pan head screws.
3. Wire any additional output devices, such as electric strikes, mag locks, exit devices, door open position output, etc., to the green terminals on top of control board. (Figure 2)
4. If applicable, reinstall the Union Assembly using the (4) 8-32x5/16" screws previously removed.
5. Turn on the building power to unit.
6. Confirm the ON/OFF/HO switch, located in the end cap, is in the ON position before proceeding to Setup (Figure 3).

Once power is applied and the switch is set to "ON":

- The red POWER LED on the control board will be on steady red, indicating power is applied. If the POWER LED is flashing, refer to Troubleshooting section of this manual or contact Technical Product Support.
- The white Status LED flashes every 1.5 - 2 seconds.
- The CLOSE button of the Setup Buttons will be flashing orange continuously.
- The "Door Setup REQUIRED" menu will be displayed on the LCD.

NOTE: If the LCD displays "Door Setup COMPLETE", when power is first applied, a reset of the control board is required. **To reset the control board**, press and hold the PWROFF button until the LEDs flash, and then release. Once the reset is complete, the LCD will display "Door Setup REQUIRED".

The operator is now powered and ready for setup.

To perform operator setup, proceed to:
Operator Setup via the Control Board on page 5 **or**
Operator Setup via Wi-Fi on page 11

WARNING: Door may begin to move immediately when selector mode switch is changed. An open union assembly door has potential to pinch fingers if the hand is not withdrawn quickly when adjusting selector mode switch. Potential damage could occur if the door is open during closing cycle of a pull side assembly.

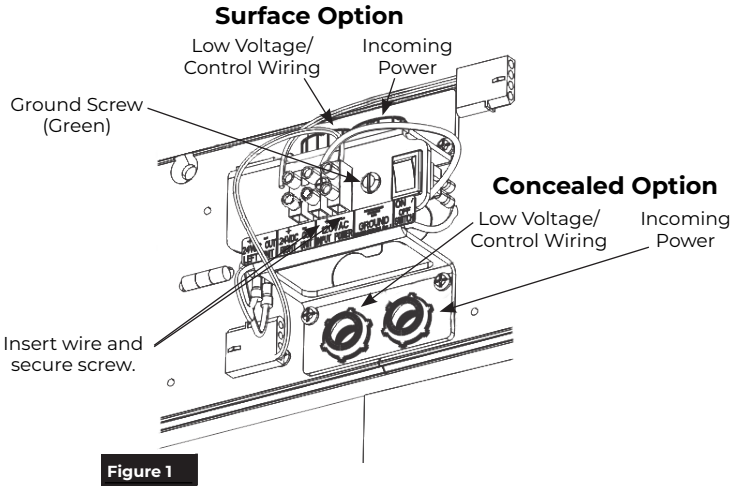

Figure 1

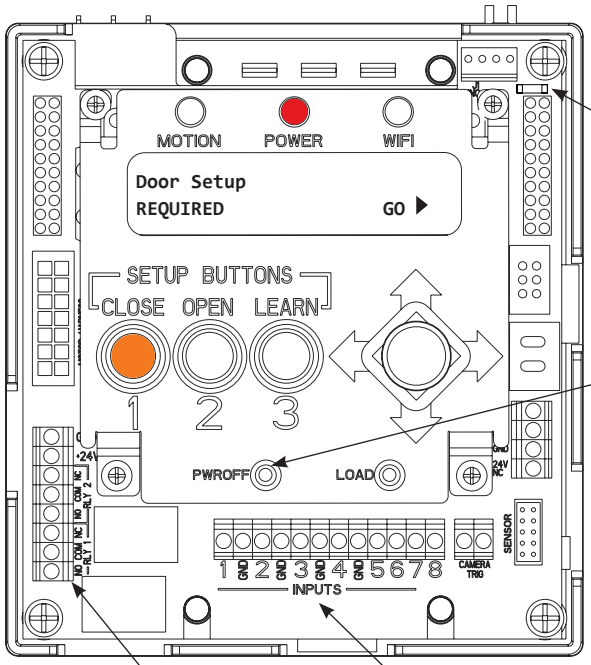

Figure 2

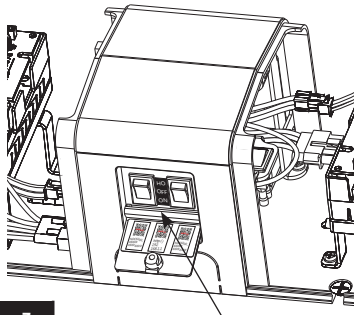

Figure 3

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Operator Setup via the Control Board

After the operator has been successfully installed and power has been applied (refer to Initial Wiring on page 4), follow the steps below to setup the operator via the Control Board.

A. Select Arm Type:

1. On the Door Setup REQUIRED menu, select “GO” by pushing the joystick to the right. (Figure 4)
2. Move the joystick to the RIGHT or LEFT and select PUSH or PULL to set the arm type, depending on the application. (Figure 5)

   NOTE: If unsure, refer to the installation documents provided with the product to determine application type.

B. Select Operator Model:

1. After the arm type has been selected, push the joystick UP to select the operator model. (Figure 6)
2. Select the specific operator model by pushing the joystick to the LEFT or RIGHT.

   PULL (Figure 7)

   - 6011 PULL 110°
   - 6051 PULL 110°

   PUSH (Figure 8 or Figure 9)

   - 6021 PUSH 110°
   - 6031 PUSH 110°
   - 6061 PUSH 85°
   - 6061 PUSH 90°
   - 6061 PUSH 95°
   - 6061 PUSH 100°
   - 6061 PUSH 105°
   - 6061 PUSH 110°
   - 6071 PUSH 85°
   - 6071 PUSH 90°
   - 6071 PUSH 95°
   - 6071 PUSH 100°
   - 6071 PUSH 105°
   - 6071 PUSH 110°
3. Once the specific operator has been selected, push the joystick UP.

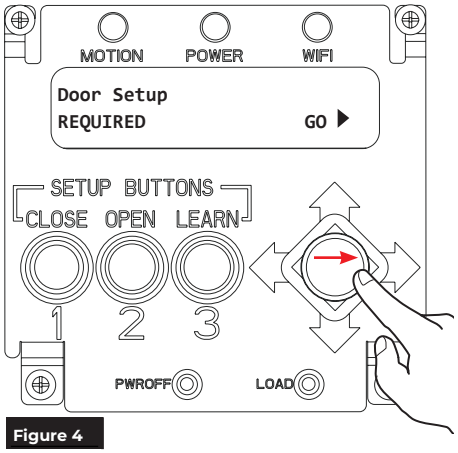

Figure 4

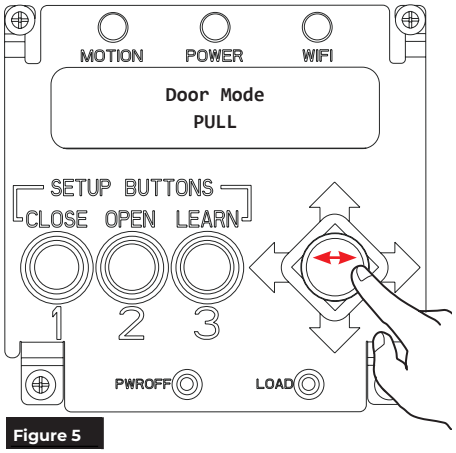

Figure 5

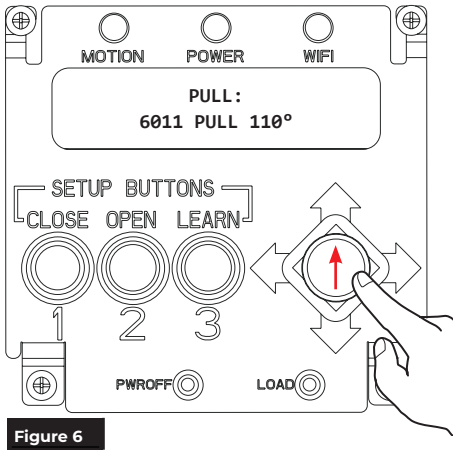

Figure 6

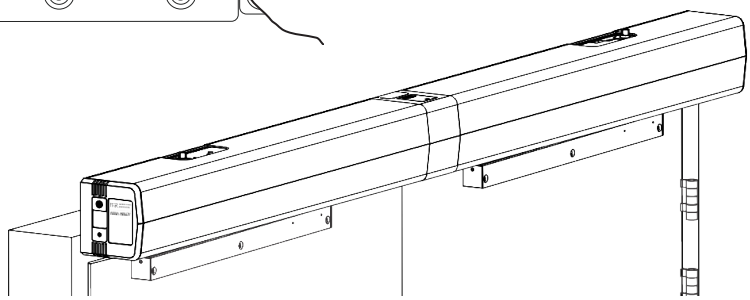

Figure 7 PULL: 6011 or 6051

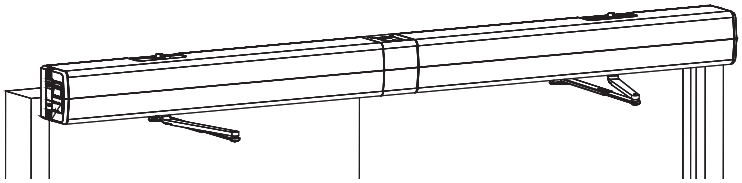

Figure 8 PUSH: 6021 or 6031

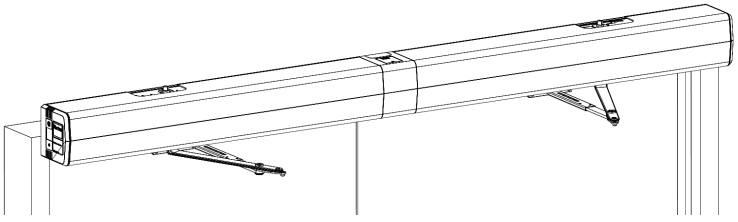

Figure 9 PUSH: 6061 or 6071

Operator Setup via the Control Board (cont.)

C. Set the door open and closed positions.

Set the closed position:

1. Fully close the door.
2. Press and released the CLOSE button on the control board.
   - The orange CLOSE LED will change from flashing to on solid.
   - The green OPEN LED will begin flashing.

   NOTE: Whenever the door is in the closed position, the orange LED of the CLOSED button will be on solid.

Set the open position:

1. Manually hold the door in the fully open position.

   NOTE: If there is a wall or door stop at the open position, hold the door slightly away from the wall or stop.
2. Press and release the OPEN button on the control board.
   - The OPEN button's green LED will change from flashing to on steady.

   NOTES:
   - Whenever the door is in the open position, the green LED of the OPEN button will be on solid.
   - If open position is not set within 30 seconds of setting closed position, closed position must set again.
3. Manually close the door.

Initiate the operator Learn Mode:

Before initiating the LEARN function, confirm there are no obstructions or latching hardware that can prevent the door from opening.

1. Press and release the LEARN button on the control board.
   - The blue LEARN LED will begin to flash.
   - The door will start opening in small increments.
2. Allow the door to open and close without interference.

NOTE: After the operator has completed the LEARN function, any spring adjustments, additional hardware, or accessories added to the door that changes the weight of the door will require this step be repeated.

Once the LEARN function has been completed, the operator can be adjusted to gain up to an additional 5° of opening using the Open Pos Adjust Setting menu. Refer to Adjust Open and Close Positions on page 9

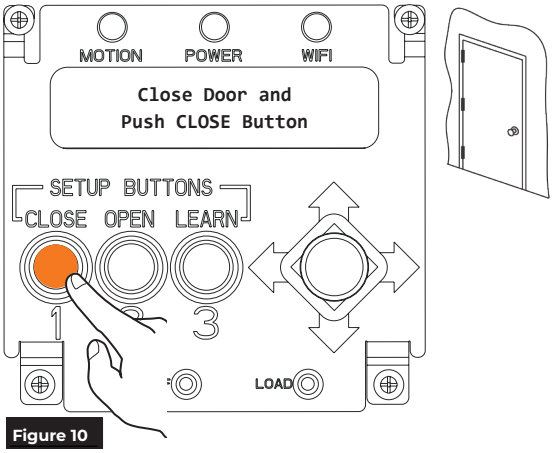

Figure 10

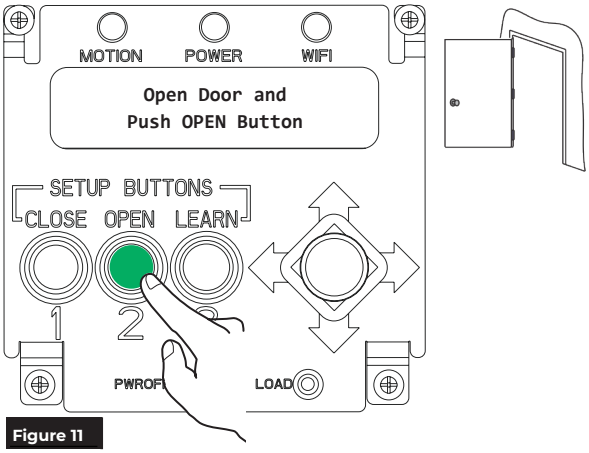

Figure 11

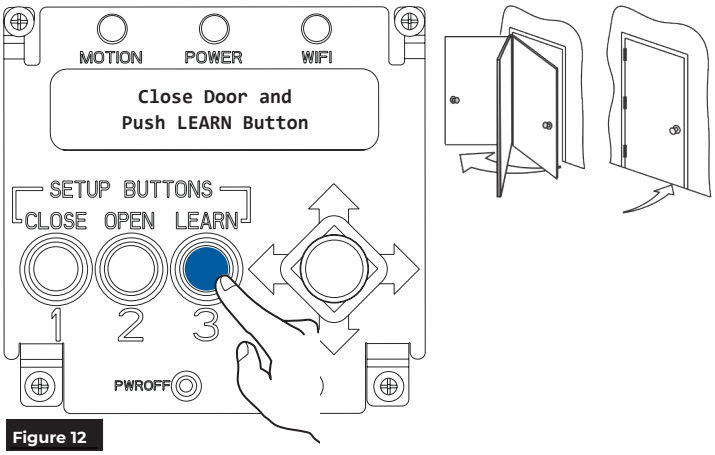

Figure 12

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Sync operators.

The Sync cable must be connected for operators to communicate in double door installations.

Refer to the Double Door or Double Egress Installation Instructions for cable connection details. (Figure 13)

NOTE: Unless stated, adjustments made to the Primary door will automatically transfer to applicable settings on the Secondary door.

To set up inverter for Primary - Secondary functionality:

On the Primary Unit:

- **Double Door** = YES.
  - The screen will display "YES (NOT LINKED)" until properly set up. (Figure 14)
- **This Door Is** = PRIMARY (Figure 15)
- **Double Setting** = DUPLICATE or INDEPENDENT (Figure 16)
- Set **Secondary Delay** time (if the secondary door needs to stall slightly before opening). (Figure 17)
- **Double Egress** = YES or NO (Figure 18)
- ***Coordination Needed** = YES or NO. (Figure 19)
  - if Yes, then set the Coord Position.
- **Double Obstruct** = STALL BOTH or INDEPENDENT (Figure 49)

On the Secondary Unit:

- **Double Door** = YES
  Screen will display "YES (NOT LINKED)" until properly set up. (Figure 22)
- **This Door is** = SECONDARY (Figure 22)
  - Double Door will display "YES (LINKED)" on both units.

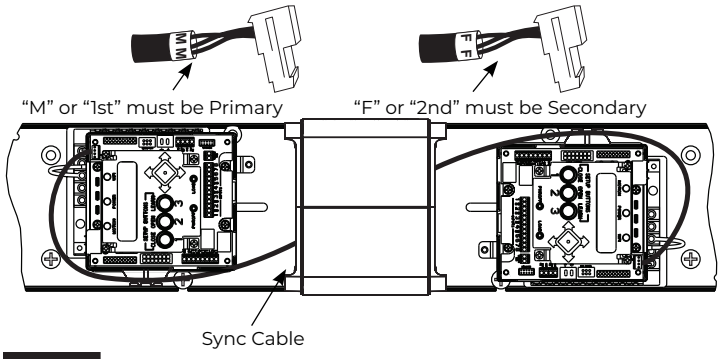


Figure 13 Other Wiring Removed From View

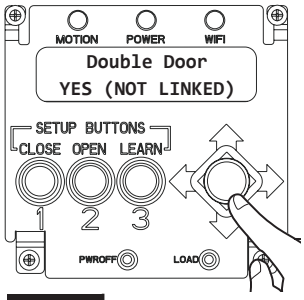
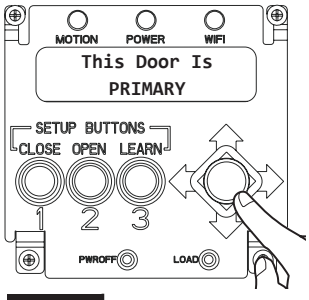


Figure 14



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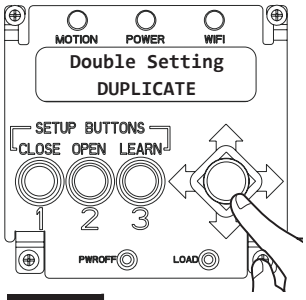

Figure 16

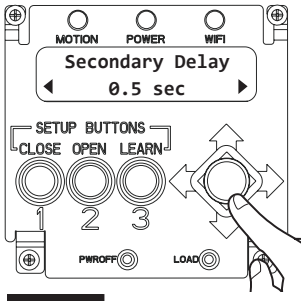

Figure 17

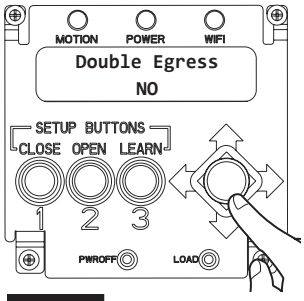

Figure 18

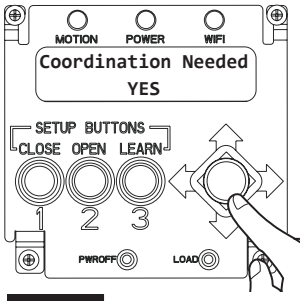

Figure 19

*Use Coordination Needed when an astragal or similar is attached to the Primary door or as a replacement for a mechanical door coordinator.

