

6061/6071 Unitrol Series (Push Side) Power Operator Installation Instructions

Norton®
ASSA ABLOY

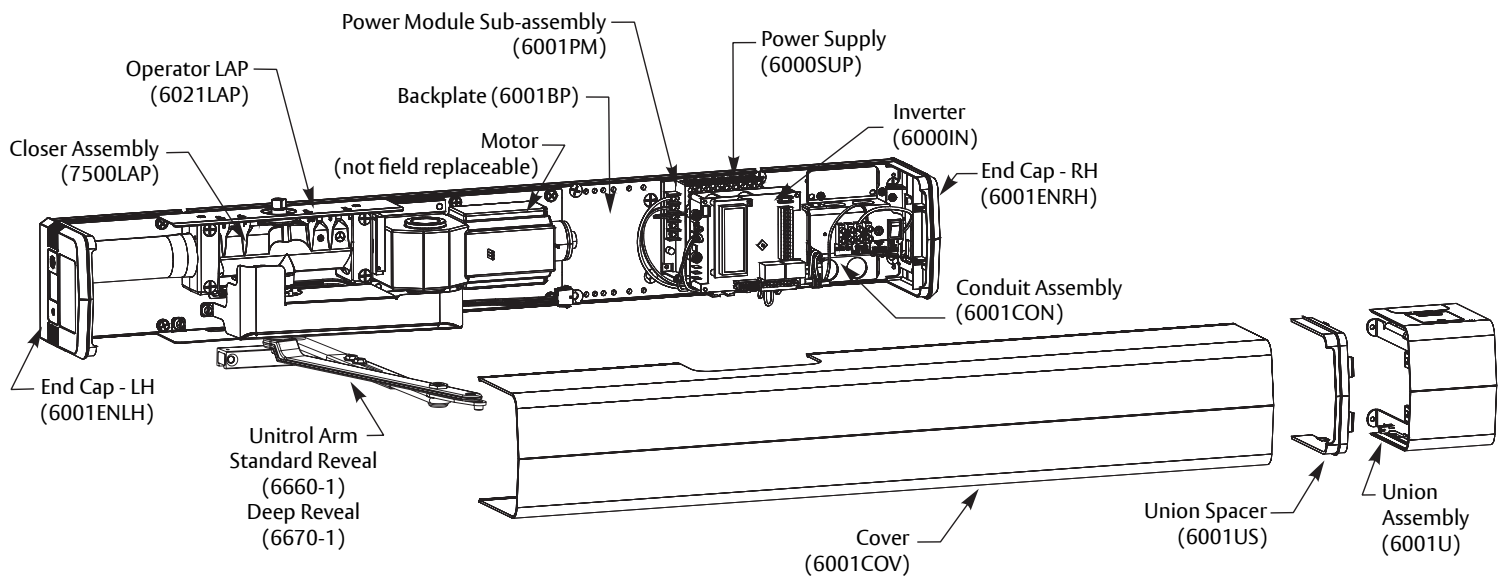
⚠ WARNING

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.

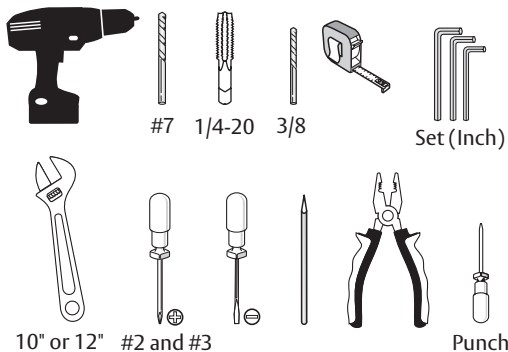
Pour la version française voir www.nortondoорcontrols.com.
READ AND FOLLOW ALL INSTRUCTIONS. SAVE THESE INSTRUCTIONS.

6061/6071

Door Swing	85°	90°	95°	100°	105°	110°
Minimum Door Width	36"	35"	34"	34"	33"	33"

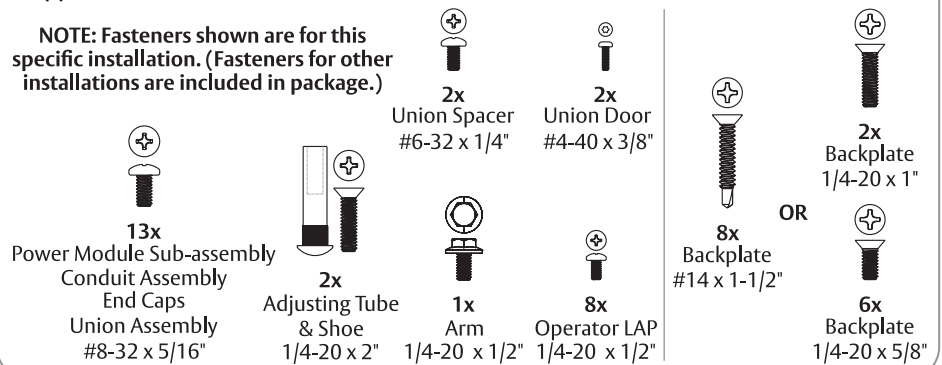


Tools Needed



Supplied Fasteners

NOTE: Fasteners shown are for this specific installation. (Fasteners for other installations are included in package.)



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Certifications and Standards

- ETL Certified: Operator conforms to ANSI/UL standard 325 for automatic closing doors and UL10C Positive Pressure Fire Test for Door Assemblies.
- ANSI A156.19: These products are designed to conform to this specification “for power assist and low energy power operated doors.” These products are designed to exceed all the requirements for “Low Energy Power Operated Door”.
- Americans with Disabilities Act (A.D.A.): These door operators can be installed and adjusted to conform with A.D.A. regulations.
- ANSI A117.1: These door controls permit door assemblies to conform to the requirements of this specification “for buildings and facilities - providing accessibility and usability for physically handicap people”.

Product Safety Warnings

WARNING: To reduce risk of injury to person, use this operator only with Pedestrian Swing doors. **FOR INDOOR USE ONLY**

1. READ AND FOLLOW ALL INSTRUCTIONS.
2. Install only on a properly operating and balanced door. A door that is operating improperly could cause severe injury. Have qualified service personnel make repairs to any hardware before installing the operator.
3. Remove, or make inoperative, all locks (unless mechanically and/or electrically interlocked to the power unit) that are connected to the door before installing the operator.
4. Do not connect the door operator to the source power until instructed to do so.
5. Never let children operate or play with door controls. Keep remote control (when provided) away from children.
6. Personnel should keep away from a moving door in motion.
7. Test door’s features at least once a month. After adjusting either force or limit of travel, retest door operator’s features. Failure to adjust operator properly may cause severe injury or death.
8. KEEP DOOR PROPERLY OPERATING. An improperly operating door could cause severe injury or death.
9. SAVE THESE INSTRUCTIONS.

General Information

Operation:

Your Low Energy Operator can be configured in three variations to meet the standards:

1. Push plates, Wave-to-open switches, etc. are available to activate the operator.
2. Push & Go can be enabled. In this mode, your door is pushed (or pulled) slowly 15° manually, and then automatically opens to full open position.
3. Door can be used as a manual door. The door will work and act like a standard door closer, with or without power, when pushed or pulled open manually. If Push & Go is enabled and door is opened quickly, door will function as a manual door (energy save feature). Push plates are still active.

If desired, overhead presence devices can be provided for an extra level of protection. Consult local authority having jurisdiction. These are not required by current ANSI/BHMA A156.19 standards.

Opening:

When an opening signal is received by the control unit, the door opens to the fully open position. The open position is held by the motor and is adjustable from 0 to 30 seconds. If the door is obstructed while opening, the door will stop; the operator will sense obstruction (obstruction time is adjustable from 0 to 5 seconds) and the door will close.

NOTE: Door must be visible by person operating activation switch(es). Auxiliary door stop (by others) required.

Closing:

When the hold open time has elapsed, the door closer will close the door automatically. The door will slow to low speed at latch before it reaches the fully closed position. The door is kept closed by spring force of the closer. If the door is obstructed while closing, the door will stop against the obstruction; the operator will sense obstruction and reopen to fully open position after obstruction time has been reached. Once the hold open time has elapsed a second time, the door closer will close the door automatically. If the door is obstructed during this second closing cycle, the door will stop and rest against the obstruction using only the force of the closer spring. To reset, allow door to fully close and re-activate push plates to test operation.

Infinite Hold Open:

An optional feature to be used if door is desired to be held open for more than 30 seconds.

Set selector mode switch on underside of union assembly to hold open. Door will immediately begin to open to the fully open position. Once door is fully open, brake on end of motor energizes holding door in open position. To release from hold open, if door is set up for executive operation (see page 18 or 20 for executive wiring instructions), door can be closed with activation device. A pull on the door will also allow the unit to be taken out of hold open. Once door has closed, the door will reopen to fully open position unless activation device is pressed or selector mode switch is changed from hold open position.

NOTE: Door must be visible by person operating activation switch(es). Auxiliary door stop (by others) required.



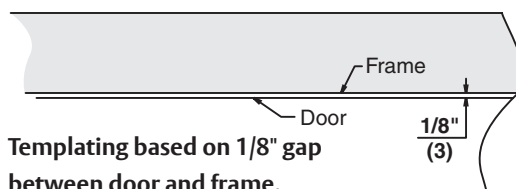
WARNING: Make sure (120V, 60Hz) input power is turned OFF at facility's main circuit breaker before proceeding with installation

Before You Begin

- All dimensions are given in inches. DO NOT scale drawings.
- Thickness recommended for reinforcements in hollow metal doors and frames is charted.
- This template information based upon use of 5" maximum width butt hinges.
- Maximum frame reveal is 4-3/4" for 6061 units and 4-13/16" up to 7-3/8" maximum for 6071 units.
- Before beginning the installation, verify that the door frame is properly reinforced and is well anchored in the wall. Frame header must be straight - without warp or bow.
- Unreinforced hollow metal frames and aluminum frames should be prepared and fitted with 1/4-20 blind rivet nuts, furnished by others.
- Concealed electrical conduit and concealed switch or sensor wires should be pulled to the frame before proceeding.