- Once set, the Primary door will open slightly before the Secondary door during an opening cycle.
- Upon closing, if the Primary door reaches the set door opening position (Coord Position) and the Secondary door has not reached a fully closed position, the Primary door will stop and wait for the Secondary door to fully close before closing.
- The point at which Primary door stops (Coord Position) is adjustable.
- If the Secondary door is opened manually, the Primary door automatically opens to the Coord Position. When the Secondary door has reached the fully closed position, the Primary door will then close.

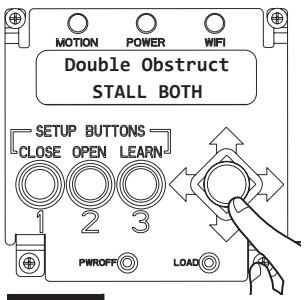

Figure 20

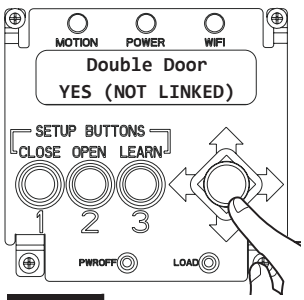

Figure 21

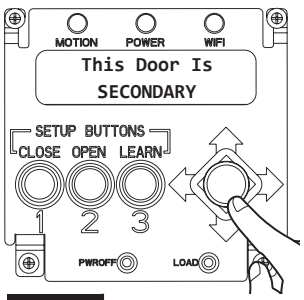

Figure 22

Double Door Settings Definitions

Double Door Operation:
Select whether the operator is installed in a double or single door configuration. Double door operation requires a sync cable to link the two operators.

Primary / Secondary Door:
Select whether this operator is the primary door in a double door set. The primary door controls most double door functionality.

Duplicate Settings:
Select whether the settings on the primary door are duplicated on the secondary door. If INDEPENDENT, also check the settings on the secondary door.

Secondary Delay:
This setting is the opening delay of the secondary door in a double door installation. The delay occurs after the primary door starts opening.

Double Egress:
Select whether this installation is a double egress door set.

Door Coordination:
When enabled, both doors coordinate their actions to ensure they open and close in the proper sequence, as required by installed door hardware. Specify the location where the closing primary door pauses to wait for the secondary door to close first.

Door Obstruction:
When set to STALL BOTH, an obstruction at one door stalls the other door too. Else, the doors respond to obstructions independently.

Save Operator Settings to a File:
Save settings / adjustments on a controller so same settings can be transferred to another controller.

Select Settings File to Relocate:
Select file to be saved to USB or copied from USB.

Restore Operator Setting from File:
Restoring file will set operator settings to be same as original controller.

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Adjust Open and Close Positions

A. Access the Open Pos Adjust menu.

Use the joystick to scroll through and adjust the electrical settings for opening and closing the door. (Figure 23).

For a list of options, refer to Setup Options on page 10.

NOTE: Latch, Sweep, and Backcheck valves are adjusted during the initial installation. Refer to the installation instructions provided with the operator.

Speed/Force and Timing/Location settings must be adjusted to meet ANSI BHMA A159.19 (American National Standard for Power Operated Doors) requirements for opening and closing based on door weight and width. Refer to the information below.

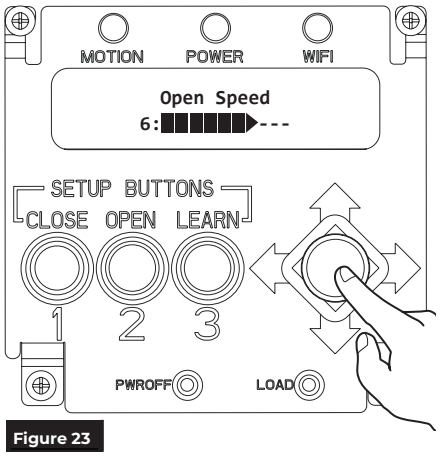

Figure 23

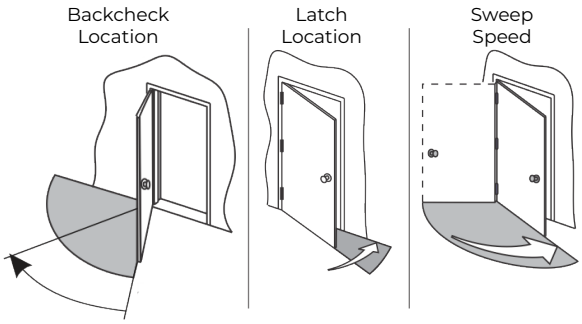

Table I
Minimum Opening Time to Backcheck or 80° (whichever occurs first) and
Minimum Closing Time from 90° to Latch or 10° (whichever occurs first)

"D" Door Leaf Width Inches (mm)	"W" Door Weight in Pounds (kg)				
	100 (45.4)	**125 (56.7)**	**150 (68.0)**	**175 (79.4)**	**200 (90.7)**
*30" (762)	3.0 sec	3.0 sec	3.0 sec	3.0 sec	3.5 sec
36" (914)	3.0 sec	3.5 sec	3.5 sec	4.0 sec	4.0 sec
42" (1067)	3.5 sec	4.0 sec	4.0 sec	4.5 sec	4.5 sec
48" (1219)	4.0 sec	4.5 sec	4.5 sec	5.0 sec	5.5 sec

* Check applicable Building Codes for clear width requirements in the Means of Egress. See Appendix for additional door weights.

Table II
Total Opening Time to 90°

Backcheck at 60°	**Backcheck at 70°**	**Backcheck at 80°**
Table I plus 2 seconds	Table I plus 1.5 seconds	Table I plus 1 second

If the door opens more than 90 degrees, it shall continue at the same rate as backcheck speed. Matrix values are in seconds.

NOTE: To determine minimum times from close to full open, the operator shall be adjusted as shown in the chart. Backcheck occurring at a point between positions in Table II shall use the lowest setting. For example, if the backcheck occurs at 75 degrees, the full open shall be the time shown in Table I plus 1.5 seconds.

Doors of other weights and widths can be calculated using the formula:

T = D ÖW / 133 in US Units T = D ÖW / 2260 in SI (metric) Units

Where: **T** = Time, seconds
D = Door width, inches (mm)
W = Door weight, lbs. (kg)

The values for "T" (time) have been rounded up to the nearest half second. These values are based on a kinetic energy of 1.25 lbf-ft (1,86 kg/m).

Setup Options

The following setup options are available on the Open Pos Adjust Setting menu. The the joystick to select each option and set the values. (Figure 24)

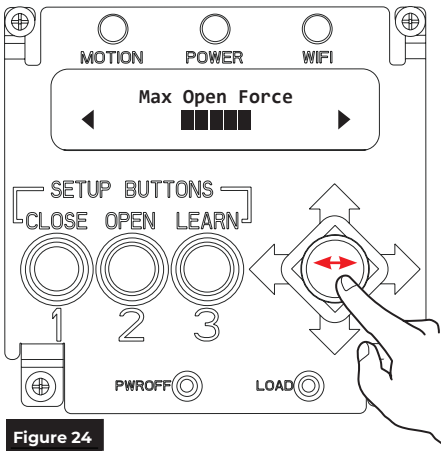

Figure 24

- **OPEN SPEED:**
  Speed at which the door opens.
- **MAX OPEN FORCE:**
  Force exerted by the motor to open the door.
- **OPEN POSITION ADJUST:**
  Once the open position has been set, the door can be adjusted +/- 5° without having to rehome the unit.
- **OPEN START FORCE:**
  Force exerted by the motor at the start of the opening cycle to help overcome stack pressure or latch device.
- **OPEN STALL FORCE:**
  Force exerted when the door is slowed to a stop while opening, with 1 being lightest and 10 being strongest. Measure the door force to ensure compliance with applicable standards and codes.
- **ADJUST HOLD OPEN:**
  Time the door is held at the open position when ON/OFF/HO switch is in ON position.
- **HOLD OPEN FORCE:**
  Force exerted to hold the door in the max open position. This can be adjusted to overcome stack pressure, wind, or other forces pushing on the door.
- **OBST DET SENS:**
  Amount of time the door will push against an obstruction before stalling or moving in the opposite direction.
- **OPEN DELAY 1:**
  Time before the door begins to open once activation has been received.
- **OPEN DELAY 2:**
  Time before door begins to open once activation has been received. Part of Vestibule functionality.
- **PUSH & GO:**
  As the door is manually opened, the operator 'senses' movement and opens the door to the full-open position.
- **OBSTR DURING CLOSE:**
  Door will reverse to the open position if it hits an obstruction while closing.
- **NO OBSTR NEAR OPEN:**
  Used with the door mounted presence sensor. The operator will ignore an obstruction input from the sensor in last 30 degrees of opening.
- **NO OBSTR NEAR CLOSE:**
  Used with the door mounted presence sensor. The operator will ignore an obstruction input from the sensor in last 10 degrees of closing.
- **ENERGIZE <20°:**
  24V outputs will change state when the door is 20 degrees from close after a manual or automatic cycle.

Initial Operator setup is now complete.
Continue setup with "Connections" on page 16.

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Operator Setup via Wi-Fi

NOTE: The following steps must be performed for both operators.

After both operators have been successfully installed and power has been applied (refer to Initial Wiring on page 4), follow the steps below for each operator to setup via Wi-Fi.

A. Turn on Operator Wi-Fi.

1. **With the cover off**:
   Using the joystick, scroll through the menu options to the WiFi Link menu. (Figure 25)
   With the cover on:
   Toggle the 3-position switch located on the end cap three (3) times. (Figure 26)
   – The operator will emit a long beep when Wi-Fi has been successfully turned on.
2. On a smart device, open the Wi-Fi Networks application.
3. Find the associated operator's network (beginning with NDC6000_, followed by the operator's SSID). Once found, connect to the network. (Figure 28)

   NOTE: The operator's SSID, Password, and IP Address are located on the inside of the switch-side end cap door. (Figure 27)
4. Enter the operator's password and click "Join". (Figure 29)
5. Open a web browser and enter 192.168.1.1 into the address bar. (Figure 30)
   – The 6000 Series homepage will be displayed. (Figure 31)

Wi-Fi connection to the operator has been established.

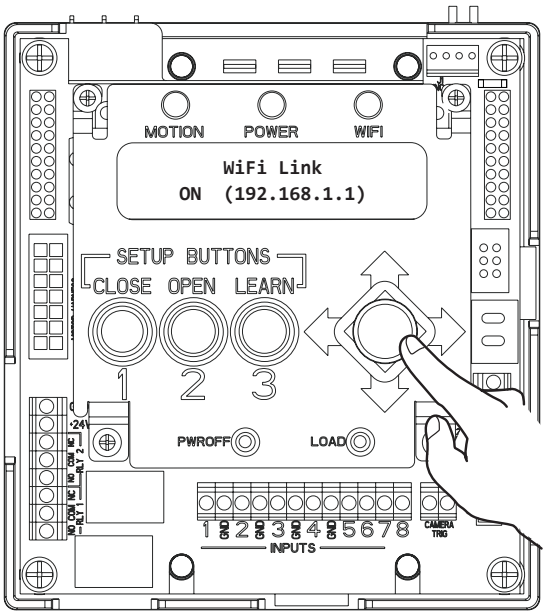

Figure 25

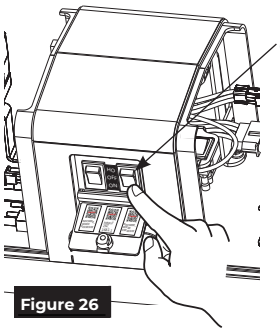

Figure 26

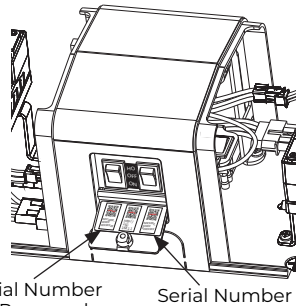

Figure 27

NOTES:

– Wi-Fi will automatically turn off after 20 minutes of inactivity.

– Wi-Fi can be manually turned off by selecting OFF on the LCD screen or toggling the 3-position switch again.

– The operator will emit a short beep indicating that Wi-Fi has been turned off.

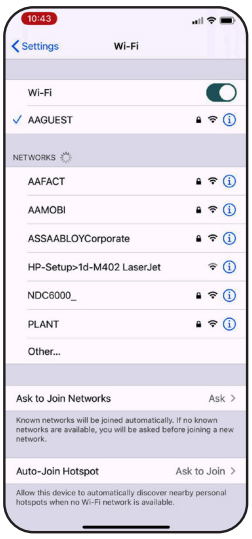

Figure 28

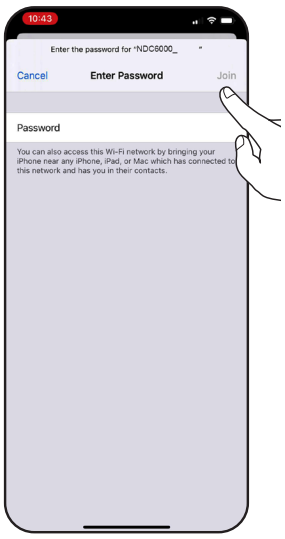

Figure 29

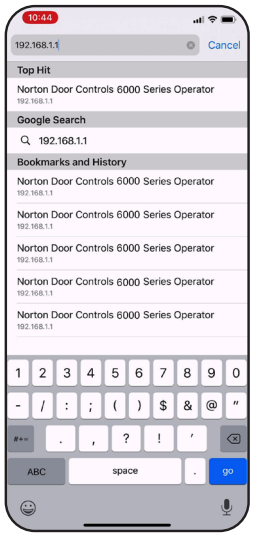

Figure 30

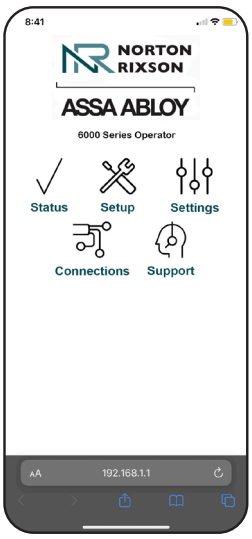

Figure 31

Application Options

Status

Use the Status page to quickly access important information about the operators (Figure 32)

NOTE: "Door Setup Needed" will be displayed if door setup has not been completed.

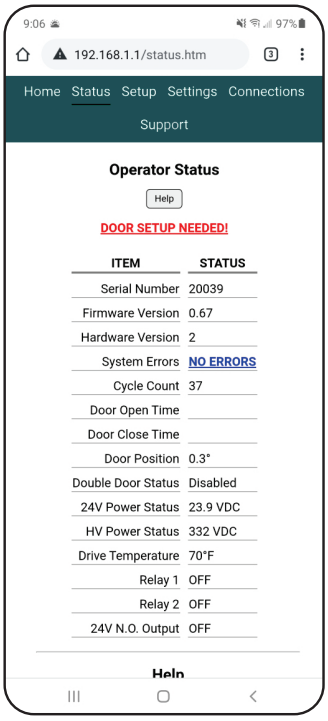

Figure 32

Setup

To set up the operator, select the Setup tab and perform the following steps.

1. Use the drop down menu of Step 1 to select the operator model, hand, and opening range that matches the operator installation. (Figure 33)
1. Manually close the door and select "Set Closed Position" in Step 2. (Figure 33)
2. Open door to the fully open position. Holding the door in this position, select "Set Open Position" in Step 3. (Figure 34)
3. Manually close the door and select "Learn" in Step 4 to initiate the Learn process. (Figure 34)

   NOTE: Before initiating the LEARN function, confirm there are no obstructions or latching hardware that can prevent the door from opening.
4. Refresh the browser page to confirm all steps have a check mark, indicating the operator setup has been successful.

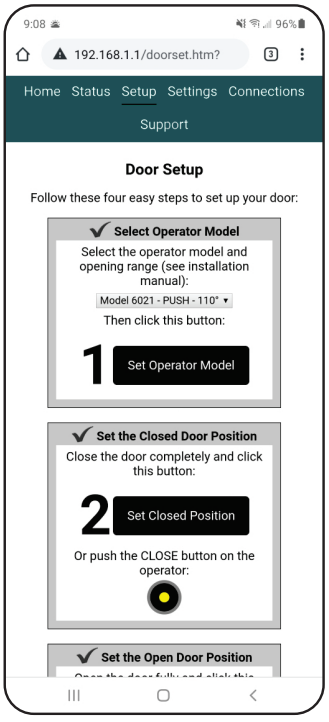

Figure 33

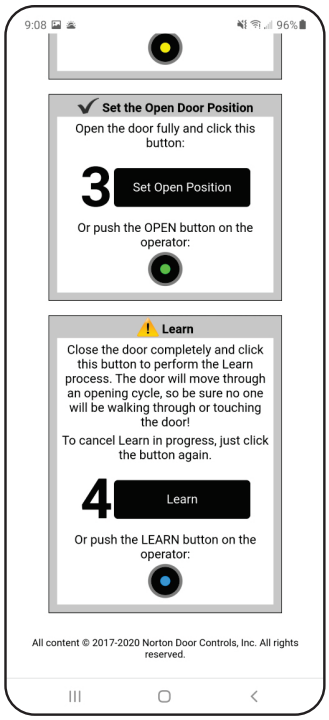

Figure 34

Application Options (cont.)

Settings

Speed/Force and Timing/Location:

Speed/Force and Time/Location settings can be adjusted to meet BHMA requirements.
(Figure 35 and Figure 36)

Select each setting and adjust slider or press -/+ to desired value, then save. (Figure 37)

Speed/Force and Timing/Location settings must be adjusted to meet ANSI BHMA A159.19 (American National Standard for Power Assist and Low Energy Power Operated Doors) requirements for opening and closing based on door weight and width. (Refer to Table I and Table II on page 9)

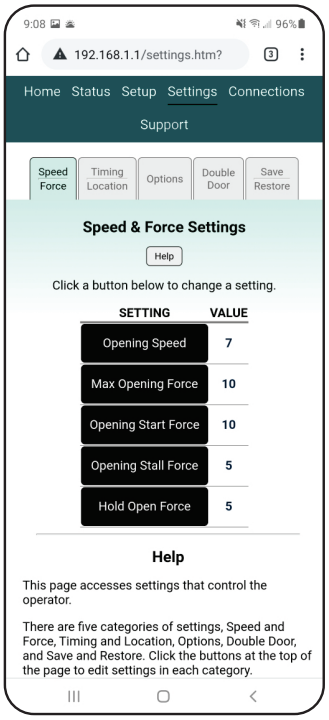

Figure 35

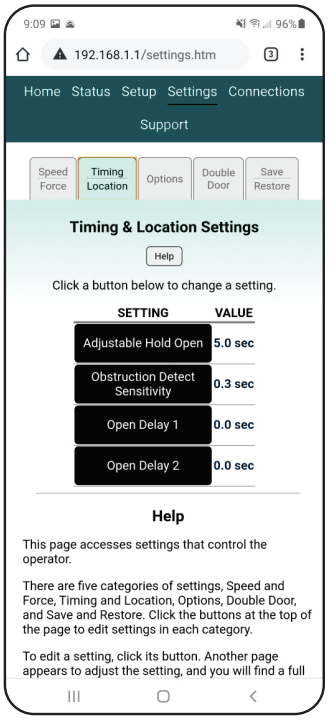

Figure 36

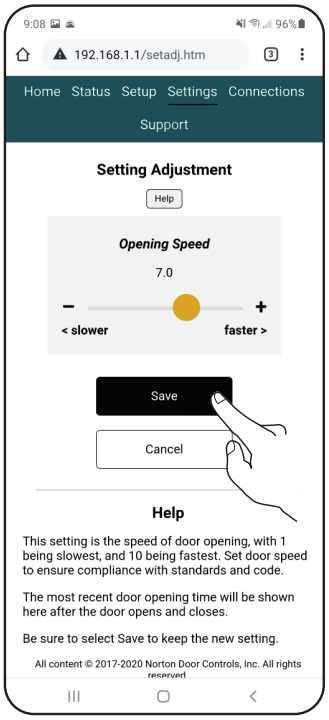

Figure 37

Options:
Select each setting to change the option for the operator, and then save. (Figure 38)

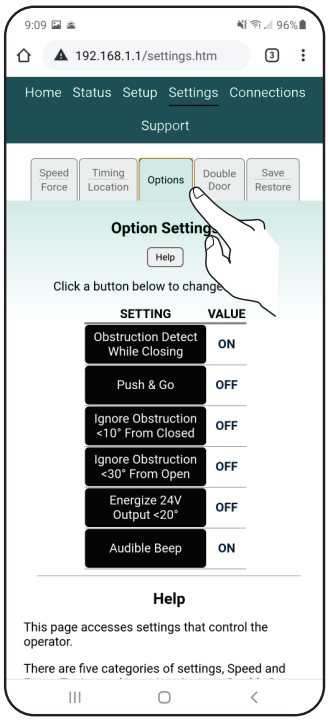

Figure 38

Application Options (cont.)

Settings

Double Door:

Sync Cable must be connected for operators to communicate in double door installations. Refer to the Double Door or Double Egress Installation Instructions for cable connection details.

To set up for Primary - Secondary functionality, select the Double Door tab. (Figure 39)

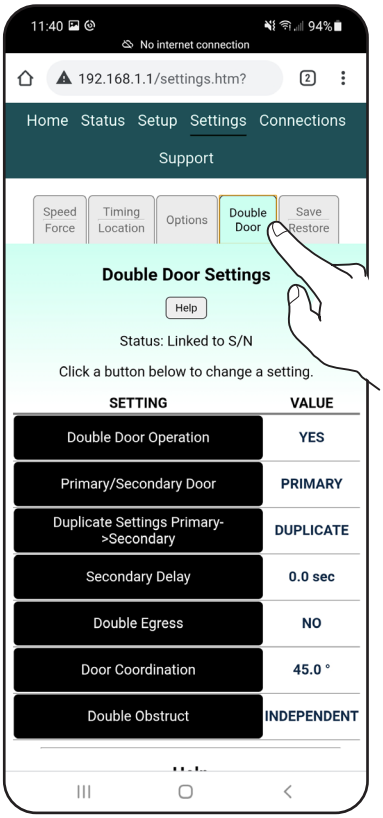

Figure 39

On Primary Unit:

- Double Door Operation = **YES** (Figure 40)
- Primary/Secondary Door = **PRIMARY** (Figure 41)
- Duplicate Settings Primary-Secondary = **DUPLICATE** or **INDEPENDENT** (Figure 42)
  - If set to DUPLICATE, adjustments made to the Primary door will automatically transfer to applicable settings on the Secondary door.
- Set the Secondary Delay time (if the secondary door needs to stall slightly before opening) (Figure 43)
- Double Egress = **Yes** or **No** (Figure 44)
- Door Coordination = **Yes** or **No** (Figure 45)
  - if Yes, set Coordination Position (See Notes)
- Double Obstruct = **STALL BOTH** or **INDEPENDENT** (Figure 46)

On Secondary Unit:

- Double Door Operation = **YES**
- Primary/Secondary Door = **SECONDARY** Once set, the Status will display “Linked to (S/N of operator)” on both units.

NOTES:

Door Coordination is to be used when astragal or similar is attached to the Primary door, or as a replacement for a mechanical door coordinator.

- Once set, the Primary door will open slightly before the Secondary door during an opening cycle.
- Upon closing, if the Primary door reaches the set door opening position (Coordination Position) and the Secondary door has not reached the fully closed position, the Primary door will stop and wait for the Secondary door to fully close before closing.
- The point at which Primary door stops (Coordination Position) is adjustable.
- If Door Coordination is used and the Secondary door is opened manually, the Primary door will automatically open to the Coordination Position selected. When the Secondary door has reached the fully closed position, the Primary door will then close.

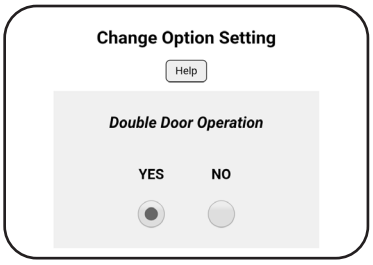

Figure 40

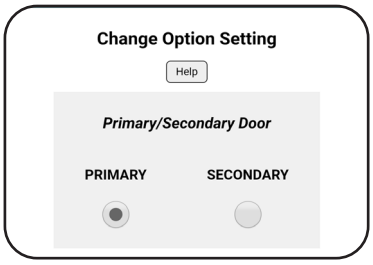

Figure 41

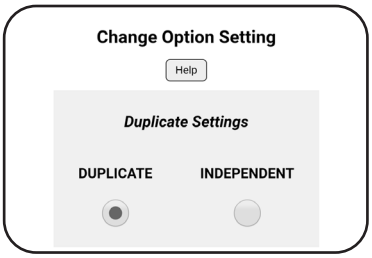

Figure 42

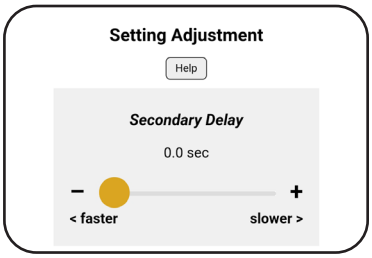

Figure 43

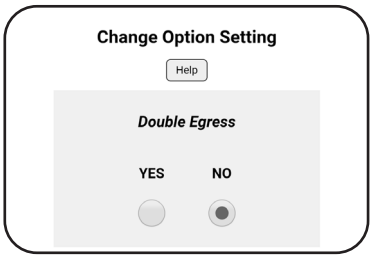

Figure 44

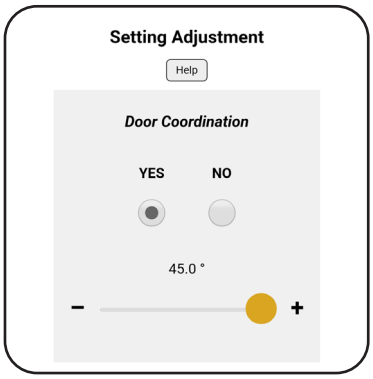

Figure 45

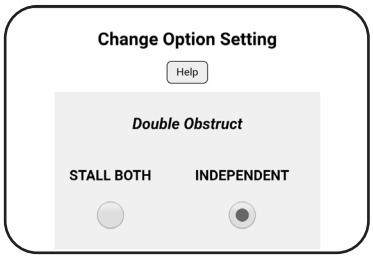

Figure 46

Application Options (cont.)

Settings

Save/Restore:
Use this tab to save the operator settings to a file, transfer previously saved settings to another operator, or restore an operator to saved settings.
(Figure 47)

- **Save Operator Settings to a File**:
  Click this button to save the operator's current settings to a file.
- **Select Setting Files to Restore**:
  Click this button to choose a saved file to load to an operator.
- **Restore Operator Settings from File**:
  This option will be grayed out an unavailable until a connection to an operator has been established (refer to Operator Setup via Wi-Fi on page 11) and a file has been selected.
  Once available, clock this button to load the file selected to the receiving operator.

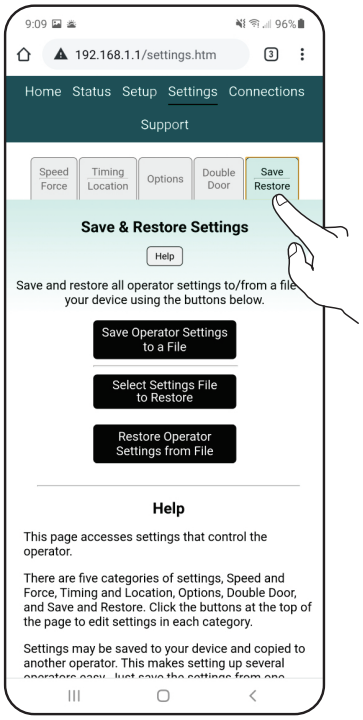

Figure 47

Initial Operator setup is now complete.
Continue setup with "Connections" on page 16.

Connections

Operator inputs and outputs can be customized.

NOTE: Input and Outputs numbers are labeled on the control board. Refer to Figure 2 on page 4.

To customize the inputs and outputs via the operator control board: Scroll through the menu settings and set each input and relay function. Use the joystick to scroll through each setting option.

To customize the inputs and outputs via the Wi-Fi application: On the Connections page, select the input or output then scroll through drop-down menu to select the desired function for each. (Figure 48 and Figure 49) or the operator's control board.

NOTE: For definitions, see Output Connections below and Input Connections on page 14.

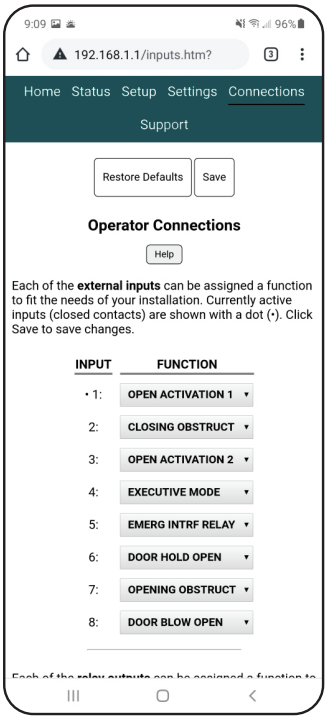

Figure 48

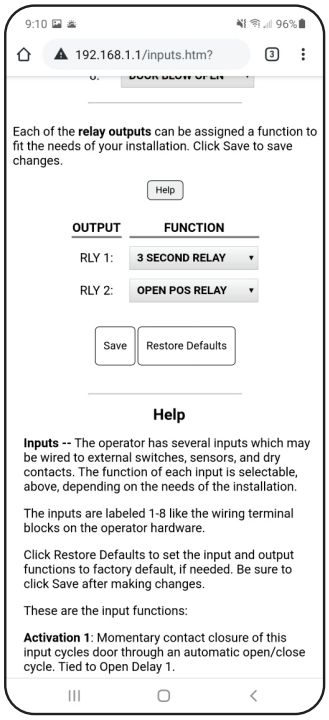

Figure 49

Output Connections (Default)

Use the green 2-position connectors on the control board to add any necessary outputs, such as electric strikes, mag locks, exit devices, door open position output, etc. (Figure 50)

NOTE: Relay outputs can be customized.

Relay Outputs:

- The operator has two relay outputs which may be wired to external control systems or devices. The function of each relay is selectable depending on the needs of the installation.
- Outputs are labeled RLY 1 and RLY 2 like the wiring terminal blocks on the operator hardware.
- Click Restore Defaults to set the input and output functions to factory default, if needed. Be sure to click Save after making changes.

Relay Output Functions:

3 Second Relay:
Normally open relay that closes for 3 seconds after an activation to open.

Open POS Relay:
Normally open relay that closes when door is in open position.

Closed POS Relay:
Normally open relay that closes when door is in closed position.

Door Latch Relay:
Normally open relay that closes any time door is not in closed position.

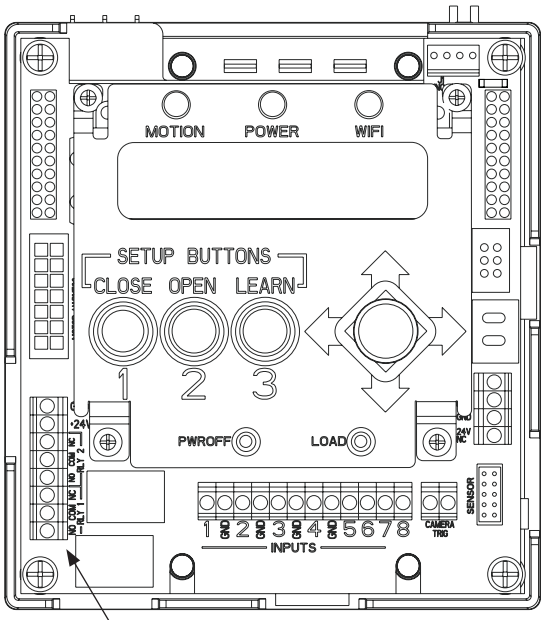

Figure 50

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Input Connections (Default)

Use the green 2-position connectors on the control board to install any necessary inputs. (Figure 51)

NOTE: Inputs can be customized. The operator has several inputs which can be wired to external switches, sensors, or dry contacts. The function of each input is selectable depending on the installation.

To restore the operator inputs to factory defaults, select Restore Defaults.

Activation 1:
Momentary contact closure of this input cycles the door through an automatic open / close cycle.
(Tied to Open Delay 1)

Activation 2:
Momentary contact closure of this input cycles the door through an automatic open / close cycle.
(Tied to Open Delay 2)

Executive Mode:
Activation signal on this input opens the door keeps it open until either a second signal is received or the door is manually moved in closing direction.

Emergency Interface Relay:
Continuous contact closure of this input puts operator in a passive closer mode, where door functions as a typical door closer and accepts no activations. Once contact is removed, unit goes back to operator mode.

Blow Open:
If 3-Position switch is in On position, the door opens when signal is received from alarm system allowing air or smoke to flow through opening. The door will stay open until signal from alarm system is stopped. If the door is pulled away from open position, operator will go back to open.