Fasteners for Frame:

- 1/4-20 Machine screws for hollow metal and aluminum.
- No. 14 x 2-3/4" (70mm) long sheet metal screws for wood.



Hollow Metal Door Frame Reinforcing		
Frame Material	Reinforcing	
	Recommended	Min. Required
12 Ga. .105 (2.66)	12 Ga. .105 (2.66)	18 Ga. .048 (1.21)
14 Ga. .075 (1.90)	10 Ga. .134 (3.41)	12 Ga. .105 (2.66)
16 Ga. .060 (1.52)	10 Ga. .134 (3.41)	12 Ga. .105 (2.66)
18 Ga. .048 (1.21)	8 Ga. .164 (4.18)	10 Ga. .134 (3.41)

Mounting Hardware		Door or Frame	Drill
	Backplate: 14 x 1-1/2 Flat Head Self Drilling Screw	Wood	3/16" (4.76mm)
	Backplate: 1/4-20 x 1 Flat Head Machine Screw	Metal	Drill #7 (.201 dia. or 5.10mm) Tap 1/4-20
	Backplate: 1/4-20 x 5/8 Flat Head Machine Screw		
	Adjusting Tube and Shoe: Sex Nut and Bolt (SNB) (optional)	Hollow Metal	9/32" (7.00mm) thru 3/8" (9.50mm) door face opposite to closer
		Aluminum or Wood	3/8" (9.50mm) thru

Technical Data

Input power:	120VAC, 60Hz
Power consumption:	.9 amps
Circuit breaker:	3 amps
Power supply:	24 V DC, max. 2.2 amp.
Door width:	28" - 48" (71-122 cm)
Door weight:	100-250 lb. (43-113 kg)
Door opening angle:	See page 1
Hold open time:	0-30 seconds (A.D.A. 5 seconds min.) Indefinite for optional Infinite Hold Open

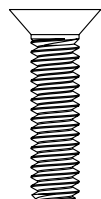
Notes:

- Permanent wiring is to be implemented as required by local codes.
- Activation devices: push plates, access control, mats, touchless wall switches, etc.
- Maximum wire size is:
12AWG at terminals LINE and NEUTRAL (120VAC; 60Hz) on Power Input Terminal mounted on inside of end cap.
14AWG at all other terminals
- Rate of operation shall not exceed 300 cycles of opening and closing per hour.

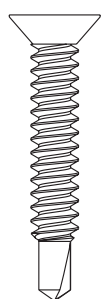
Prepare Frame and Door

Become familiar with operator components and fasteners. It is recommended that components remain in box until installed. Verify the reveal and minimum ceiling clearance for operator installation before proceeding. (Figure 1)

A. Prepare frame.



OR



1. Determine if push or pull and if left hand or right hand installation. (Figure 2)

NOTE: These instructions are for Unitrol PUSH only. See 80-9360-1026-020 instructions for 6011/6051 or 80-9360-1027-020 instructions for 6021/6031 Push installation.

2. Frame header MUST be flat / without twists. Backplate can be used as reference.

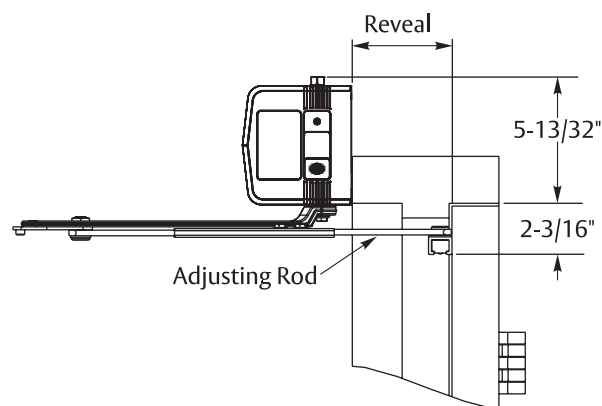
NOTE: If frame is not flat or is twisted, an additional steel back plate or shimming is required. Failure to mount unit properly can result in improper function of operator or inability to snap on cover.

3. Using template on page 26, prepare mounting holes for screws. (Figure 3)
 - a. Mark frame 5-5/8" from centerline of hinge toward latch edge of door and 5/16" up from underside of frame rabbet.
 - b. Mark 30-5/8" from centerline of hinge toward latch edge of door and 5/16" up from underside of frame rabbet.
 - c. Drill/tap two (2) 1/4-20 holes for steel frame or two (2) #14 holes for wood frame at marked locations.
4. Prepare holes for concealed mounted conduit (if applicable).
 - a. Mark frame 33-7/8" from centerline of hinge toward latch edge of door and 11/16" up from underside of frame rabbet.
 - b. Mark frame 1-1/4" from previous mark toward latch edge of door and 11/16" up from underside of frame rabbet.
 - c. Drill two (2) 7/8" diameter holes in frame at marked locations.
5. Using supplied backplate screw pack, insert screws into prepared mounting holes.

For Metal Frame: Use two (2) 1/4-20 x 1" flat head machine screws.

For Wood Frame: Use two (2) #14 x 1-1/2" flat head self-drilling screws.

NOTE: Do not tighten mounting screws at this time. Leave 5/16" minimum (thickness of backplate) between frame face and back of screw head.



Model No.	Reveal Type	Reveal Depth
6061	Standard	2-1/4" to 4-3/4"
6071	Deep	4-13/16" to 7-3/8"

Reveals less than 2-1/4" may be achieved by field cutting adjusting rod.

Figure 1

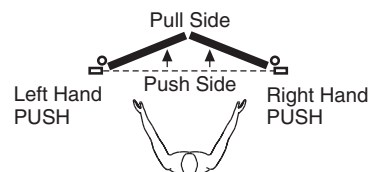


Figure 2

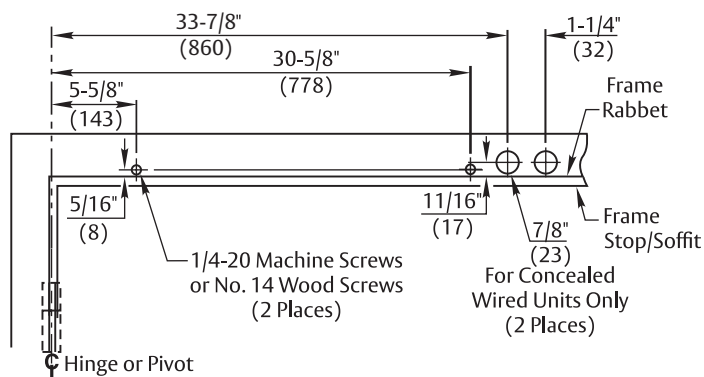


Figure 3 Left Hand Shown

Prepare Frame and Door

B. Mount Backplate.

1. Slide backplate over mounting screws. (Figure 4)

NOTE: Backplate conduit slots are ALWAYS toward latch edge of frame for proper orientation.

2. Use level in backplate to align and tighten mounting screws.
3. Using countersunk holes in backplate as a template, drill/tap remaining six (6) mounting holes: 1/4-20 for steel frame or #14 for wood frame. (Figure 5)

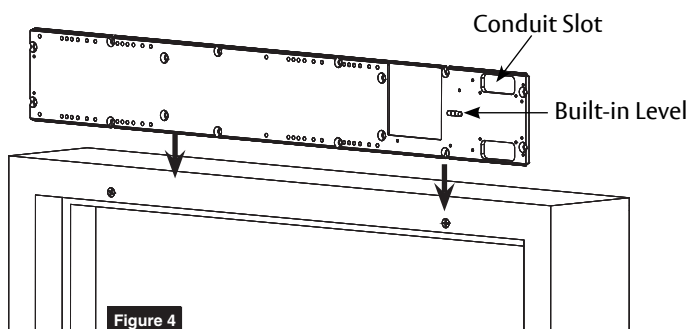


Figure 4

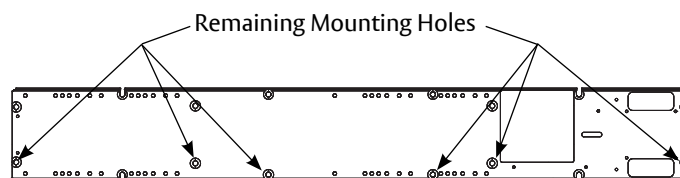
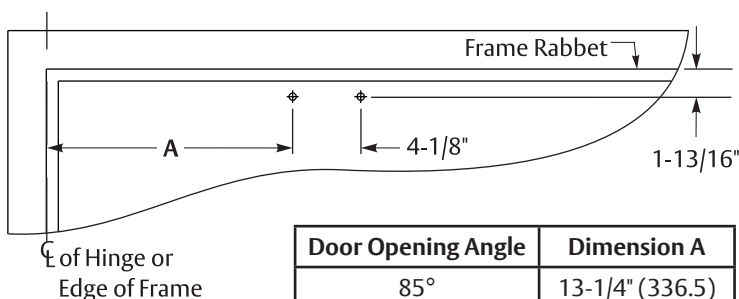


Figure 5

C. Prepare door for Adjusting Tube and Shoe.

1. Using template on page 26, locate and prepare adjusting tube and shoe holes in door. (Figure 6)
2. Drill 3/8" (9.5mm) through (2 places) for sex bolts.