Blow Open Override:
With 3-Position switch in On or Off position, the door opens at set position until power is turned off.

Obstruction 1:
Contact closure of this input while door is closing triggers operator to return to open position. This is used with presence sensors mounted to closing side of a door to prevent door from hitting an obstruction.

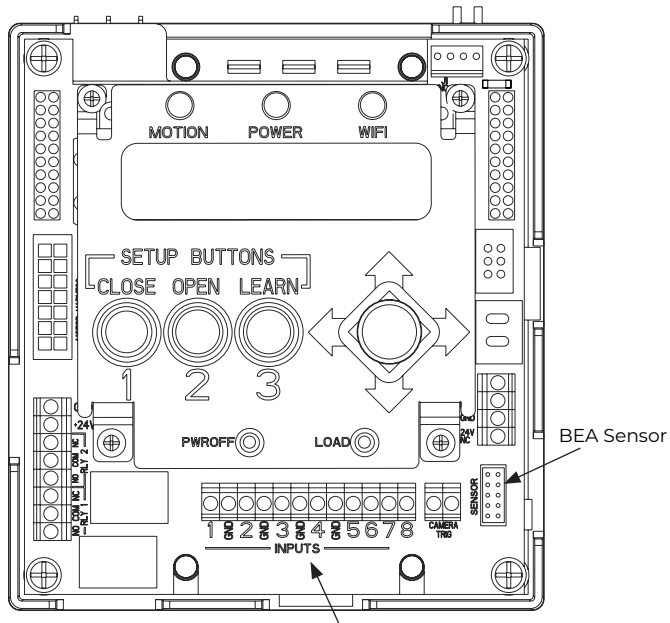


Figure 51

Obstruction 2:
Contact closure of this input while door is opening triggers operator to stall. If contact is not removed after 10 seconds of closure, operator will return to closed position. This is used with presence sensors mounted to opening side of a door to prevent door from hitting an obstruction.

Outside Push Button Disable:
When this contact is closed, the outside push button is disabled (connected to ACTIVATION 2 inputs(s)).

BEA 585 Presence Sensor:
A BEA type 585 presence sensor may be connected to the “SENSOR” connector on the top circuit board of the operator using cable supplied with sensor. The sensor must be attached to the frame according to the BEA factory instructions and can be powered with a separate power supply or with the power supply built into the 6000 operator. No additional configuration is required. See the installation instructions for more detail.

Troubleshooting and Support

This section provides information to assist in troubleshooting the 6000 Series operator. If additional assistance is needed beyond the information provided here, contact Technical Support.

Support

The Support page can be used to restart the operator or restore operator settings to factory defaults. (Figure 31)

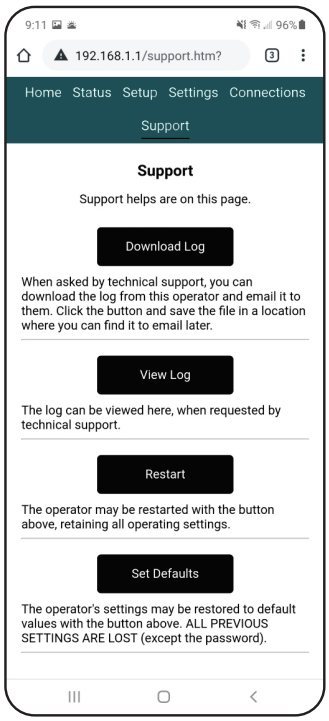
Download Log:
The Download Log button allows the user to download a copy of the operator's log file. This file can be used by Technical Support for Troubleshooting assistance.

Click the Download Log button and save the file to a location where it can be easily accessed for email.

View Log:
The View Log button allows the user to view the operator's log file within the application.

Restart:
The Restart button allows the user to restart the operator without changing any existing operator settings.

Set Defaults:
Pressing the Set Defaults button will return the operator to factory settings and initiate a restart. Once pressed, a popup is displayed confirming that a restore will be completed. Press OK to continue or Cancel to keep the current settings.



Status Definitions

During a consultation, Technical support may request status information.

Serial Number:
Each operator has a unique serial number listed on the Status screen or inside the 3-Position switch door (see Figure 14, page 7).

Firmware Version:
This is the version of the control program in the operator. This information is located on the Status menu of the Wi-Fi application or available through the control board menu. .

Hardware Version:
This is the version of the electronic hardware in the operator.

System Errors:
Any errors detected by the operator are listed on the Status screen and Support page with troubleshooting suggestions.

Cycle Count:
This is the number of door open/close cycles that the operator has performed in its life.

Door Open Time:
This is the time it took the door to move from closed to full open position on the last open/close cycle, not including any programmed opening delay. This information is useful when adjusting door speed to comply with code.

Door Close Time:
This is the time it took the door to move from full open position to closed on the last open/close cycle. This information is useful when adjusting door speed to comply with code.

Door Position:
This is the current angular door position in degrees, with the closed position being zero degrees.

Double Door Status:
If the operator is configured for double door operation, the serial number of the connected door appears here.

24V Power Status:
This is the voltage of the 24V DC power source for the operator.

HV Power Status:
This is the voltage of the high voltage DC power source of the operator which runs the motor.

Drive Temperature:
The motor driver temperature is shown here. If the operator has not been in use, this temperature should be near ambient temperature (perhaps higher or lower due to exterior heat or cold). The motor driver heats as the operator is used, and the operator monitors this temperature continuously.

Relay 1:
This is the state of relay number 1, on or off. The relays may be programmed for various types of operation as the door opens and closes. See the Connections pages.

Relay 2:
This is the state of relay number 2, on or off. The relays maybe programmed for various types of operation as the door opens and closes. See the Connections page.

24V N.O. Output:
This is the state of the 24V normally open output, on or off. The normally closed output is always in the opposite state.

Error Codes

Error Codes for RED POWER LED Flashes			
Number of Flashes	**Error**	**Description**	**Solution**
1	Configured Settings Error	Configured settings have been lost.	Try restoring factory settings to see if that clears the problem. Set up the operator as needed.
2	24VDC Power Error	Operator 24V power supply is malfunctioning or there is a wiring problem.	Make sure all connections are tight. Use a voltmeter to measure power supply output voltage between +V and -V screw terminals. Voltage should be between 23.7V and 24.3V DC with door closed or opening.
3	Learn Error	Learn process failed, perhaps due to an obstruction, faulty hinges, or other mechanical issue.	Be sure door is in good mechanical working order and retry learn operation.
4	Motor Error	There is a problem with main motor.	Check all wiring and gently set all connectors on operator, with power off. Power up operator and check operation.
5	Over Temperature Error	Motor has overheated.	Close door for 15 minutes and check that error subsides as motor cools.
6	Power Board Error	Power board is not plugged in.	Turn power off and wait 5 minutes. Check that circuit boards in operator are all fastened securely and plugged together per installation instructions.
7	Temperature Probe Error	Motor temperature probe is disconnected or damaged.	Check all wiring and gently set all connectors on operator, with the power off. Power up operator and check operation.
8	Sensors Error	Position sensors governing operator are not working correctly.	Turn off and wait 5 minutes. Check that circuit boards in operator are all fastened securely and plugged together per installation instructions.
9	Motor Duration Error	Motor ran longer than allowed.	On/Off switch may be toggled to clear this error or operator may be restarted.
10	Double Door Error	Cable connecting the two doors is disconnected or damaged.	If this is only a single door, be sure it is set as a single door. If this is a door in a double door pair, be sure sync cable between doors is connected securely.

Updating 6000 Wi-Fi Inverter Firmware

1. Copy the updated .BIN file to a USB drive.
2. Insert the USB drive into the USB port on side of the inverter. (Figure 52)
3. Press and hold the LOAD button for 3 seconds and release when all LEDs light up. (Figure 52)
   - WARNING screens will be displayed.
4. Once the Warnings have stopped, press up on the joystick to scroll to the Update FIRMWARE screen. (Figure 53)
5. Press the joystick right to select Yes.
   - The Confirm Update screen will be displayed.
6. Confirm the update by pressing joystick to the right. (Figure 54)
   - Once the update has been completed, “Update SUCCESS!” will appear on screen.
7. Press the joystick to the right to continue. (Figure 55)
8. Remove the USB from the port.

Once the inverter has updated, the screen will power off and back on. The unit is now ready for any additional adjustments. (Figure 56)

NOTE: Door setup may be required following an inverter update. Refer to “Operator Setup via the Control Board” on page 5 or “Operator Setup via Wi-Fi” on page 11

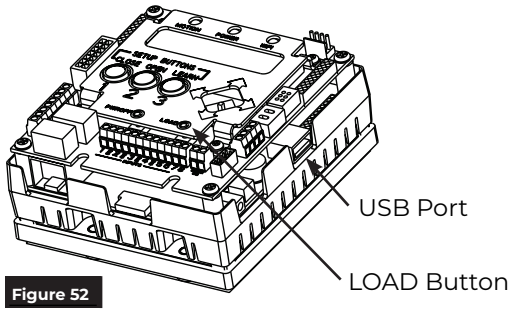


Figure 52

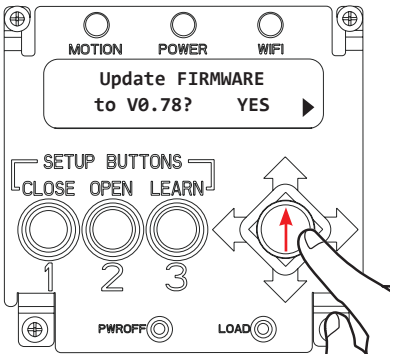


Figure 53

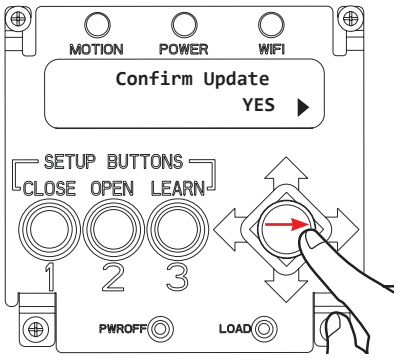


Figure 54

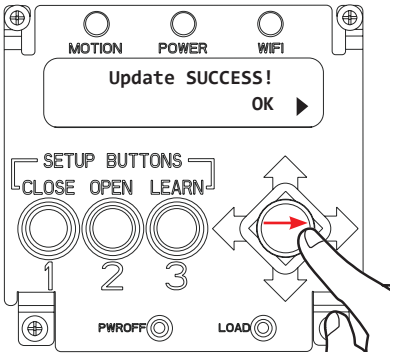


Figure 55

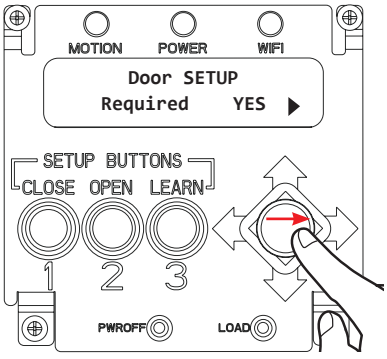
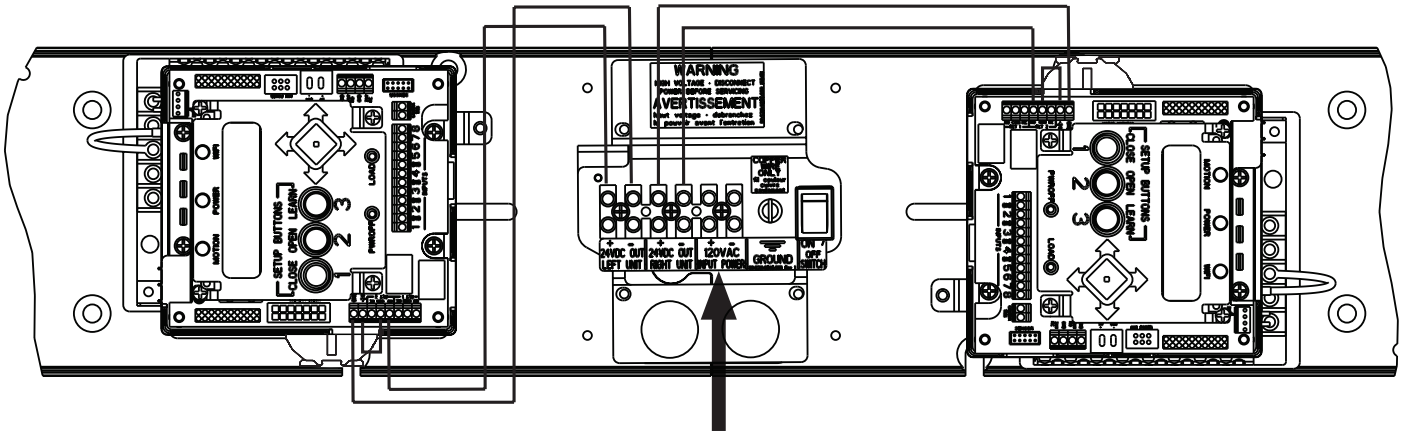


Figure 56

Wiring Diagrams

Basic Double Door Wiring Using Factory Presets

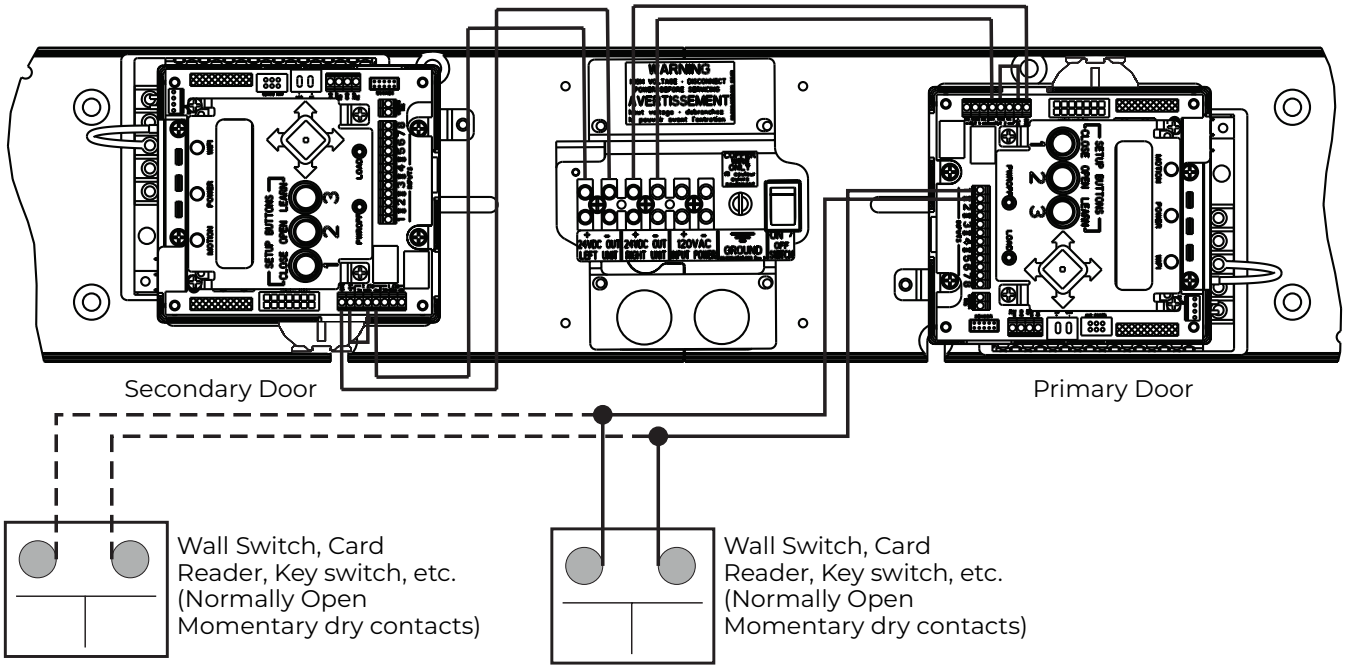


Incoming Wiring
(Supplied by Others)

- The doors are normally closed.
- Activating either switch will open the door. The door will close after the hold open time delay has expired.
- Separate open delays are available for outside and inside activation delay.
- Activation can be a wall switch, card reader, key switch, etc (Normally open momentary dry contacts).

Double Door Hard Wired Push Button

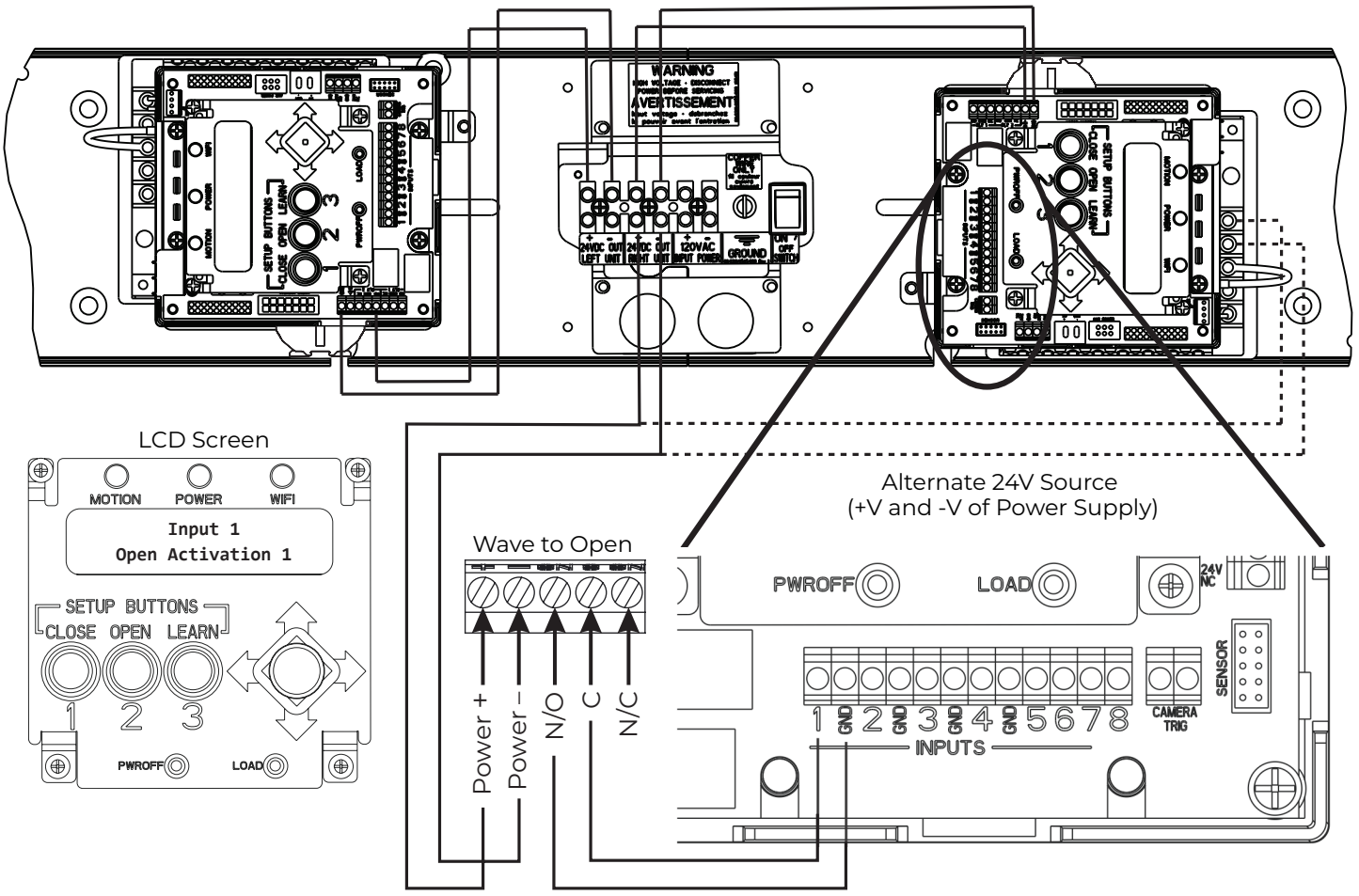
Factory Pre-Wiring Not Required to Change



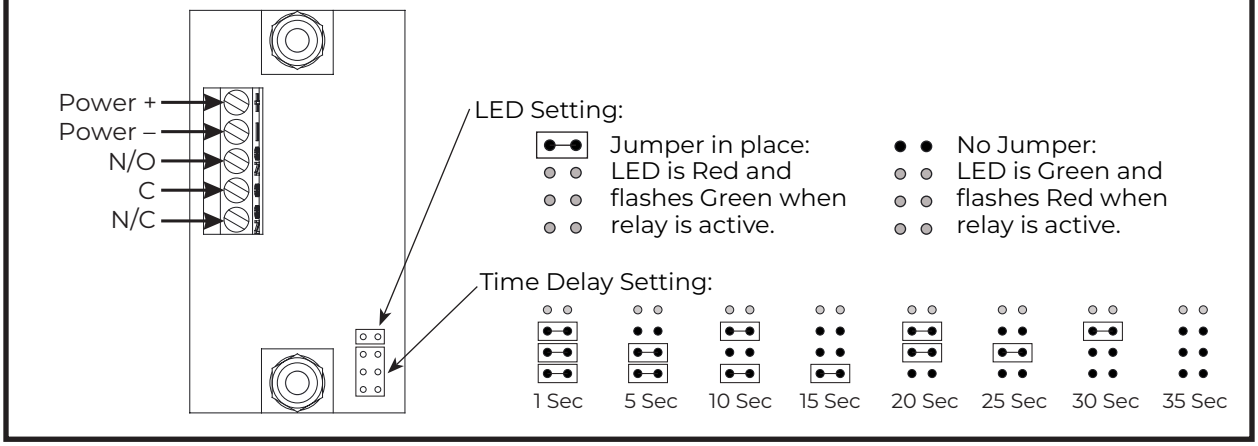
- For Double Door applications only. (The sync cable must be used to connect inverters.)
- The doors are normally closed.
- Activating either switch will open door.
- The door will remain in an indefinite hold open until either switch is activated a second time causing door to close.

Double Door Wave to Open

(change factory pre-wiring to illustration below - move NO to +24 on controller)

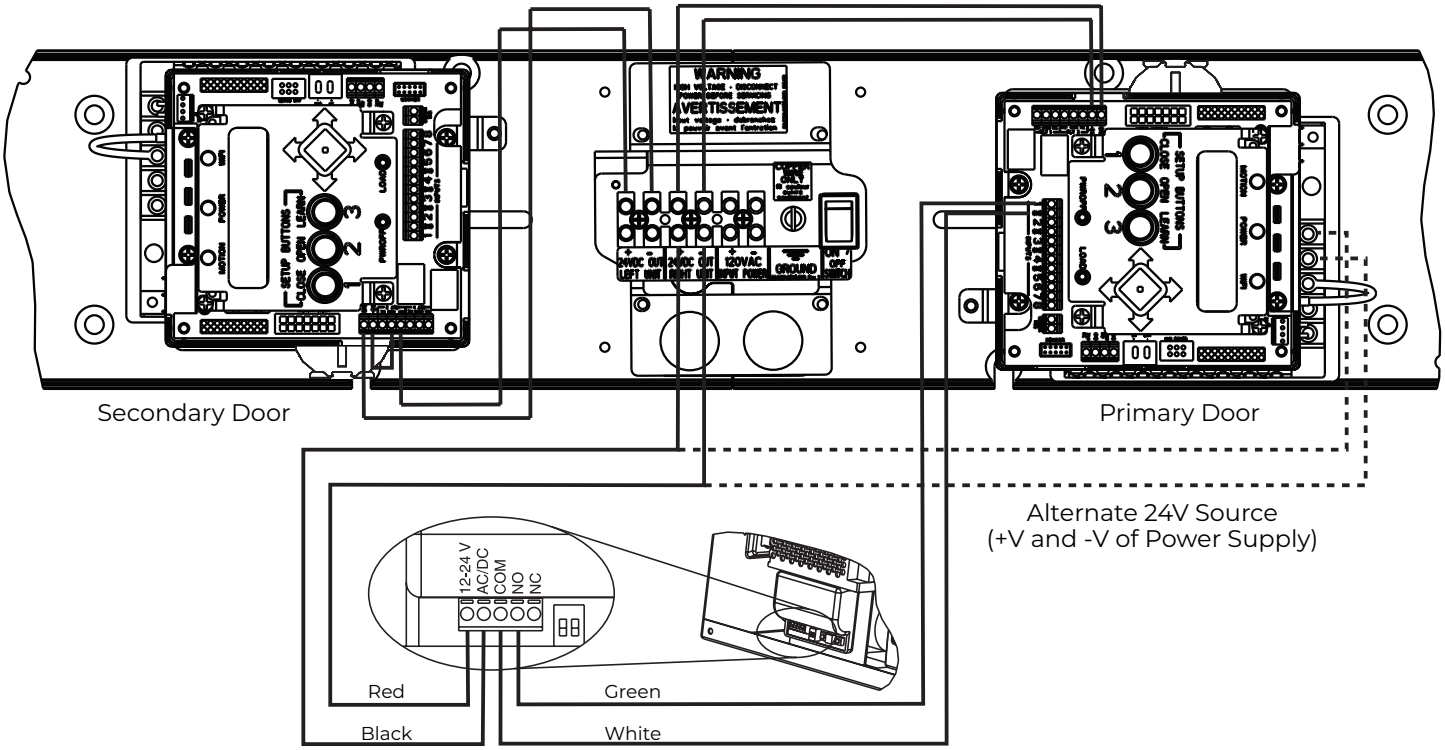


Wave to Open Switch Detail



Double Door Radio Frequency Standard Function

(change factory pre-wiring to illustration below - move NO to +24)



- For Double Door applications only. (The sync cable must be used to connect inverters.)
- The doors are normally closed.
- Activating a wireless switch or hand held wireless transmitter will open the door.
- The door will close after the hold open time delay has expired.
- Current draw at the power outputs not to exceed 1.3A.
- Input 1 is set to Open Activation 1.

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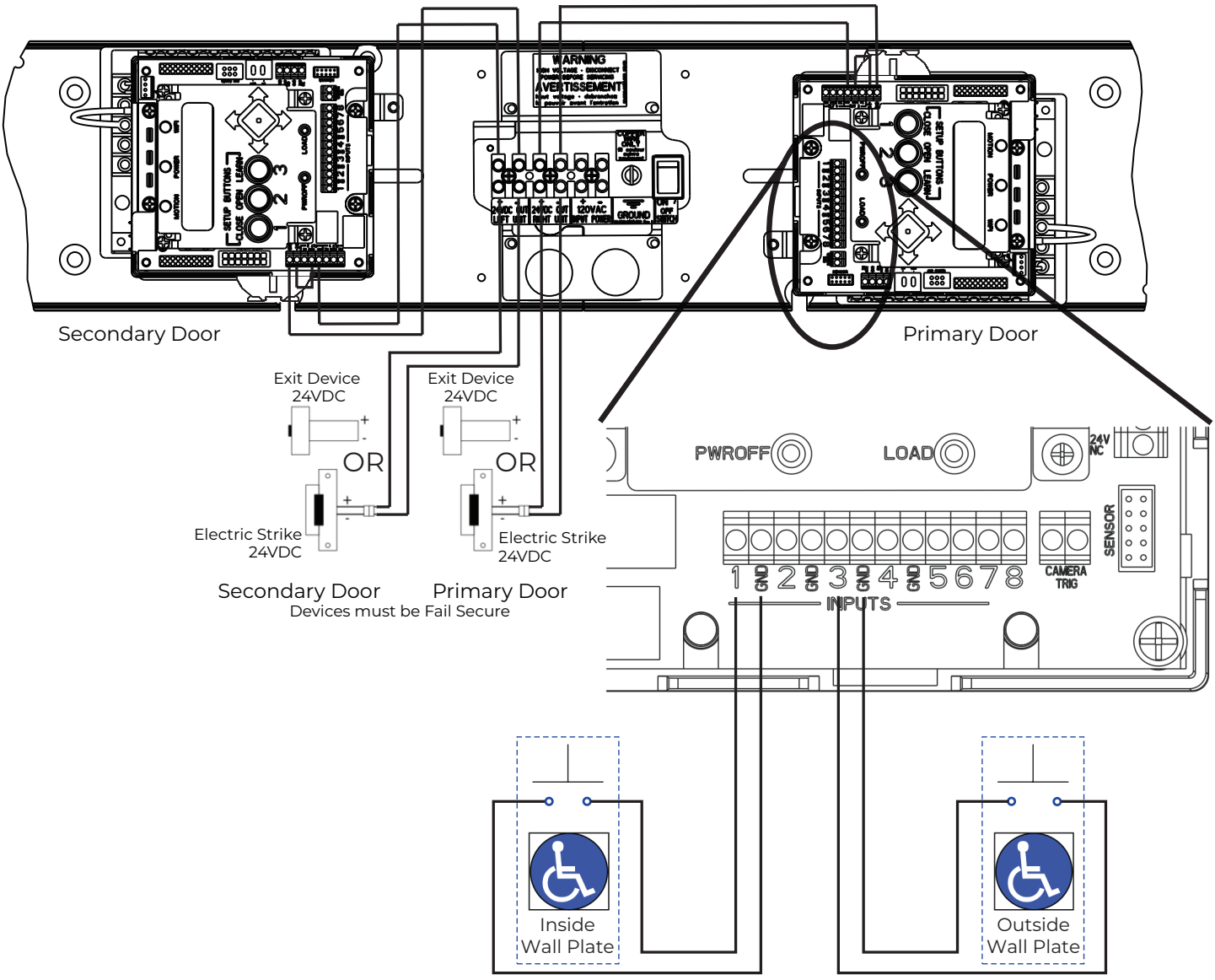
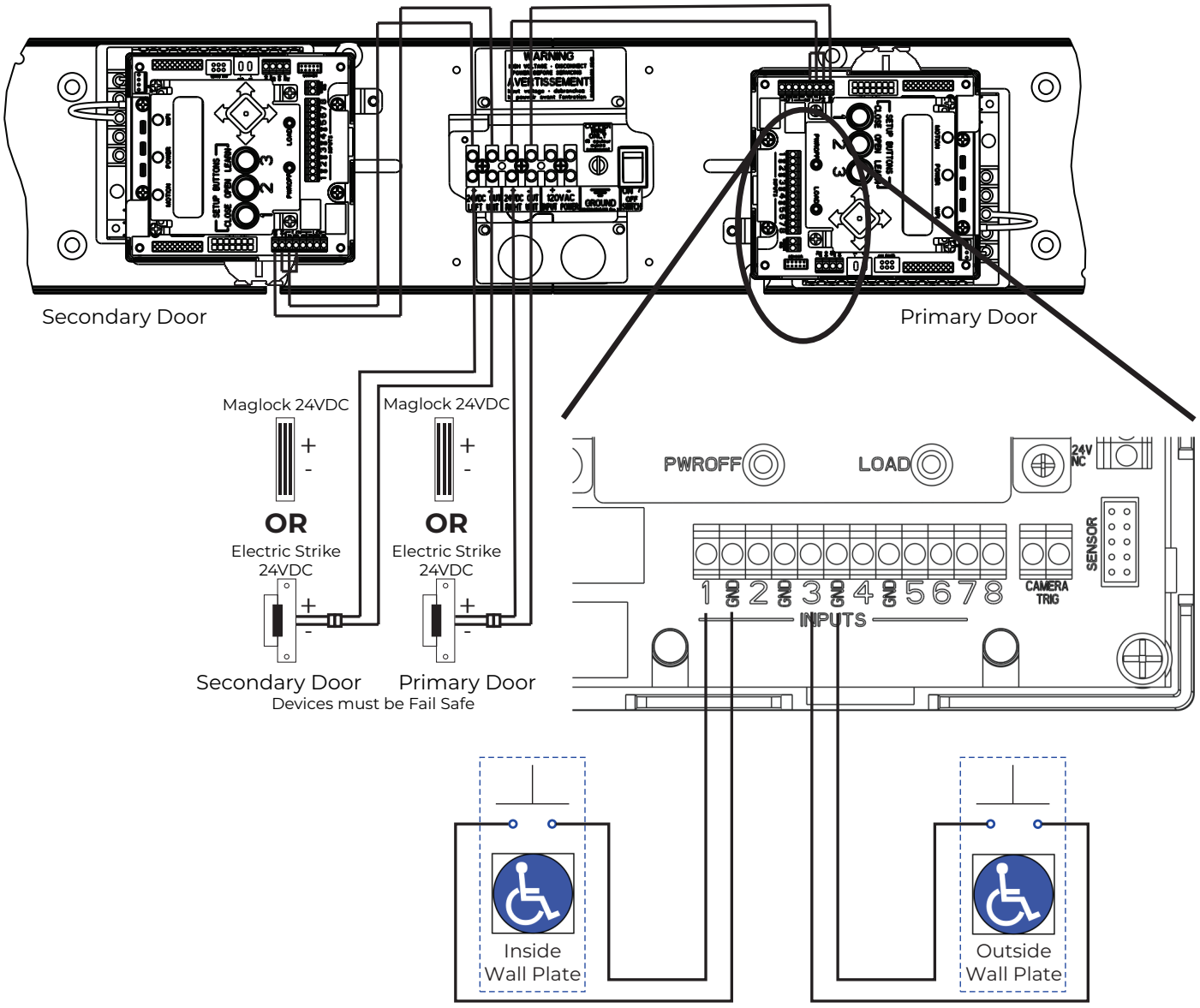
Double Door 24VDC Fail Secure Electric Strike or Electric Exit Device



- For Double Door applications only. (The sync cable must be used to connect inverters.)
- The doors are normally closed and latched.
- Activating the switch will unlock the electric strike or exit device and the door will automatically open.
- The door will close after hold open time delay has expired.
- The doors will remain locked during power failure.
- Input 1 set to Open Activation 1.
- Input 3 set to Open Activation 2.
- To turn on the relay (Relay 2), Latch Retraction (Refer to Output Connections on page 16) and/or Open Delay (Refer to Setup options on page 10), each feature must be turned on using adjustment procedures.