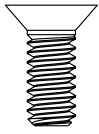


Door Opening Angle	Dimension A
85°	13-1/4" (336.5)
90°	12-5/8" (321)
95°	12-0" (305)
100°	11-1/2" (292)
105°	11-1/8" (282.5)
110°	10-3/4" (273)

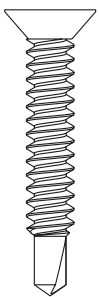
Figure 6 Left Hand Shown

Install Operator

A. Secure Backplate.



OR



1. Secure backplate to frame using six (6):
1/4-20 x 5/8" machine screws or
1/4 x 1-1/2" self-drilling screws. (Figure 7)



NOTE: It is important to properly secure top edge of backplate. Use of blocking (supplied by others) or shims (provided) to fill gap between backplate and wall above header is **HIGHLY** recommended. Material must comply with local codes. Failure to properly secure top of backplate could result in operator being allowed to 'rock' during operation. This could result in damage to operator and diminish operator function. (Figure 7)

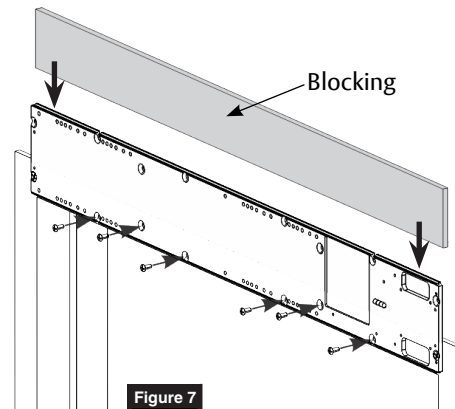


Figure 7

B. Install End Caps.



1. Secure end caps to each end of backplate using four (4) (two each) #8-32 x 5/16" Phillips pan head screws. (Figure 8)

NOTE: Orient end caps so that text on labels is legible when observed from ground.

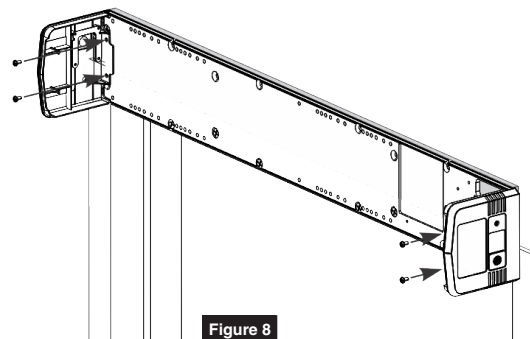
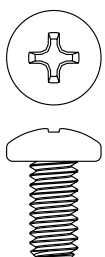


Figure 8

Install Operator



C. Install Operator LAP.

NOTE: Backplate is printed with text to assist installation.

1. With backplate mounted to frame, use text to locate holes along bottom of backplate that correspond to your specific closer installation. (Figure 9)
2. Insert two (2) 1/4-20 x 1/2" Phillips pan head screws into appropriate engraved locations leaving a 5/16" minimum gap between backplate and underside of screw head.
3. Orienting LAP so spring tube of closer is pointed toward hinge edge of frame, slide LAP over two (2) screws and tighten. (Figure 10)
4. Using six (6) 1/4-20 x 1/2" Phillips head screws, secure LAP to backplate. (Figure 11)

NOTE: Holes in LAP align with threaded holes in backplate.

NOTE: Screws to be torqued to 80 in-lb minimum.

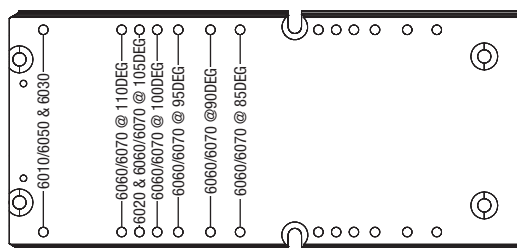


Figure 9

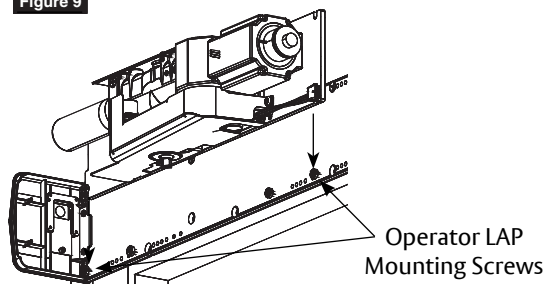


Figure 10

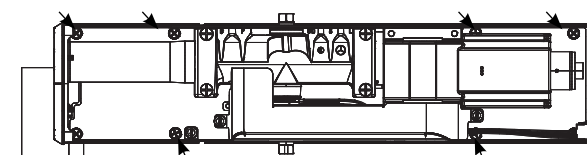


Figure 11



D. Install Conduit Assembly and wire to building.

1. Orient conduit assembly so two (2) conduit holes are at bottom and text on wire input label is legible. (Figure 12)
2. Secure assembly to backplate using four (4) #8-32 x 5/16" Phillips head screws. (Figure 12)



WARNING: BUILDING POWER MUST BE OFF BEFORE PROCEEDING!

3. Secure conduits to conduit assembly (surface or concealed conduit). (Figure 13)
4. Wire building 120VAC to conduit assembly – LINE, NEUTRAL, and GROUND. (See page 13 for General Electrical Information.)
5. Wire 24VDC for accessories to conduit assembly 24VDC + / - as required. (See page 13 for General Electrical Information.)



WARNING: DO NOT TURN ON BUILDING POWER UNTIL DIRECTED TO DO SO! RISK OF INJURY OR DEATH!

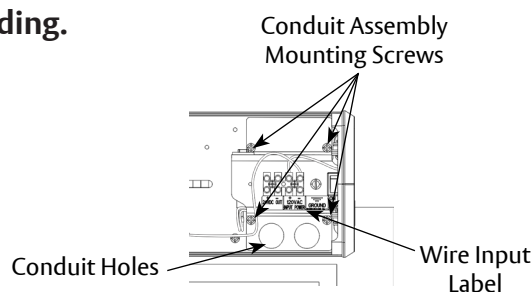


Figure 12

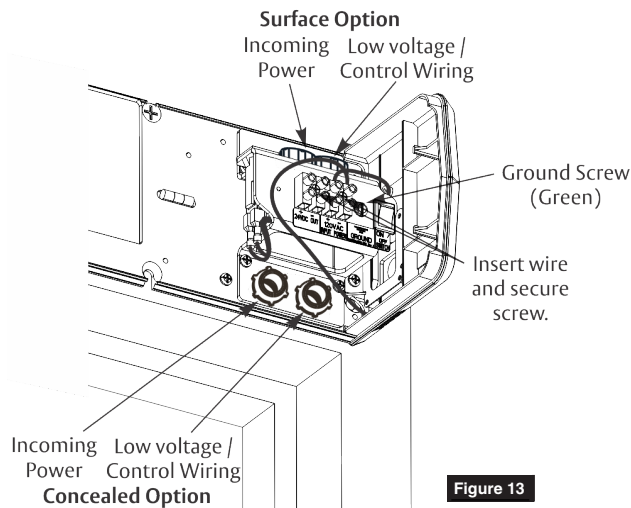


Figure 13

Install Operator



E. Install Power Module Sub-assembly.

1. Using three (3) #8-32 x 5/16" Phillips screws, secure power module sub-assembly to backplate at location marked on backplate.

NOTE: Orient assembly so LCD screen on inverter is toward closer assembly. (Figure 14)

2. Attach 4-pin white rectangular connectors between power module sub-assembly and conduit assembly. (Figure 14)

NOTE: Connectors are keyed and only attach one way.

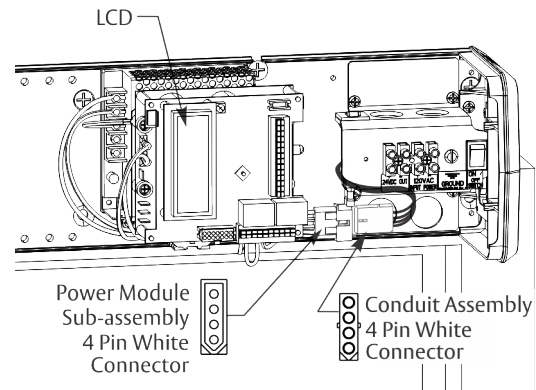


Figure 14

F. Connect Operator LAP and Power Module Sub-assembly.

1. Attach 10-pin black connectors between operator LAP and power module sub-assembly. (Figure 15)
2. Attach 3-pin white connectors between operator LAP and power module sub-assembly. (Figure 15)

NOTE: Connectors are keyed and only attach one way.

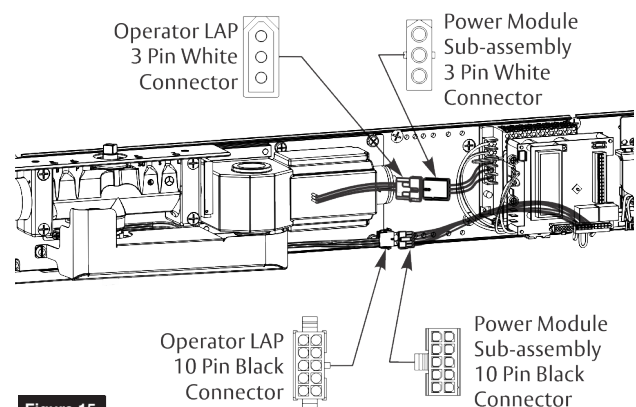


Figure 15



G. Install Union Assembly and Union Spacer.

1. Orient union assembly so access door covering selector mode switch faces floor. (Figure 16)
2. Snap union spacer onto union assembly opposite end cap and secure with two (2) #6-32 x 1/4" Phillips pan head screws. (Figure 17)
3. Secure union assembly to backplate using two (2) #8-32 x 5/16" Phillips pan head screws. (Figure 17)
4. Connect 4-pin black square connector from power module sub-assembly to 4-pin black connector from union assembly. (Figure 17)

NOTE: Connectors are keyed and only assembly one way.

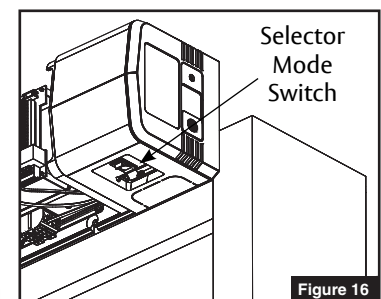


Figure 16

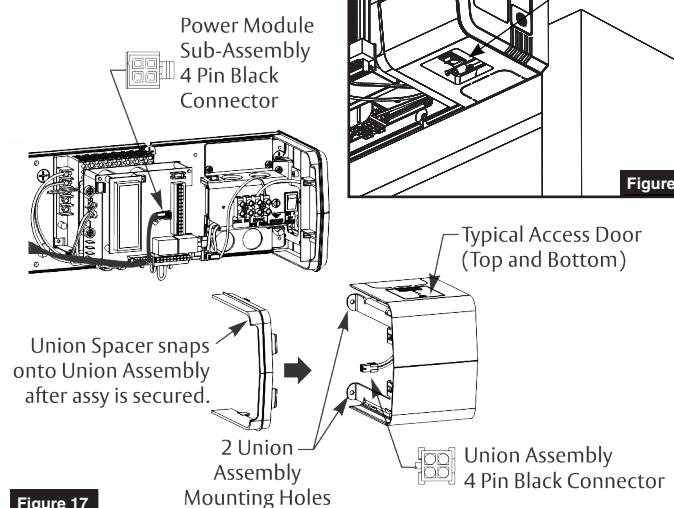
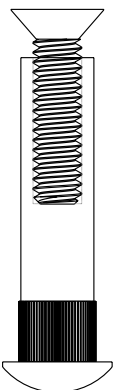


Figure 17

Install Adjusting Tube and Shoe and Main Arm



A. Mount Adjusting Tube and Shoe to door.

1. Using previously prepared holes in door, install two (2) 1/4-20 x 1-5/8" screws through shoe and into sex bolts. (Figure 18)

NOTE: Orient shoe with long side of shoe toward hinge. (Figure 19)

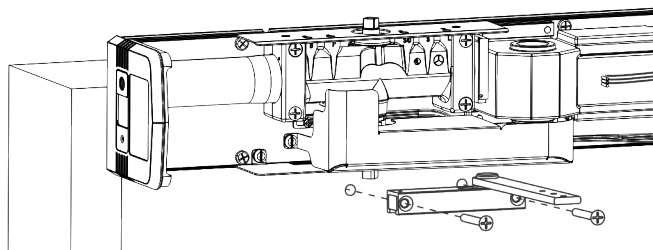


Figure 18

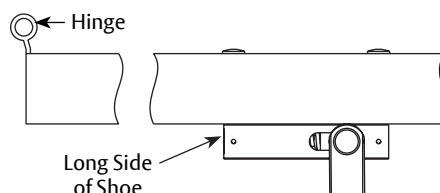
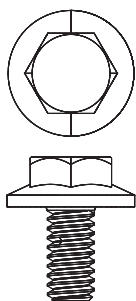


Figure 19 View from ceiling looking downward



B. Install Main Arm.

1. With door open, slide main arm slide tube into adjusting tube. (Figure 20)
2. Place square of main arm onto closer pinion. (Figure 20)



NOTE: Pinion flat should be aligned as shown. (Figure 21)

3. Attach main arm to pinion with screw then tighten with 7/16" wrench. (Figure 20)
4. With door closed, rotate main arm away from hinge until adjusting tube is perpendicular (90 degrees) with door. (Figure 22)
5. While holding arm in position, secure main arm slide tube to adjusting tube with forearm screws. (Figure 23)

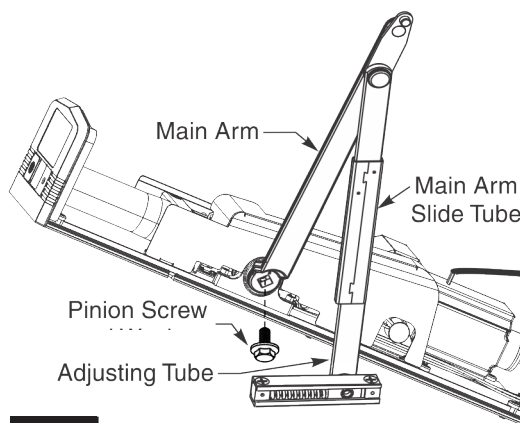


Figure 20

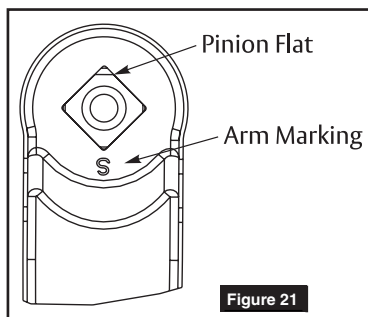


Figure 21

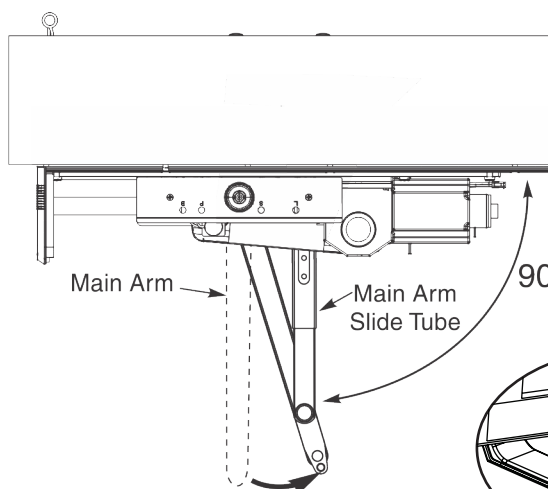


Figure 22 View from ceiling looking downward

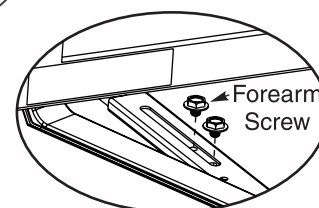


Figure 23

Adjustments

A. Adjust mechanical closer features.

NOTE:

- Make necessary mechanical adjustments so unit functions as a standard surface mounted door closer before adjusting spring force, applying power, adding accessories or making electrical/programming adjustments.
- Valve location S/D is not adjustable.



Do not remove valves from closer.
Hydraulic oil will escape.

1. Closing Speed Controls (Figure 24)
 - Valve "S" controls Sweep Range from full open to 10°.
 - Valve "L" controls Latch Range from 10° to closed.
2. Opening Cycle (Figure 24)
 - Valve "B" controls strength of cushioning in Backcheck Range.



NOTE: NEVER close Backcheck valve completely – it is not to provide a positive stop.

- Valve "P" adjusts angle that backcheck is felt in open cycle. Factory preset is typically acceptable.

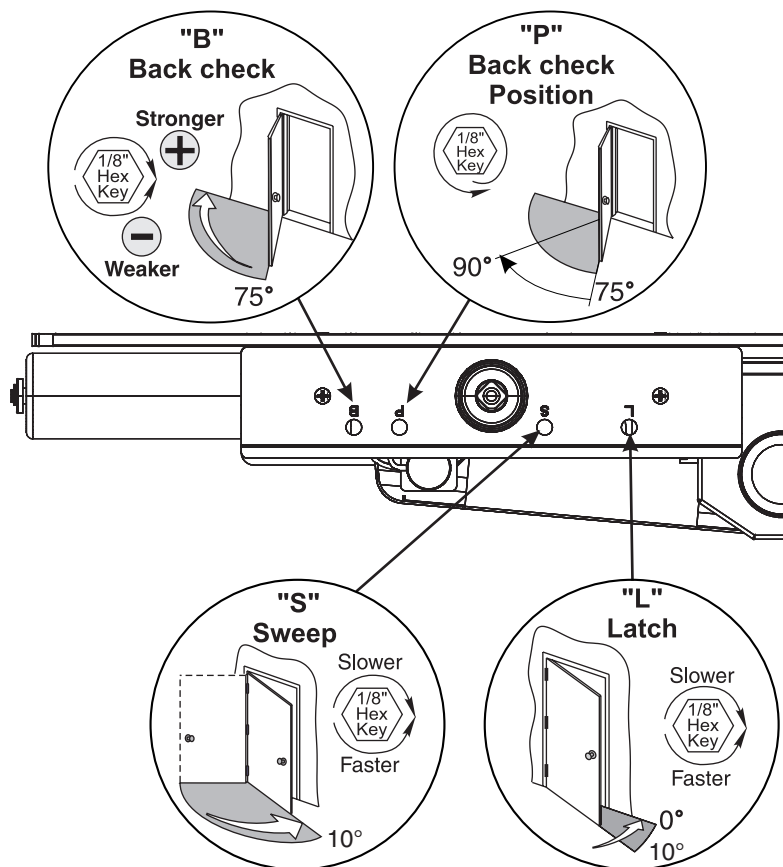


Figure 24 View from ceiling looking downward

B. Adjust spring force.

NOTE:

- The amount of effort to manually open or close a door is called force and is controlled by the operator's closer spring.
- Make necessary mechanical adjustments described in "A" above.
- A closer set to ADA required 5 lbs opening force may not be strong enough to close door due to latching hardware, air pressure, or frame issues.

1. Using 11/16" wrench, turn nut in end of closer body tube to desired force. (Figure 25)

NOTE: If spring adjustment nut is too close to end cap and wrench will not reach nut, remove Torx screw in end cap access door and slide door open. When finished, slide access door closed and reinsert #6 Torx flat head screw to secure door. (Figure 25)

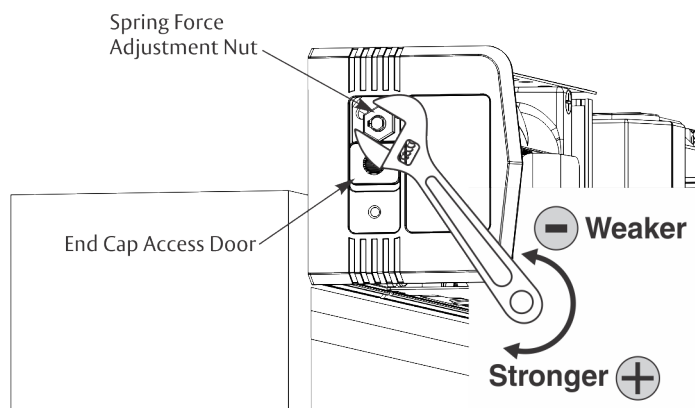


Figure 25

Power Operator

1. Open door on union assembly and place selector mode switch in 'OFF' position. (Figure 26)
2. Turn On/Off switch to 'OFF' position on conduit assembly. (Figure 27)
3. Turn on building power.
4. Turn On/Off switch to 'ON' position on conduit assembly. See page 15 for controller adjustment options.
 - To scroll through menu items, push up or down on joystick. (Figure 27)
 - To change setting of a menu item, when cursor is on that item, push joystick right to increase or left to decrease value.