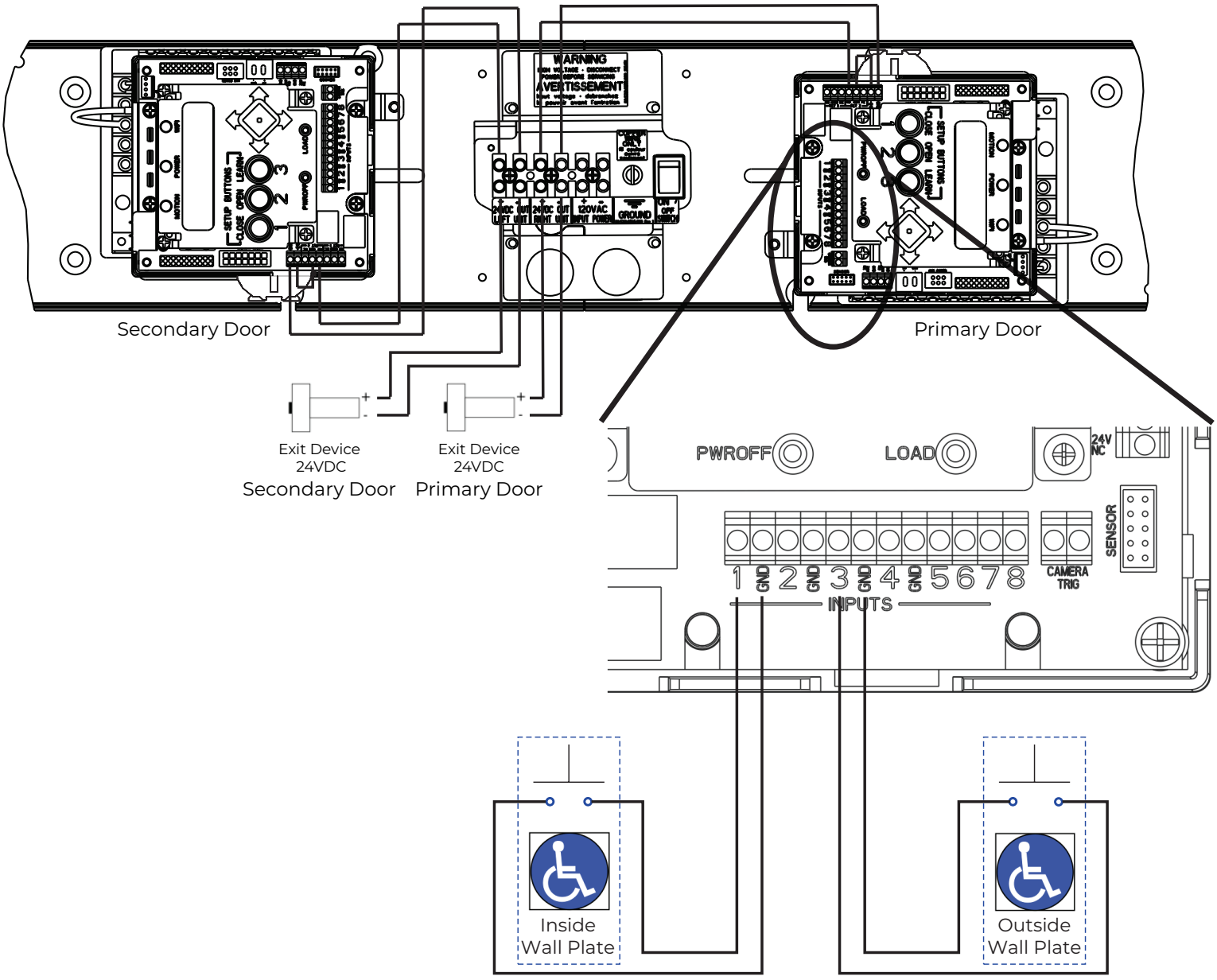
Double Door 24VDC Fail Safe Electric Strike or Electromagnetic Lock

(change factory pre-wiring to illustration below - move NO to NC on controller)



- For Double Door applications only.
  (The sync cable must be used to connect inverters.)
- The doors are normally closed and latched.
- Activating the switch will unlock the electric strike or mag lock and the door will open automatically.
- The door will close after the hold open time delay has expired.
- The door will remain unlocked during a power failure.
- Current draw at the Power Outputs not to exceed 1.3A.
- To turn on the relay (Relay 2), Latch Retraction (Refer to Output Connections on page 16) and/or Open Delay (Refer to Setup options on page 10), each feature must be turned on using adjustment procedures.

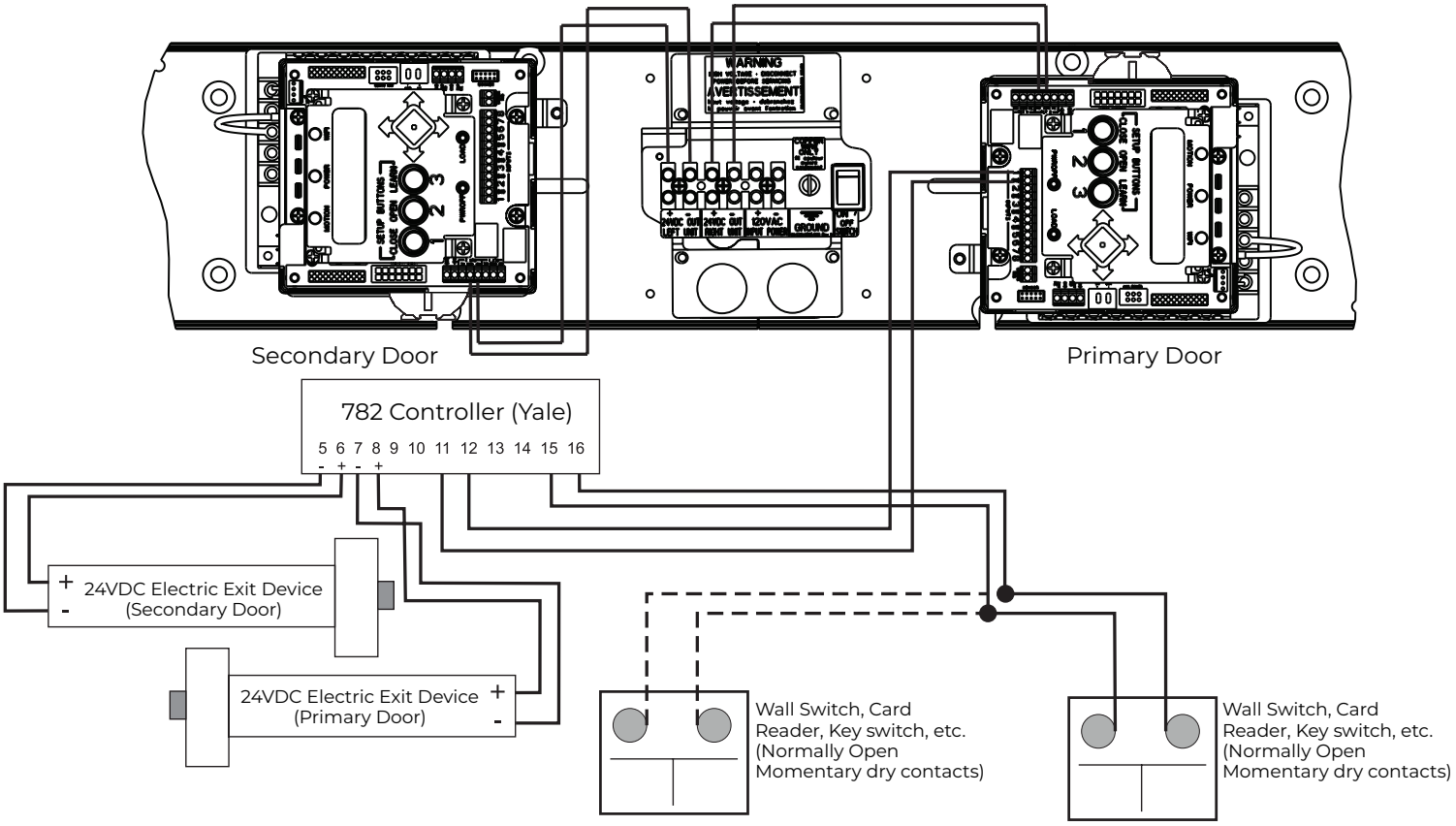
Double Door 24VDC Electric Exit Device Powered By Operator



- For Double Door applications only.
  (Sync Cable must be used to connect inverters.)
- The doors are normally closed and latched.
- Activating the switch will unlock the exit device and the door will open automatically.
- The door will close after hold open time delay has expired.
- The doors will remain locked during power failure.
- Input 1 set to Open Activation 1.
- Input 3 set to Open Activation 2
- To turn on relay (Relay 2), Latch Retraction (Output Connections, page 19) and/or Open Delay (Set options, page 10) features must be turned on using adjustment procedures on pages indicated.

Double Door Electric Latch Retraction Exit Device Powered Through 782 Controller

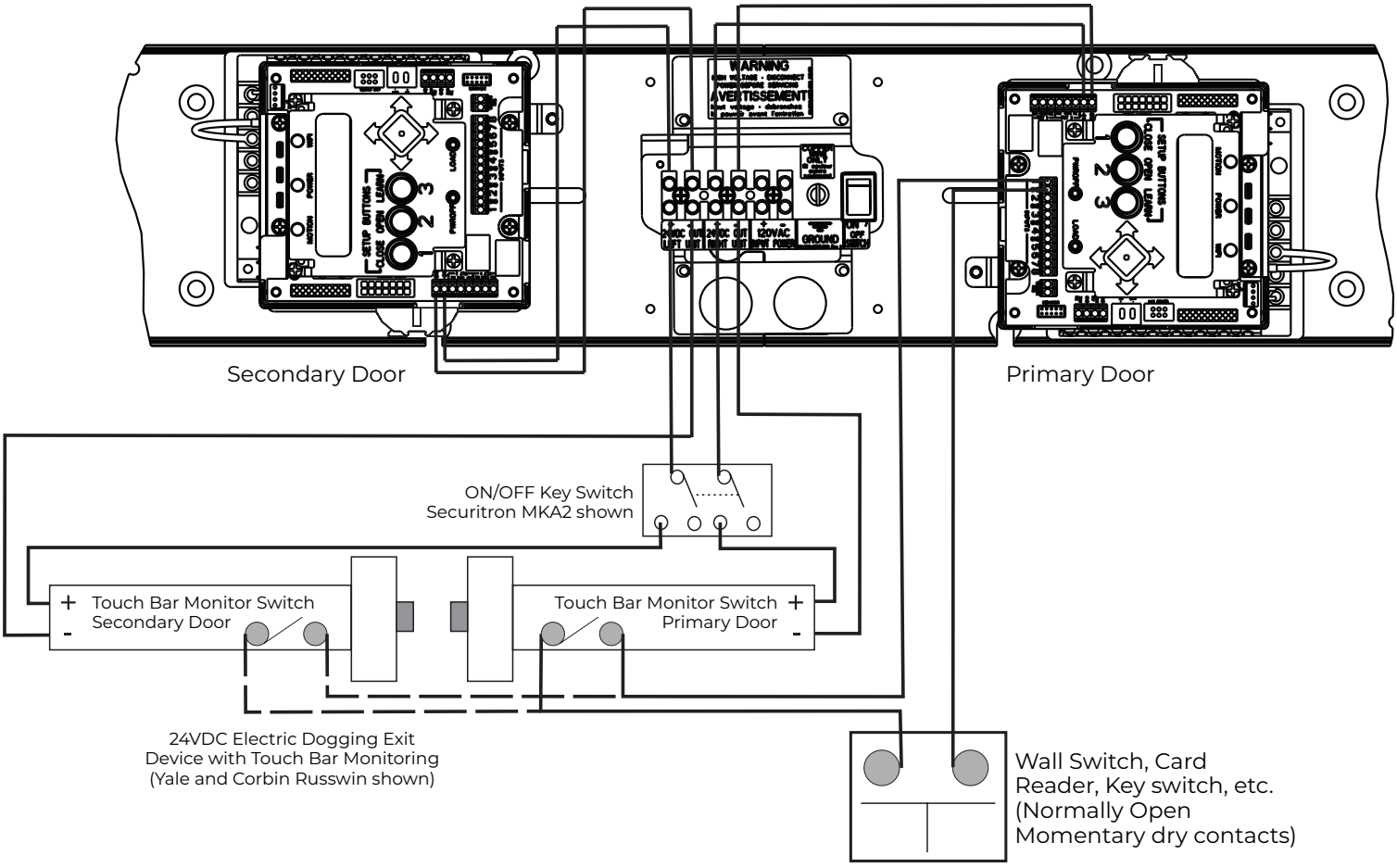
Change Factory Pre-Wiring to Illustration Below (move GND to COM)



- For Double Door applications only (Sync Cable must be used to connect inverters.)
- The doors are normally closed and latched.
- Activating the switch will retract the exit device latch bolt and the operator will open the door.
- The door will close after hold open time delay has elapsed.
- The Exit device allows egress at all times.
- The Exit device allows egress during power failure.
- Contact Tech Support for other devices or manufacturer's instructions.

Double Door Electric Dogging Exit Device

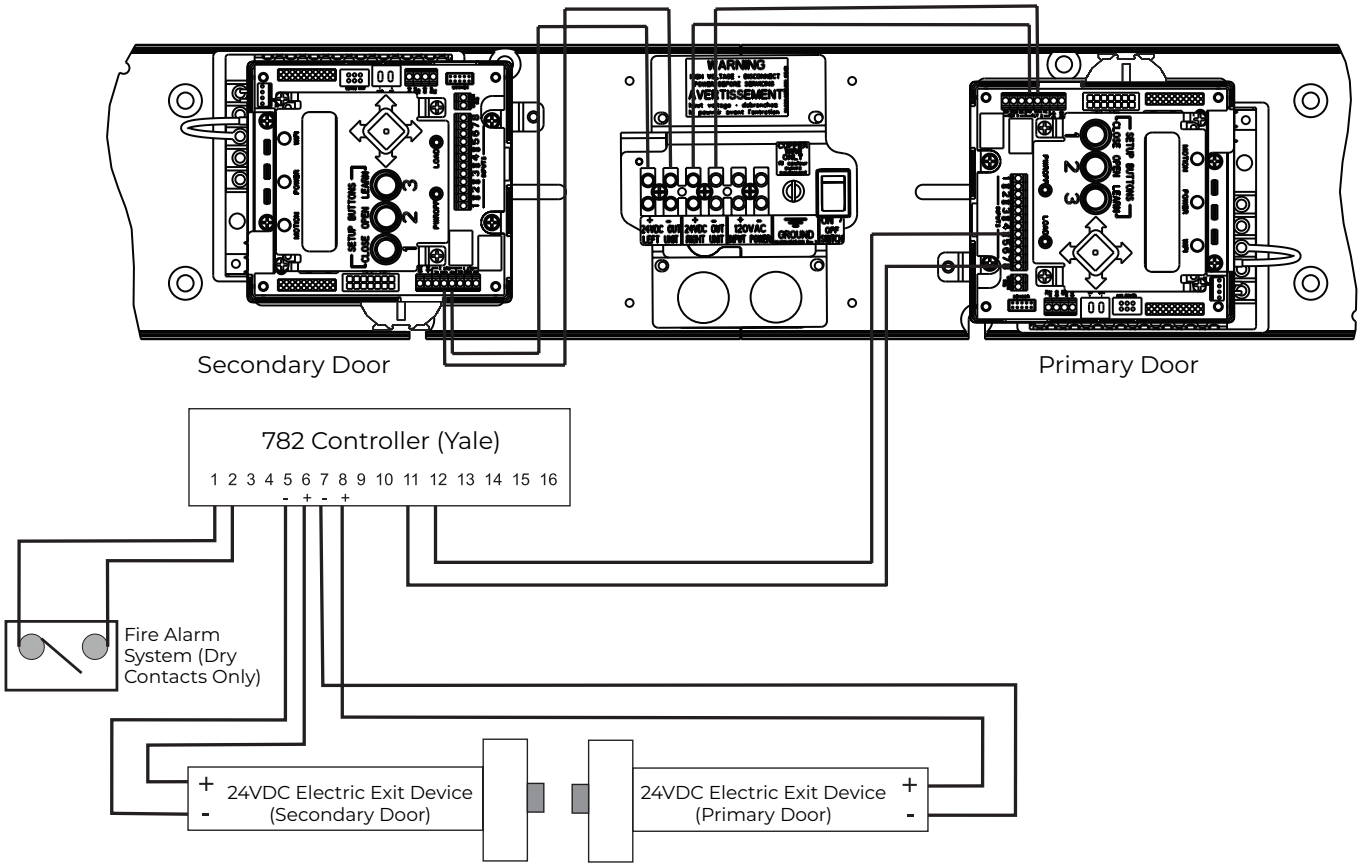
(change factory pre-wiring to illustration below - move NO to +24)



- For Double Door applications only (Sync Cable must be used to connect inverters.)
- The doors are normally closed and latched.
- Turning the key switch ON will apply power to the exit device.
- First depression on the device touch bar will electrically dog the device for push/pull operation.
- The door will open automatically when the wall switch is depressed.
- The door will close after the hold open time delay has expired.
- The device will re-latch during a power failure or when the key switch is turned off.
- The Exit device allows egress at all times, including during power failures.
- Current draw at the Power Outputs not to exceed 1.3A.
- Input 1 is set to Open Activation 1.
- Input 3 is set to Open Activation 2.
- To turn on the relay (Relay 2), Latch Retraction (Refer to Output Connections on page 16) and/or Open Delay (Refer to Setup options on page 10), each feature must be turned on using adjustment procedures.