NOTE: Values will auto-save 3 seconds after adjustments.

5. Set 'HOME' procedure for door.
 - With door closed and selector mode switch of union assembly in "OFF" position, use joystick to scroll down menu on LCD screen to "Home".
 - Push in on joystick to activate menu feature. Display changes to "Set Close Limit".
 - Push in on joystick again, while door is still closed, to set Home or closed position (Figure 28). Display changes to "Set Open Limit".
 - Open door to desired open position (Figure 28) and push in on joystick again. Display changes to "Closing to Home".
 - Allow door to fully close again (Figure 28). Display changes to "Home".

NOTE: Values will auto-save.

6. Make necessary adjustments to inverter and add required accessories.
7. Place selector mode switch of union assembly in 'ON' position for activation by push plate, RF button, or other activation devices. Place switch in 'H/O' for continuous hold open. (Figure 26) Secure union assembly door with #4 Phillips screw when finished.

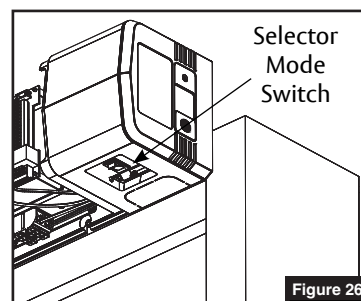


Figure 26

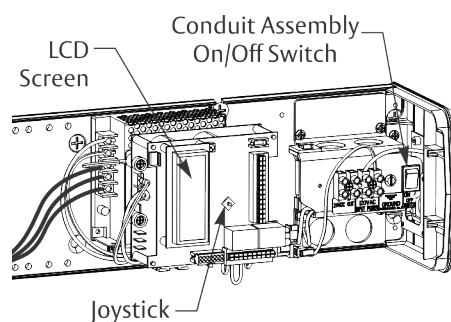


Figure 27 Union Assembly and Spacer not shown

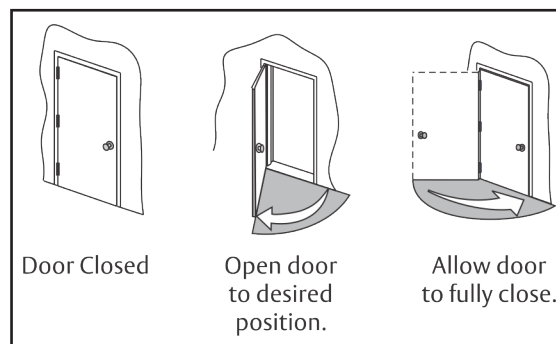


Figure 28

You've now installed the 6061 or 6071 Unitrol PUSH SIDE Low Energy Operator.
Continue with Electrical Instructions to customize the installation.

Attach Cover to finalize installation

1. Align cut-outs in cover to pinion shafts.
(Figure 29)
2. Slide cover onto unit using end cap and union spacer as guides.

NOTE: Verify all wiring and sheet metal guards are inside cover.

3. Snap cover securely to backplate. Pull on cover to verify it is secure.

NOTE: If cover will not securely snap onto backplate, verify backplate is not warped or twisted. Additional support or shimming may be required. See Sections A & B under Prepare Frame and Door.

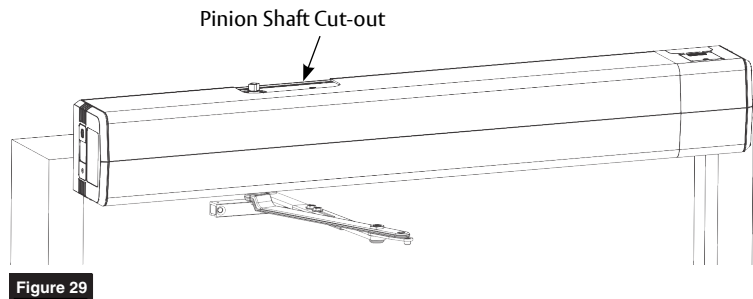


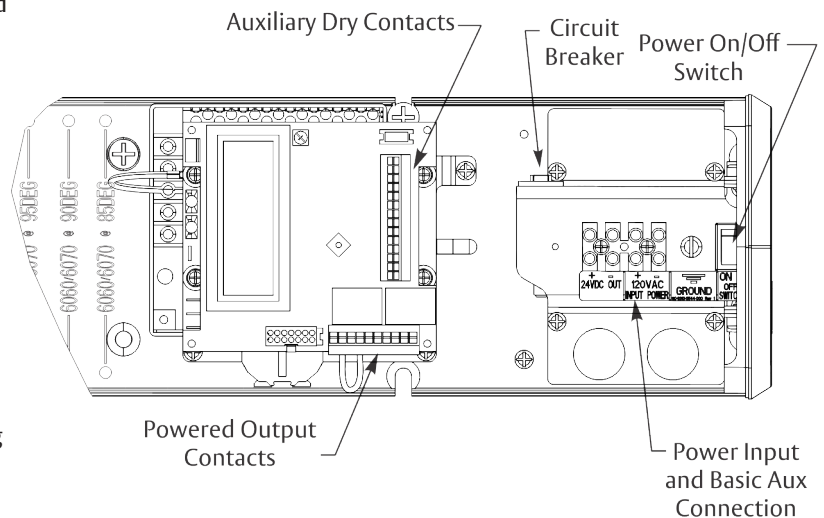
Figure 29



WARNING: Make sure no wiring is loose or can be caught by cover when it is snapped into place.

General Electrical Information

- Power inputs at power input connection and power output contacts must be made with copper wire only.
- Maximum wire size:
12 AWG at power input connection
14 AWG at all other terminals.
- Power input at terminals LINE and NEUTRAL must be 120VAC at 60 Hz (+10%, -15%).
- Maximum current draw from auxiliary devices is 1.3 amps.
- All wiring and connections use standard wiring practice conforming with local wiring codes.
- **Labeled fire or smoke barrier door assemblies require 120VAC 60Hz power input be supplied through normally closed alarm contacts of the alarm system / alarm panel.**



Factory Pre-Wiring of Connections and Incoming Wiring

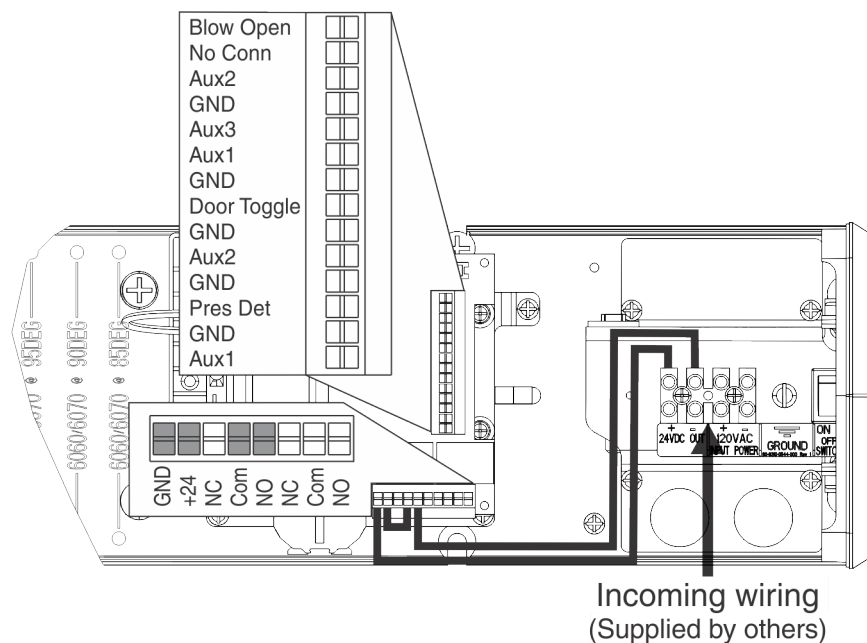
To connect wiring:

For Incoming 120VAC and 24VDC for accessories

1. For 20 - 10 AWG wire
2. Strip end of wire 1/4 inch
3. Insert wire into appropriate position as shown and use flat head screw driver to secure

For Low Voltage / Dry Contacts on Inverter

1. For 24 - 16AWG wire
2. Strip end of wire 3/8 inch
3. Use flat blade screw driver to push down on white button above desired location, insert wire, release button. Pull on wire to confirm installed properly.



Controller Error Codes

Error Code	Description
Short Circuit	A short was sensed on the motor outputs
Temperature Trip	Power module reached 200°F or greater (too much load in too hot ambient condition)
Over Voltage	Line Voltage has reached 145VAC or greater
Under Voltage	Line Voltage has dropped below 80VAC
Aux 1 Stuck	Activation device connected to Aux 1 is sending constant signal
Aux 2 Stuck	Activation device connected to Aux 2 is sending constant signal
Aux 3 Stuck	Activation device connected to Aux 3 is sending constant signal
Comm Error	No communication between top and bottom controller boards. Boards not functioning properly
Presence Detect	Device connected to Presence Detect and was activated
Drive Disabled	Selector mode switch on end cap closest to latch is in "OFF" position

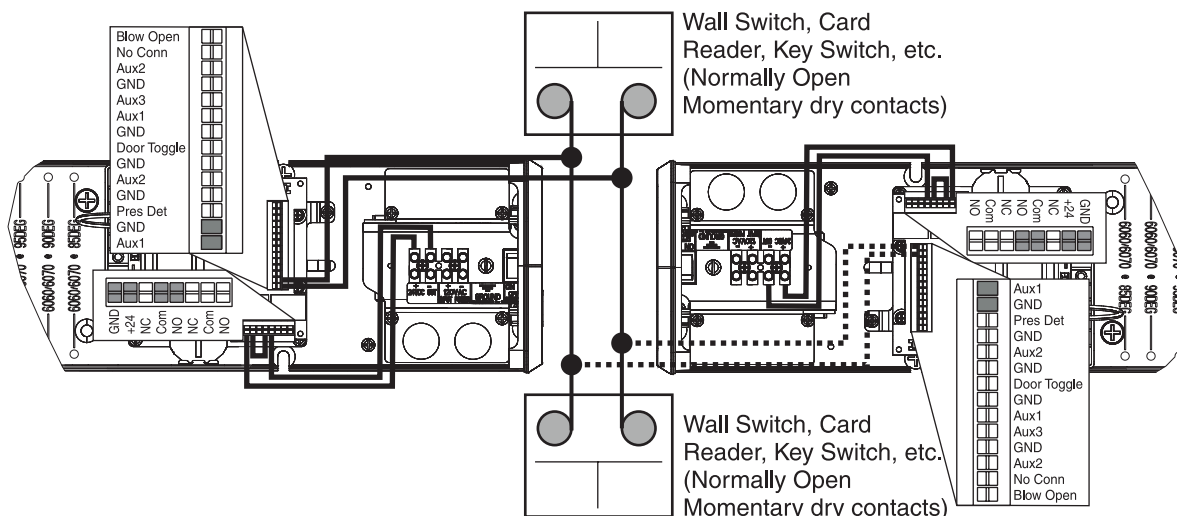
Controller Interface Description

Screen 1	Adjustments	Default	Description
Mount:	Push or Pull	Push	Side of opening operator is mounted on
Hold Open:	0 - 30 sec in 1 sec increments	4s	Amount of time door will stay in full open position after an activation
Open Delay (previously Start Delay):	0 - 10 sec in 1 sec increments	0s	Time before operator begins to open door. This is to allow accessories time to function and not hinder the opening of the door.
Latch Rtrct:	OFF, 3 - 45 sec in 5 sec increments	OFF	Amount of time power is supplied to a latch retraction device.
Home:	see Setting Open Position	-	Used to set the Home position and the Fully Open position of the door.
Vestibule:	OFF, 5 - 30 sec in 5 sec increments	OFF	Amount of delay for opening 2nd vestibule door
Push:	OFF or PushNGo	OFF	Turn on or off Push N Go feature. If On, a slight push or pull of the door starts it automatically opening.
Open Speed:	0 - 100% in 1% increments	120	How fast the door opens to the full open position.
Close Speed:	0 - 100% in 1% increments	80	How fast the motor returns to the home position. As Latch and Sweep on the closer are adjusted, adjustments may be needed for Close Speed to assure closer is not trying to backdrive the motor.
Errors:	not adjustable	-	Error code seen by controller. See Page 14 for Controller Error Codes.
Screen 2	Adjustments	Default	Description
Door Feedback:	not adjustable	-	General feedback. Includes Door State, Door Position, Motor Position, Open Limit, Close Limit.
Drive Feedback:	not adjustable	-	General feedback. Includes Bus Voltage, Bus Current, Frequency.
Usage:	not adjustable	-	General feedback. Includes Open Time, Close Time, Days, Cycles, Firmware Rev.
Single:	not functional - future	Single	not functional - for future
MastStopOffset:	not functional - future	180	not functional - for future
PDET Option:	On, Off	Off	On or Off for 585 Presence Detector
DT:	Standard, SS1:Stall, SS1:Return Open, SS1:Stall / Open	Stnd	Standard is Door Toggle. SS1 is for use of a Closing side door presence detector. SS1:Stall - door stalls when obstruction is detected; SS1:Return Open - door reopens when obstruction is detected; SS1:Stall/Open - door stalls when obstruction is detected and then reopens when obstruction is removed.
A2:	Standard, SS2:Stall, SS2:Return Home, SS2:Stall / Home	Stnd	Standard is Activation mode - just like A1 activation. SS2 is for use of an Opening side door presence detector. SS2:Stall - door stalls when obstruction is detected; SS2:Return Home - door closes to home when obstruction is detected; SS2:Stall/Home - door stalls when obstruction is detected and then returns home when obstruction is removed.
Rly2:	Alarm, Activation, On Opened, On Closed	Alarm	How Relay 2 is used: Alarm - used with above Alarm Delay; Activation - acts as an additional NO/NC contact; On Opened - relay trips (closed contacts) when door is in opened position; On Closed - relay trips (closed contacts) when door reaches the fully closed position.
Alarm Delay:	OFF, 30 sec, 60 sec	OFF	Used only for alarm accessories
Slow Speed:	0 - 100% in 1% increments	55	Speed up or slow down door during last few degrees of opening.
Hold Speed:	0 - 100% in 1% increments	55	Increase or decrease hold open force (when in "ON" position only, not "H/O") to compensate for spring force, wind conditions, etc.
Obst Delay:	0 - 5 sec in 1 sec increments	3s	Obstruction Delay: the amount of time the operator will push against an obstruction before closing if during an opening cycle or reopening and trying to close again if during a closing cycle.

Basic Wiring Diagrams Using Factory Pre-Wired Connection

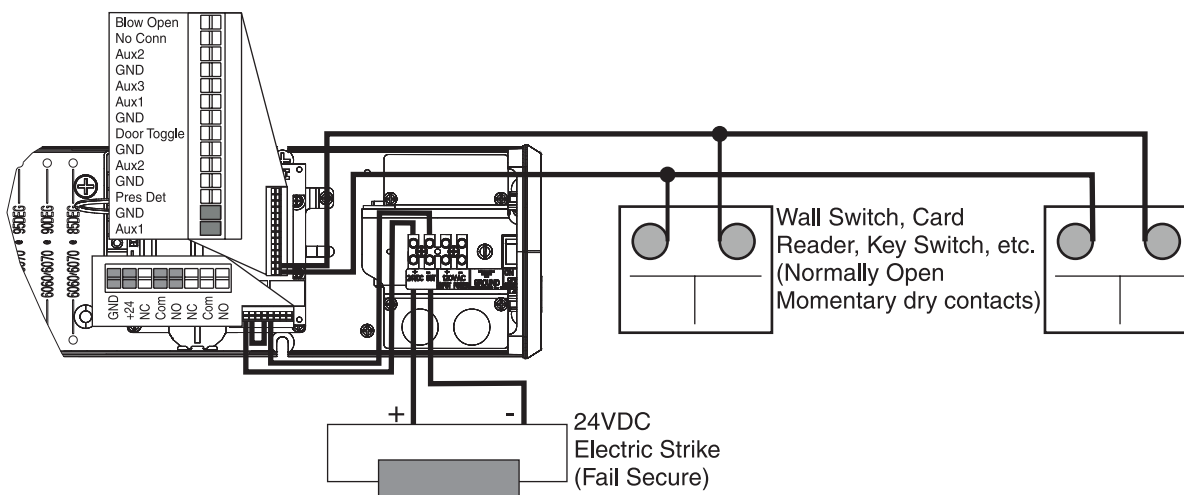
Standard Function with Switches

- Doors are normally closed.
- Activating either switch will open both doors. Door will close after hold open time delay has expired.



Fail Secure Electric Strike 24VDC Wiring

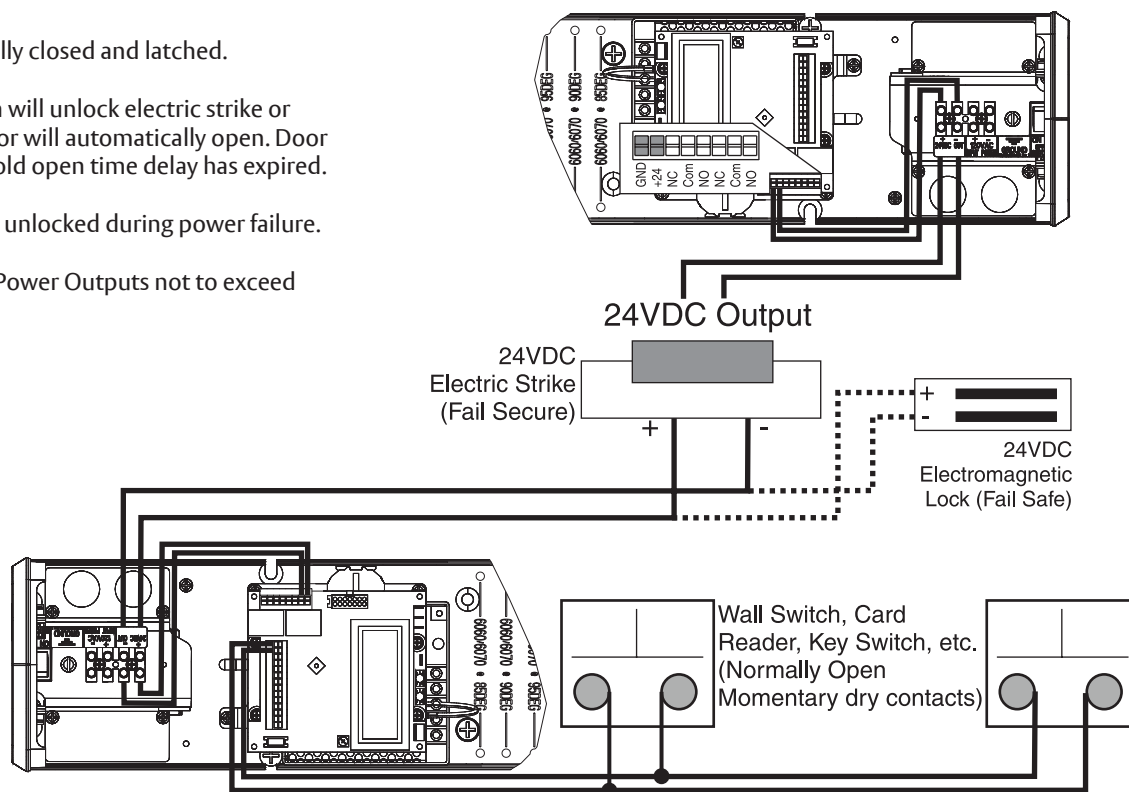
- Doors are normally closed and latched.
- Activating switch will unlock electric strike and door will automatically open. Door will close after hold open time delay has expired.
- Door will remain locked during power failure.