Double Door Electric Latch Retraction Exit Device for Smoke Ventilation - Blow Open Function

(change factory pre-wiring to illustration below - move GND to COM)

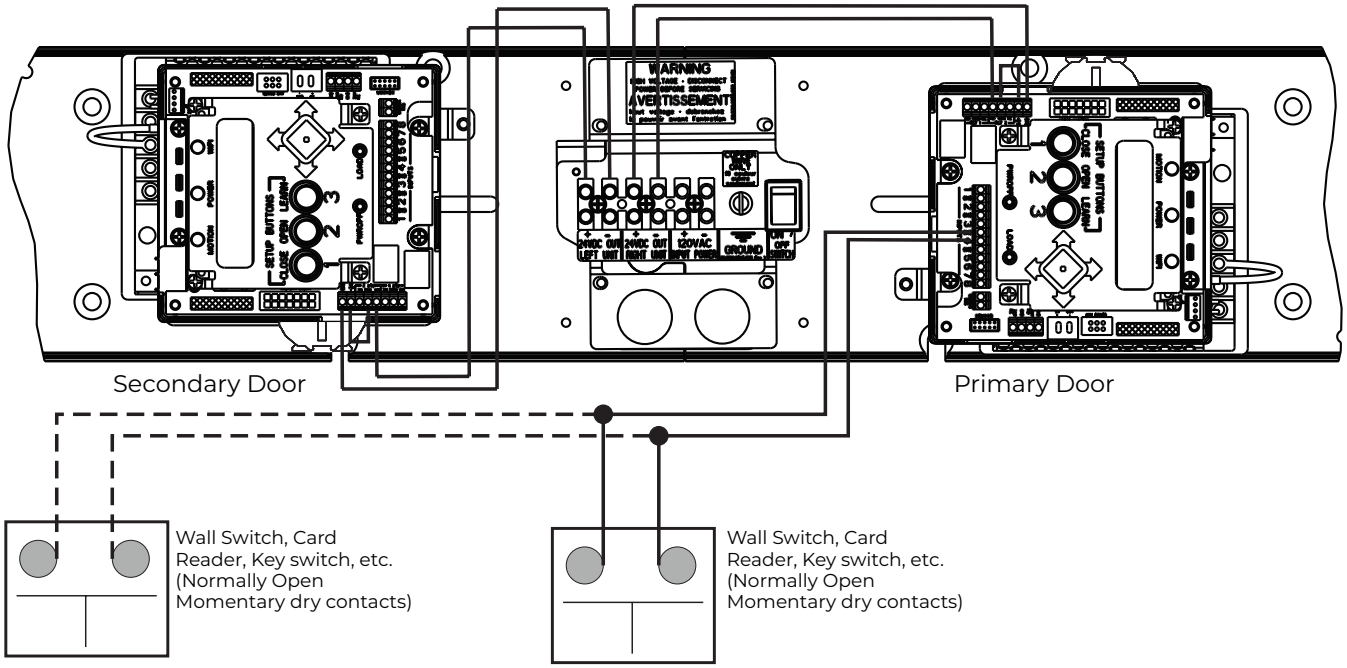


NOTE: This application must be approved by local authority having jurisdiction (AHJ).

- For Double Door applications only (Sync Cable must be used to connect inverters.)
- The doors are normally closed and latched.
- A Fire Alarm activation will retract the exit device latch bolt and the door will open automatically.
- The door will remain open until the Fire Alarm System has been reset.
- The door operator's main power input must be wired into the building's back-up power supply.
- The exit device allows egress at all times, including during power failures.
- Input 8 set to Door Blow Open or Blow Open Override.

Double Door Hard Wired Executive Function

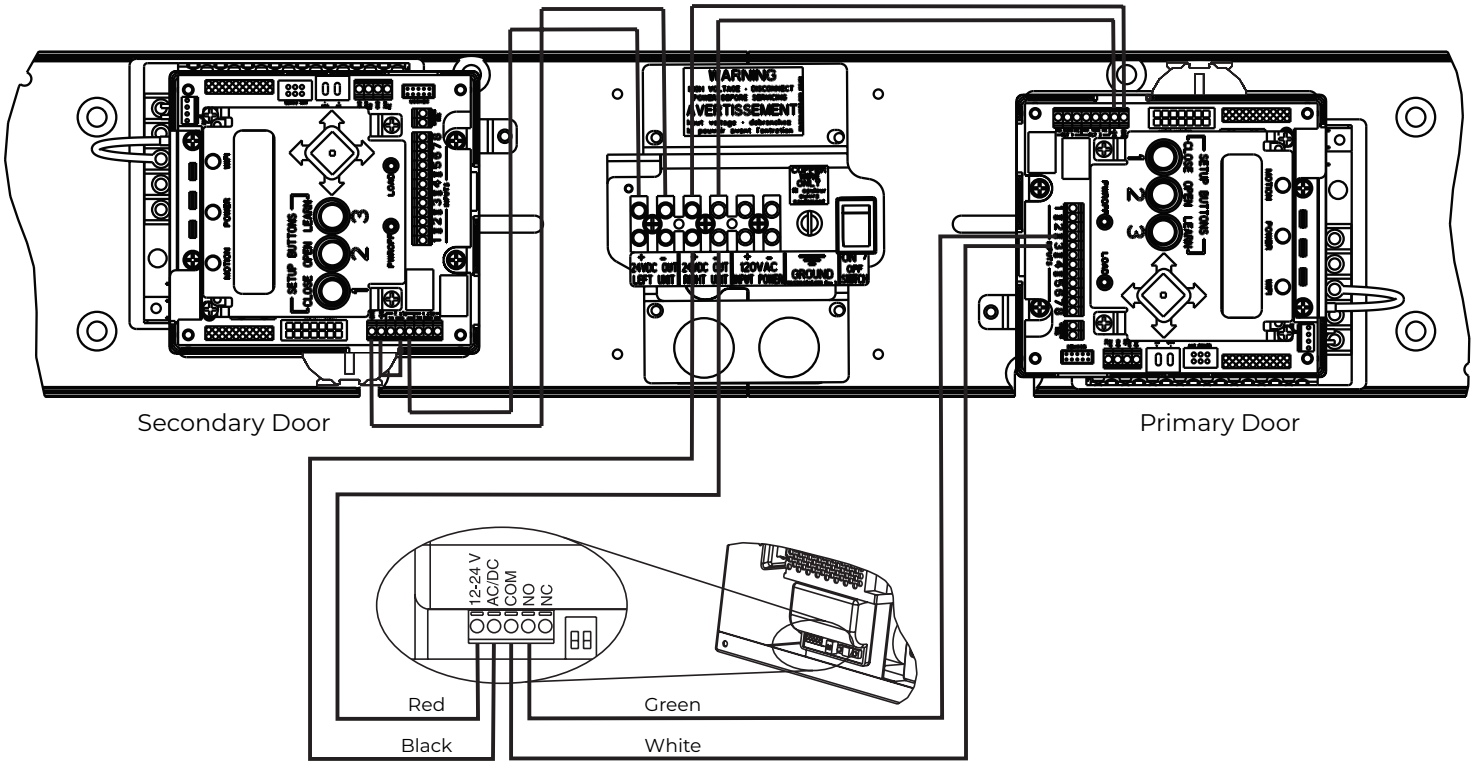
Factory pre-wiring not required to change.



- For Double Door applications only (Sync Cable must be used to connect inverters.)
- The doors are normally closed.
- Activating either switch will open the door.
- The door will remain in indefinite hold open until either switch is activated a second time, causing door to close.

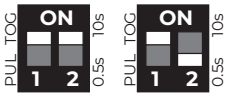
Double Door Radio Frequency Executive Function

If Installing in the Field, change Factory Pre-Wiring to Illustration Below (move NO to +24)

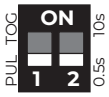


- For Double Door applications only (Sync Cable must be used to connect inverters.)
- The doors are normally closed.
- Activating the wireless switch or hand held wireless transmitter will open the door.
- The door will remain in indefinite hold open until the wireless switch or hand held transmitter is activated a second time causing the door to close.
- Current draw at the power outputs not to exceed 1.3A.
- Input X is set to Executive Mode.

433MHz Receiver User's Guide

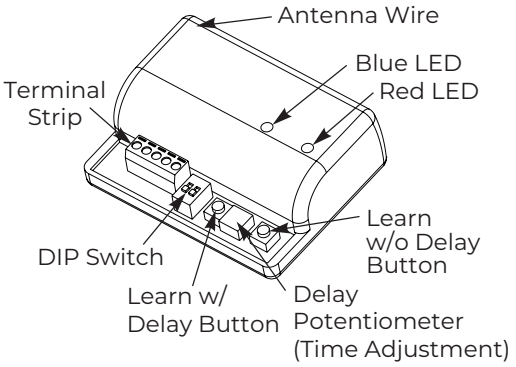


In Toggle Setting (1-ON), Hold Time is inactive. Either setting for #2 dip switch will have same result.



0.5 second Pulse Setting

10 second Pulse Setting



#1	Description	Function
OFF	Pulse Relay	Press transmitter once and relay will be active momentarily.
ON	Toggle Relay	Press transmitter once and relay output is active indefinitely. Press it again and relay will de-energize indefinitely.

#2	Description	Function
OFF	0.5s Hold Time	Relay will remain active 0.5 sec after loss of activation.
ON	10s Hold Time	Relay will remain active 10 sec after loss of activation.

NOTES:

- Always stop pedestrian traffic through the doorway when performing tests that may result in unexpected reactions by the door.
- Ensure compliance with all applicable safety standards upon completion of the installation.

Hand-Held Configuration

1. Set the dip switches on the receiver to the desired activation cycle (dip switch 1 - Toggle or Pulse and dip switch 2 - 0.5s or 10s hold).
2. Press either the Learn w/ Delay Button or the Learn w/o Delay Button on the receiver, depending on activation requirements (if delay learn is selected, adjust the delay potentiometer to the counterclockwise limit, 0 second delay).
   - The red LED on the receiver will flash.
3. After learn cycle is complete, adjust the delay potentiometer to the desired delay time (0 - 30 sec).
4. Press the transmitter button repeatedly until the blue LED on receiver illuminates, indicating the receiver has received the signal from the transmitter.

   NOTE: Repeat Steps 2 - 4 to program additional transmitters.
5. **To test the system**: Press the transmitter button (Red LED on Transmitter will illuminate) and observe that Blue LED illuminates on receiver. This indicates that relay has been activated.

Push Plate Configuration

1. Before beginning, prepare the installation of the push plate.
2. Connect the wires from the transmitter to the NO and COM contacts of the push plate's switch.
3. Follow Steps 1 - 4 of the Hand-Held Configuration;
4. Press push plate to activate the transmitter.
5. Attach the transmitter to the inside of the electrical box and complete the installation.

Removing Transmitter Code(s)

Single Transmitter Code:

- Press both the Delay and No Delay Buttons simultaneously until the red LED flashes once (approximately 1 second).
- Press the transmitter button twice within 10 seconds and the transmitter code will be deleted.

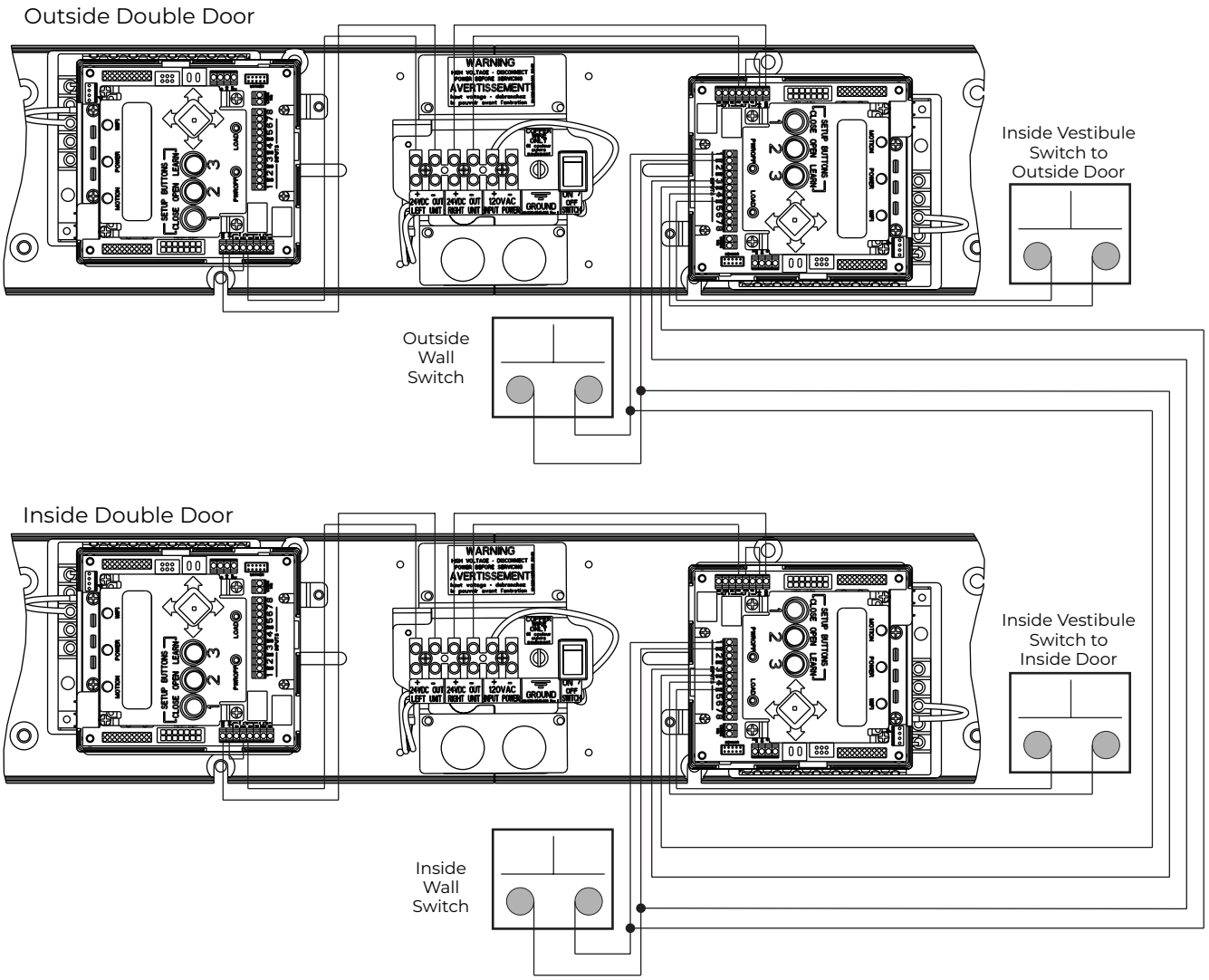
All Transmitter Codes:

- Press and hold both the Delay and No Delay Buttons simultaneously until the blue LED illuminates, then release (approximately 10 seconds).

Troubleshooting	
Problem	**Solution**
The LED on the receiver is flickering - unable to program and/or doesn't work	Push plate stuck or faulty transmitter. Disconnect each push plate until LED goes out. If LED does not go out, remove each transmitter battery until it does. Replace appropriate transmitter.
Receiver intermittently doesn't receive transmitter(s) signal.	Extend receiver antenna wire only in multiples of 6-3/4" (171mm) Example: 6.75 x 4 = 27" (686mm) of extended antenna wire.