Fail Safe Electric Strike or Electromagnetic Lock 24VDC Wiring

Change Factory Pre-Wiring to Illustration Below (move NO to NC)

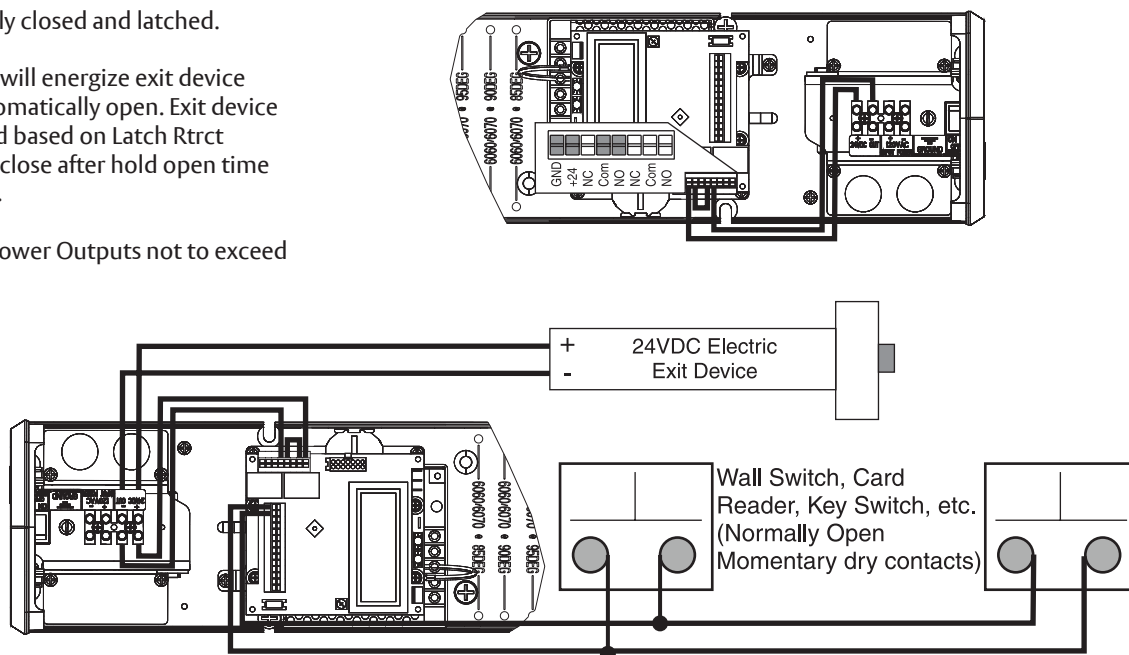
- Doors are normally closed and latched.
- Activating switch will unlock electric strike or mag lock and door will automatically open. Door will close after hold open time delay has expired.
- Door will remain unlocked during power failure.
- Current draw at Power Outputs not to exceed 1.3 amps.



24VDC Electric Exit Device Wiring

Factory Pre-Wiring in Illustration is for this functionality

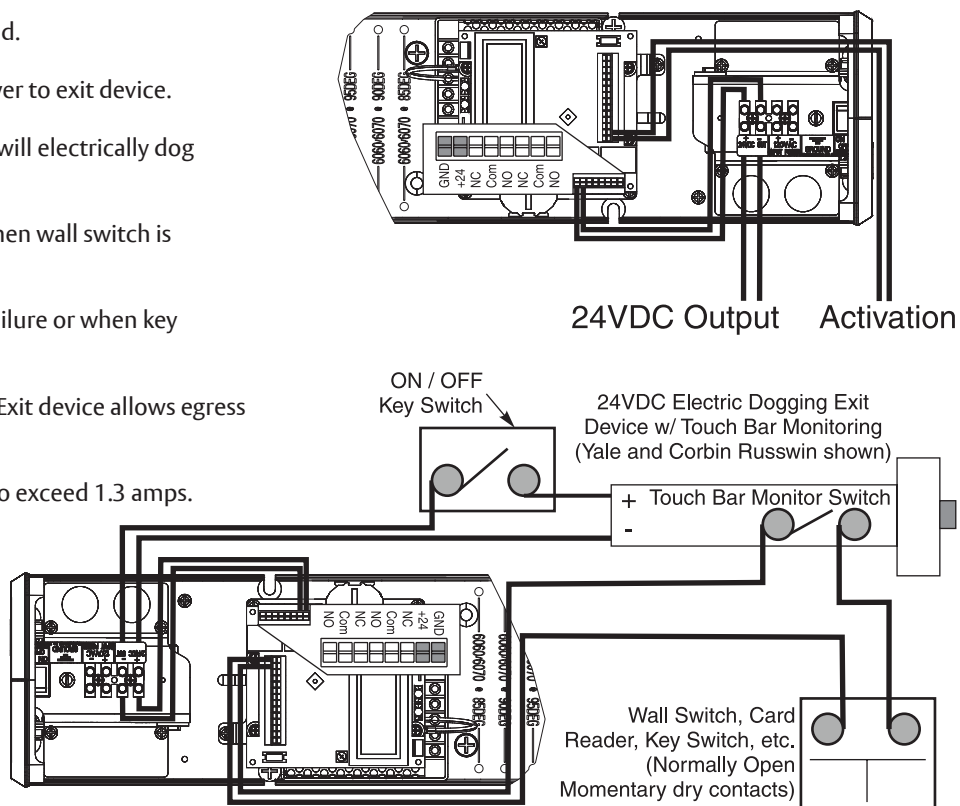
- Doors are normally closed and latched.
- Activating switch will energize exit device and door will automatically open. Exit device will stay energized based on Latch Rtrct setting. Door will close after hold open time delay has expired.
- Current draw at Power Outputs not to exceed 1.3 amps.



Electric Dogging Exit Device Wiring

Change Factory Pre-Wiring to Illustration Below (move NO to +24)

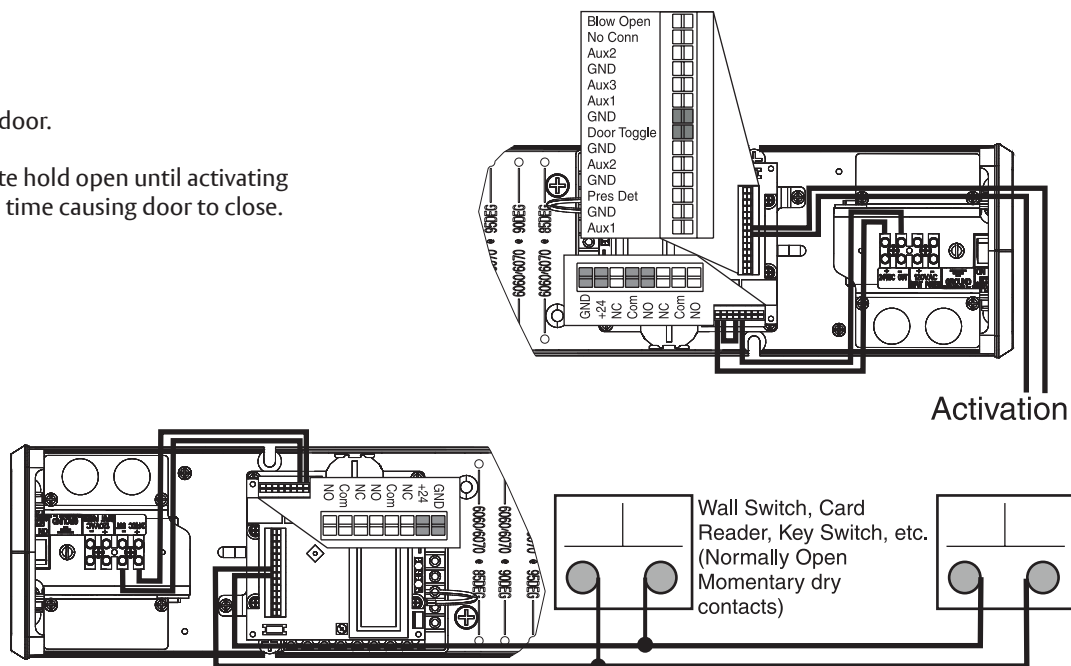
- Doors are normally closed and latched.
- Turning key switch ON will apply power to exit device.
- First depression on device touchpad will electrically dog device for push/pull operation.
- Door will now open automatically when wall switch is depressed.
- Device will re-latch during a power failure or when key switch is turned off.
- Exit device allows egress at all times. Exit device allows egress during power failures.
- Current draw at Power Outputs not to exceed 1.3 amps.



Hard Wired Executive Function Wiring

Factory Pre-Wiring Not Required to Change

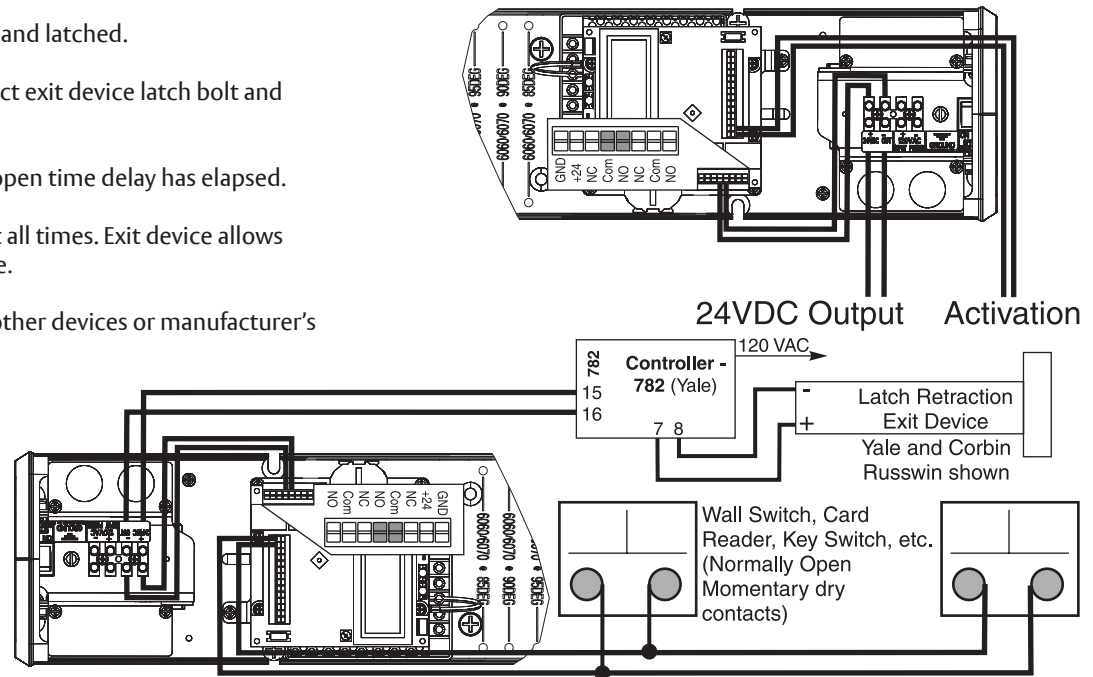
- Doors are normally closed.
- Activating switch will open door.
- Door will remain in indefinite hold open until activating switch is activated a second time causing door to close.