Double Door Vestibule Function

Using Factory Presets

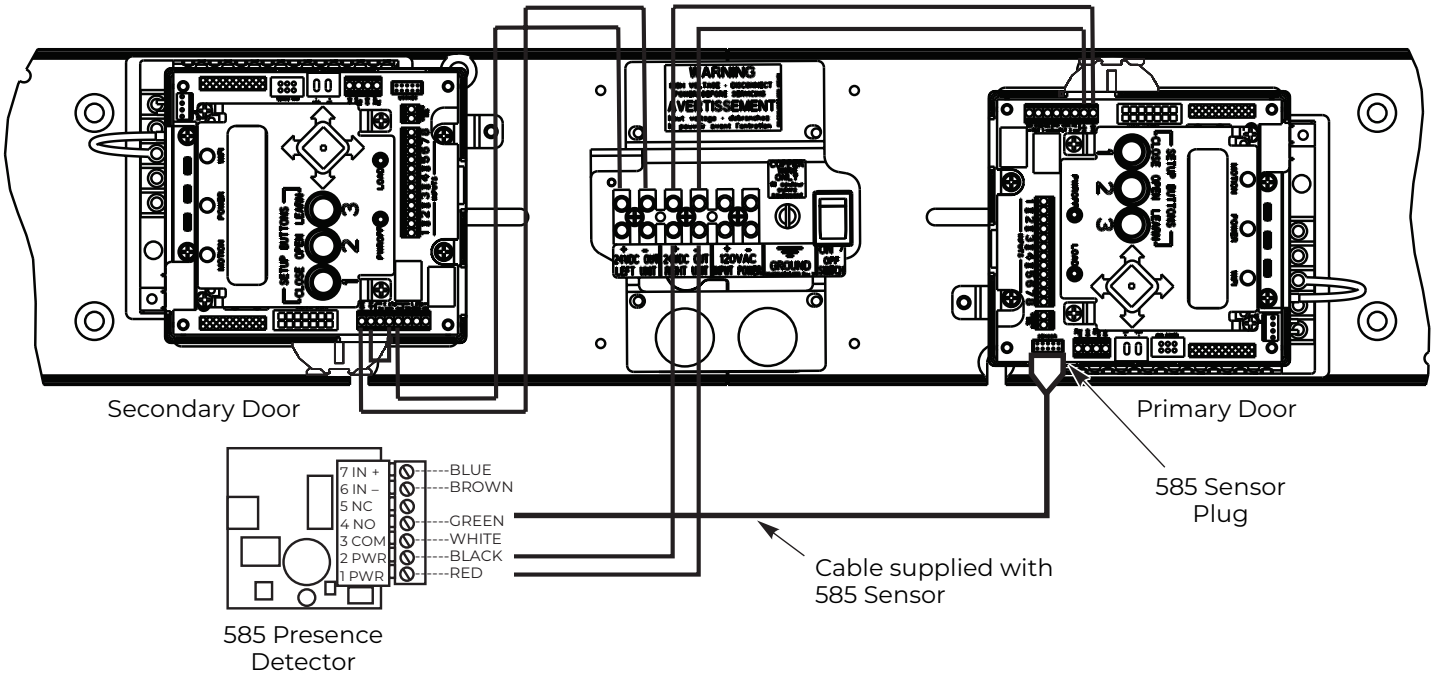


- For Double Door applications only (Sync Cable must be used to connect inverters.)
- The doors are normally closed and latched.
- Activating the outside door switch will open the outside door.
  - Inside doors will open after the Open Delay 1 time has elapsed.
- Activating the inside door switch will open the inside door.
  - Outside doors will open after the Open Delay 1 time has elapsed.
- Activating the inside vestibule switch to the outside door will open the outside doors only.
- Activating the inside vestibule switch to the inside door will open the outside doors only.

Inverter Settings:

- Input 1 to be set to Open Activation 1.
- Input 3 to be set to Open Activation 3.
- Input 4 to be set to Open Activation 1.

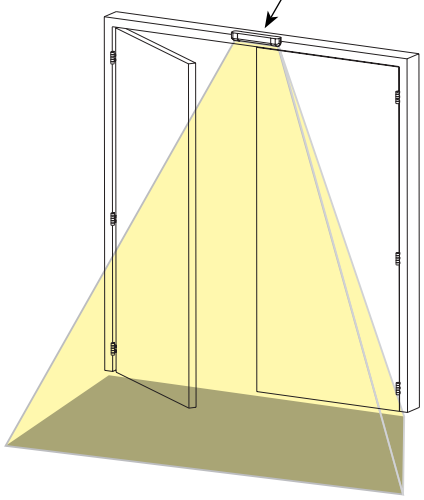
585 Presence Detector on Standard Double Door Opening



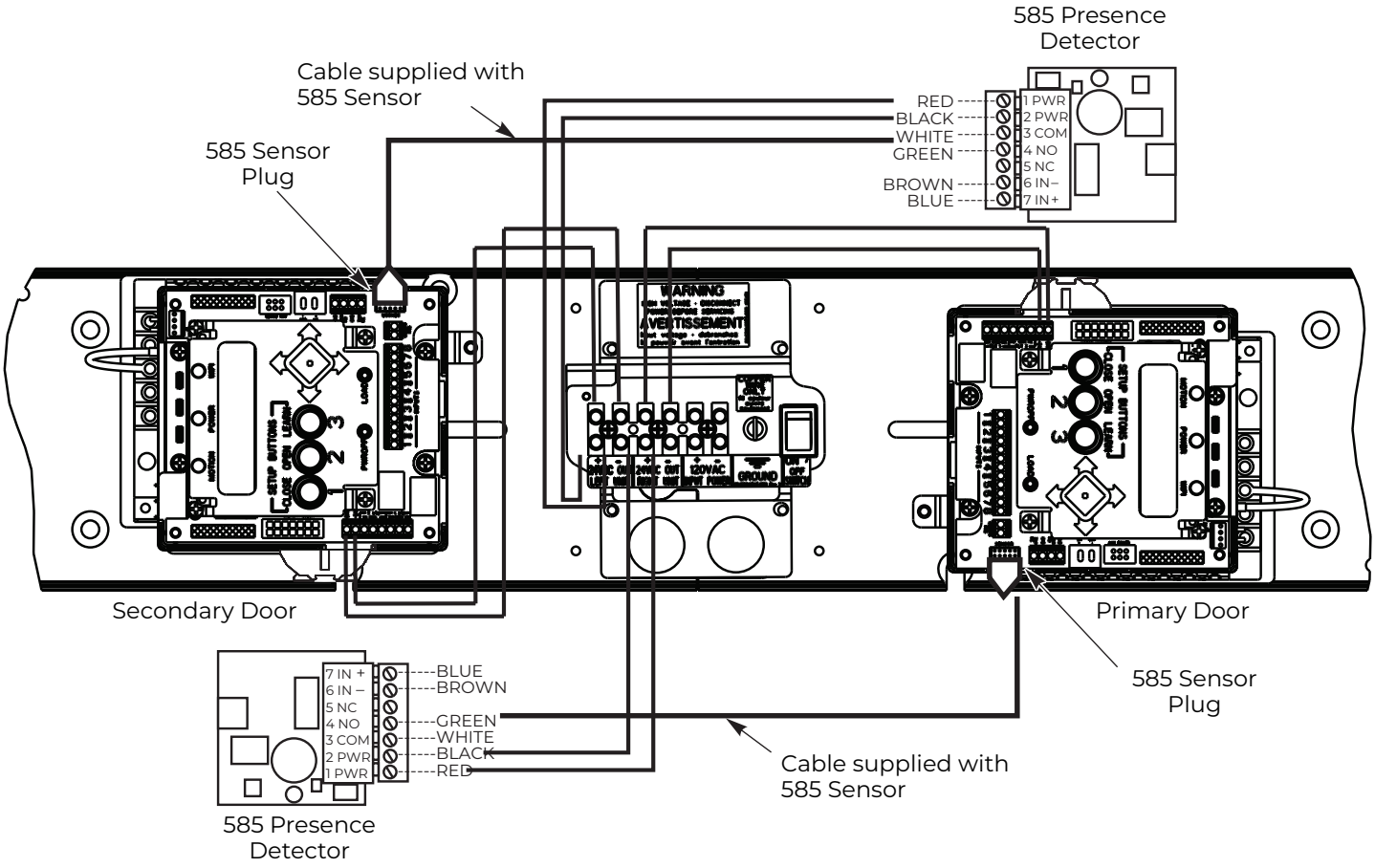
- For Double Door applications only (Sync Cable must be used to connect inverters.)
- The doors are normally closed.
- Activating the switch will open door.
- The door will close after the hold open time delay has elapsed.
- If the door is closed and the 585 Presence Detector senses something in the opening, the door will not open when activated.
- If the door is at an open position and the 585 Presence Detector senses something in the opening, the door will not close after the hold open time delay has elapsed.
- Once the opening is clear, the door will close after the hold open time delay has elapsed again.

Presence Detectors and/or sensors CANNOT be used to activate an opening cycle of the door.

585 Presence Detector mounted to / above frame (on single opening)

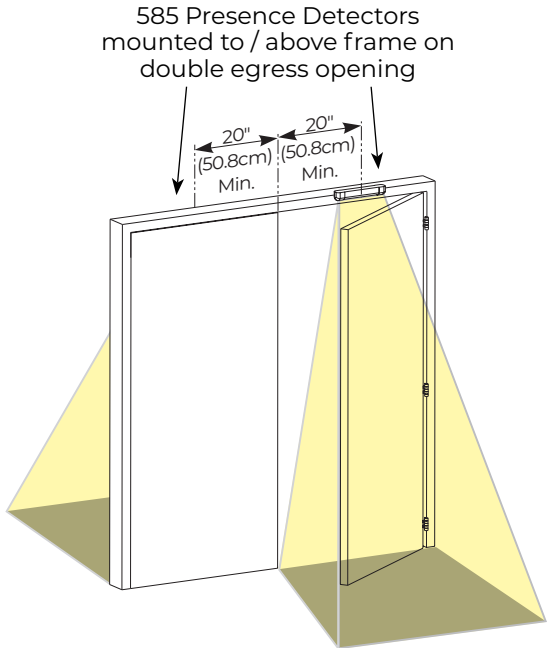


585 Presence Detector on Double Egress Opening Only



- For Double Door applications only (Sync Cable must be used to connect inverters.)
- Door is normally closed.
- Activating switch will open door.
- Door will close after hold open time delay has elapsed.
- If door is closed and 585 Presence Detector senses something in opening, door will not open.
- If door is at open position and 585 Presence Detector senses something in opening, door will not close.
- For sensor adjustments, see instructions supplied with sensor.

Presence Detectors and/or sensors CANNOT be used to activate an opening cycle of the door.



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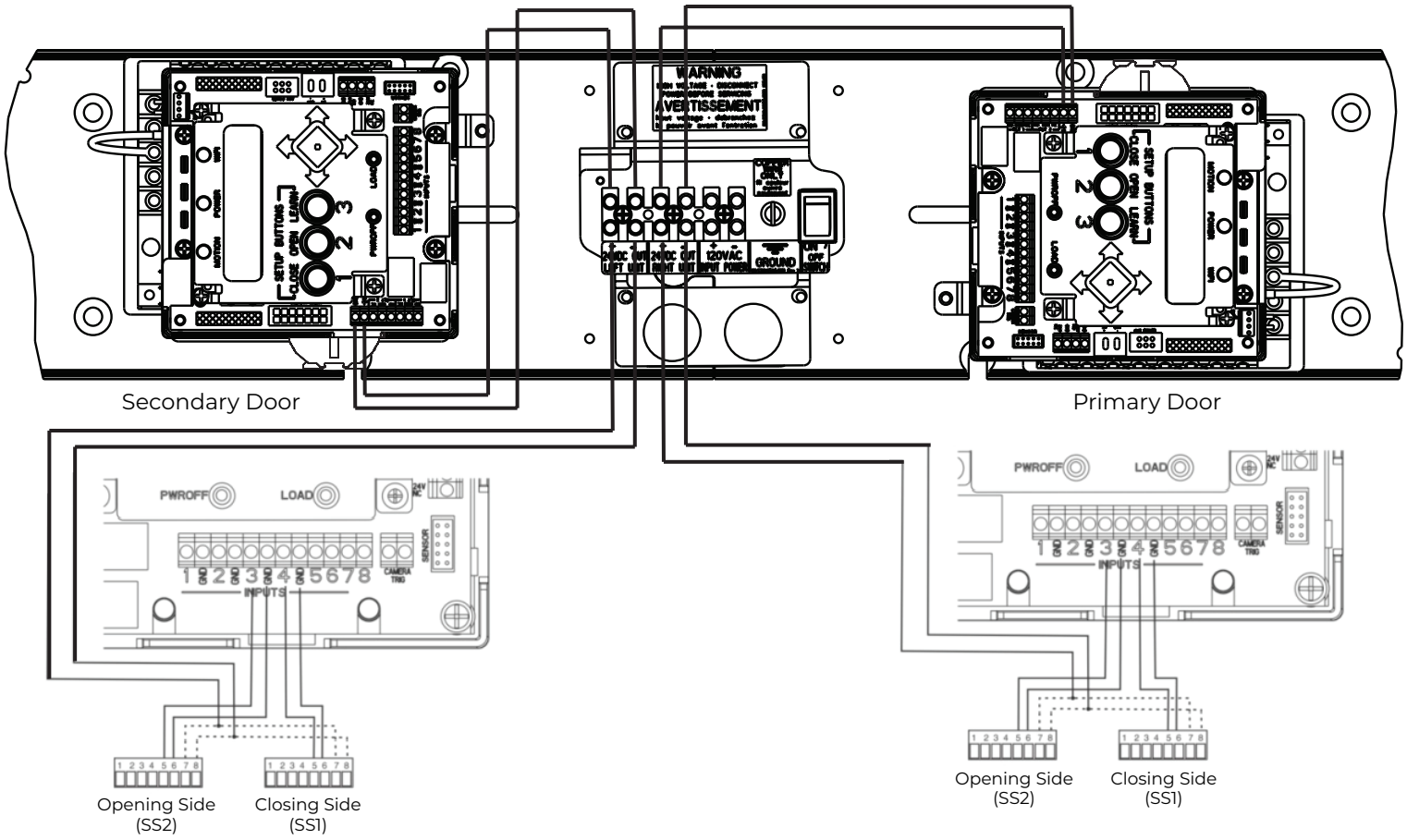
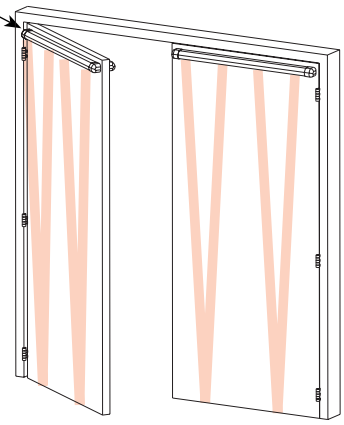
596 Series Presence Detector on Double Door Opening



- For Double Door applications only (Sync Cable must be used to connect inverters.)
- The doors are normally closed.
- Activating the switch will open the door.
- The door will close after the hold open time delay has elapsed.
- If using door mounted presence sensors:
  - For additional setup information for the presence sensor, refer to the instructions included with sensor.
  - For the Closing cycle sensor (SS1), set Input 4 to Closing Obstruction. When the sensor detects an obstruction while closing, the door will fully reopen.
  - For the Opening cycle sensor (SS2), set Input 3 to Opening Obstruction. When the sensor detects an obstruction while opening, the door will close.

NOTE: Presence Detector and/or sensors CANNOT be used to activate opening cycle of door.

596 Presence Sensor mounted to opening side or closing side of door (on double opening)



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Troubleshooting Guide

Problem	Solution
Door closing too fast	Decrease Closing Speed (Onboard: see page 10, Wi-Fi: see page 13)
Door closing too slow	1. Physically adjust Latch and/or Sweep valves on closer counterclockwise **OR** 2. Increase Closing Speed (Onboard: see page 10, Wi-Fi: see page 13)
Door does not open to desired location	1. Repeat Open Position setup process (Onboard: see page 5, Wi-Fi: see page 12), **OR** 2. Increase Obst Delay (Onboard: see page 10, Wi-Fi: see page 13)
Door does not reach fully opened position	1. Repeat Open Position setup process (Onboard: see page 5, Wi-Fi: see page 12), **OR** 2. Increase Obst Delay (Onboard: see page 10, Wi-Fi: see page 13)
Door opens and closes repeatedly	Change Selector Mode switch from H/O to On (see page 4)
Motor is driving in the wrong direction	Change Arm Type (Push / Pull). A new Setup is required. (Onboard: see page 5, Wi-Fi: see page 10)
When door reaches open position, door drifts toward closed position	Increase Hold Speed until door stops drifting. (Onboard: see page 10, Wi-Fi: see page 13)
When door reaches open position, door drifts further open	Decrease Hold Speed until door stops drifting. (Onboard: see page 10, Wi-Fi: see page 13)
When door reaches open position, door bounces	Decrease Slow Speed. (Onboard: see page 10, Wi-Fi: see page 13)
When signal is received, operator tries to open door before auxiliary components are un-latched / retracted	1. Confirm latch devices are getting proper power, 2. Confirm latch devices are receiving power long enough to fully retract - adjust Latch Retraction on controller as needed, (Onboard: see page 10, Wi-Fi: see page 13) 3. If latch device is not retracting fast enough, increase Start Delay on controller to assure latch device has had sufficient time to fully retract before operator starts opening door. (Onboard: see page 10, Wi-Fi: see page 13)
Error message says “Short Circuit”	Turn off power to unit. Check wiring for short / cut.
Error message says “Over Voltage”	Check incoming power - line voltage has exceeded 145VAC.
Error message says “Under Voltage”	Check incoming power - line voltage has dropped below 80VAC.
Error message says “Aux1, Aux 2, or Aux 3 Stuck”	Disconnect Aux 1, 2, or 3 inputs and confirm error message goes away. If so, make sure input device is not stuck (sending constant signal). Controller has a 3 minute protection limit.
Error message says “Comm Error”	Inverter must be replaced.
Error message says “Presence Detect”	Unit has a presence detector attached and device has been activated.
Error message says “Drive Disabled”	Selector Mode switch is in the “Off” position. (see page 4)

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