Electric Latch Retraction Exit Device Wiring

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

- Doors are normally closed and latched.
- Activating switch will retract exit device latch bolt and operator will open door.
- Door will close after hold open time delay has elapsed.
- Exit device allows egress at all times. Exit device allows egress during power failure.
- Contact Tech Support for other devices or manufacturer's instructions.

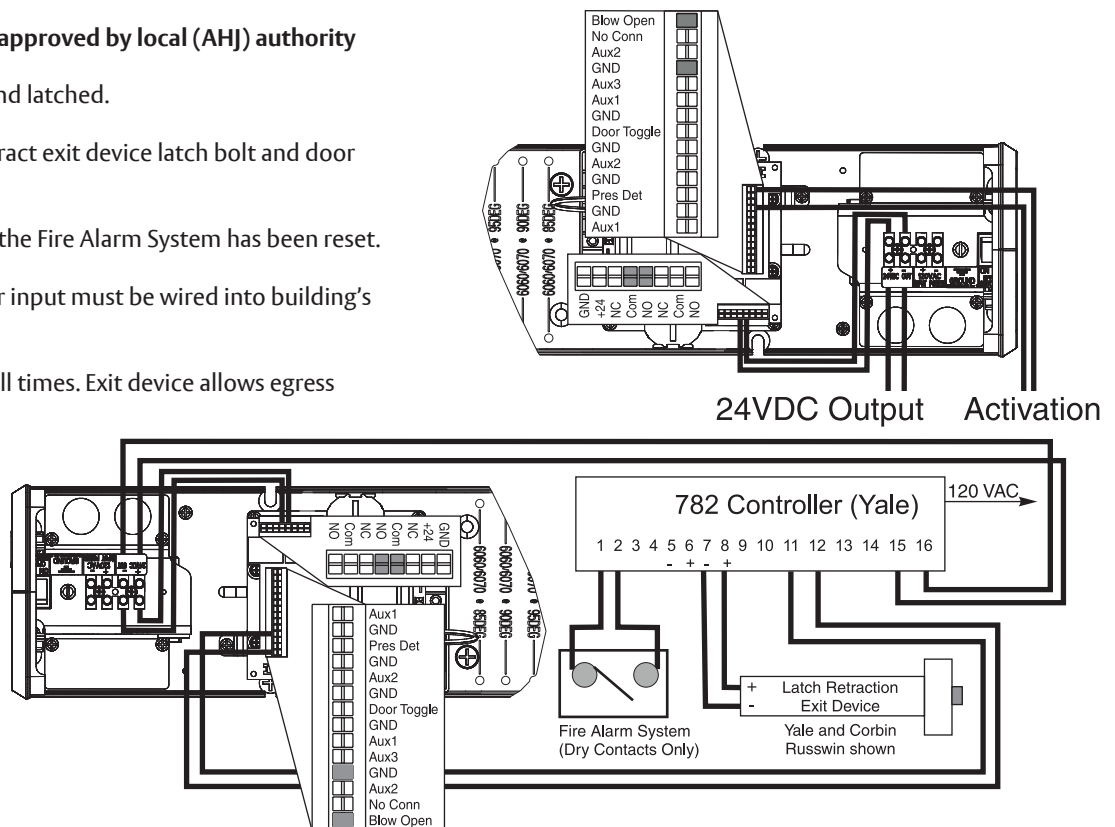


Electric Latch Retraction Exit Device Wiring for Smoke Ventilation - Blow Open Function

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

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

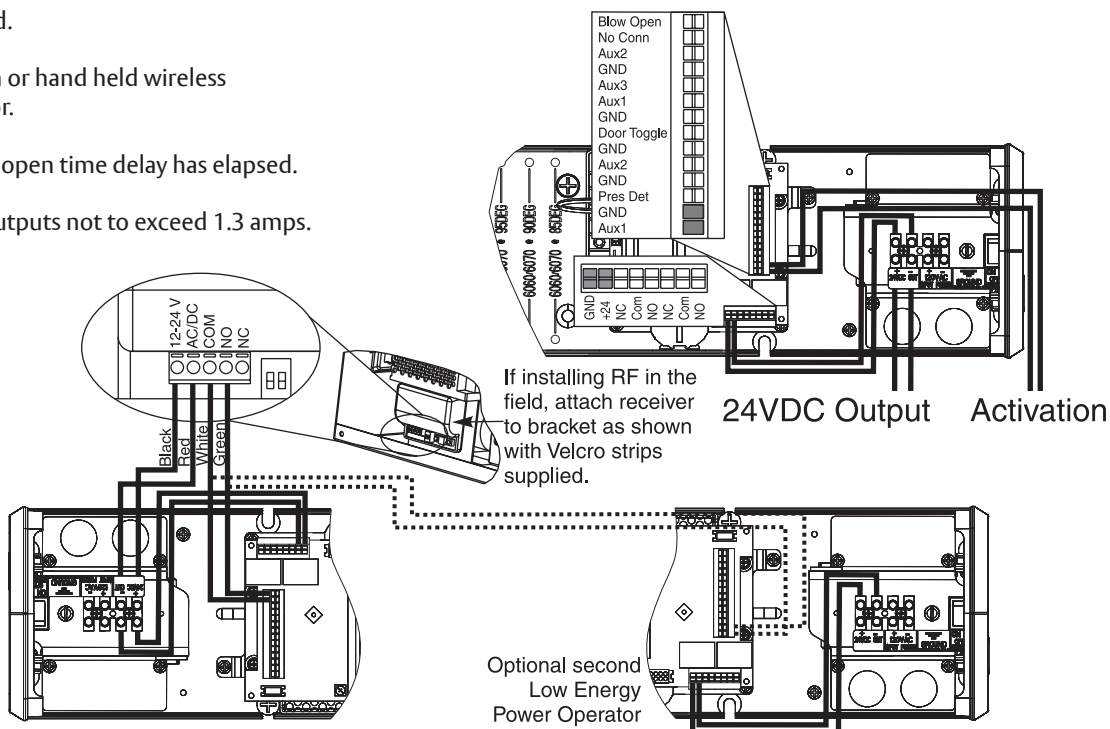
- Doors are normally closed and latched.
- Fire Alarm activation will retract exit device latch bolt and door operator will open door.
- Door will remain open until the Fire Alarm System has been reset.
- Door Operator's main power input must be wired into building's back-up power system.
- Exit device allows egress at all times. Exit device allows egress during power failure.



Radio Frequency Standard Function Wiring

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

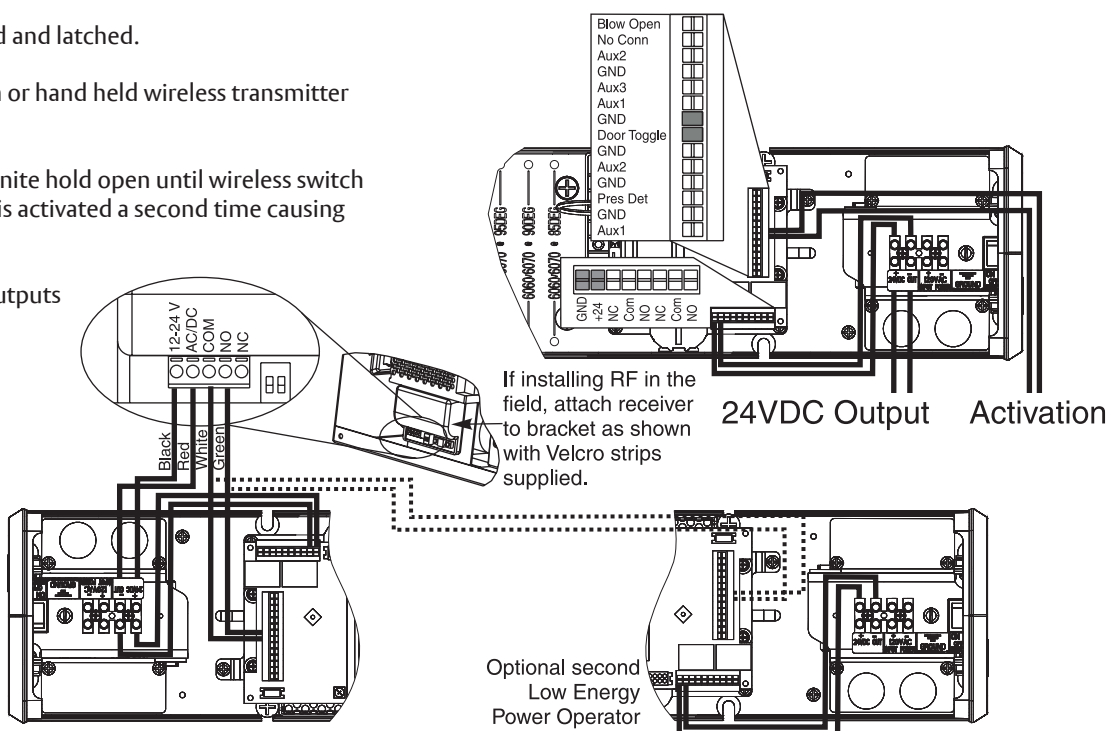
- Doors are normally closed.
- Activating wireless switch or hand held wireless transmitter will open door.
- Door will close after hold open time delay has elapsed.
- Current draw at Power Outputs not to exceed 1.3 amps.



Radio Frequency Executive Function Wiring

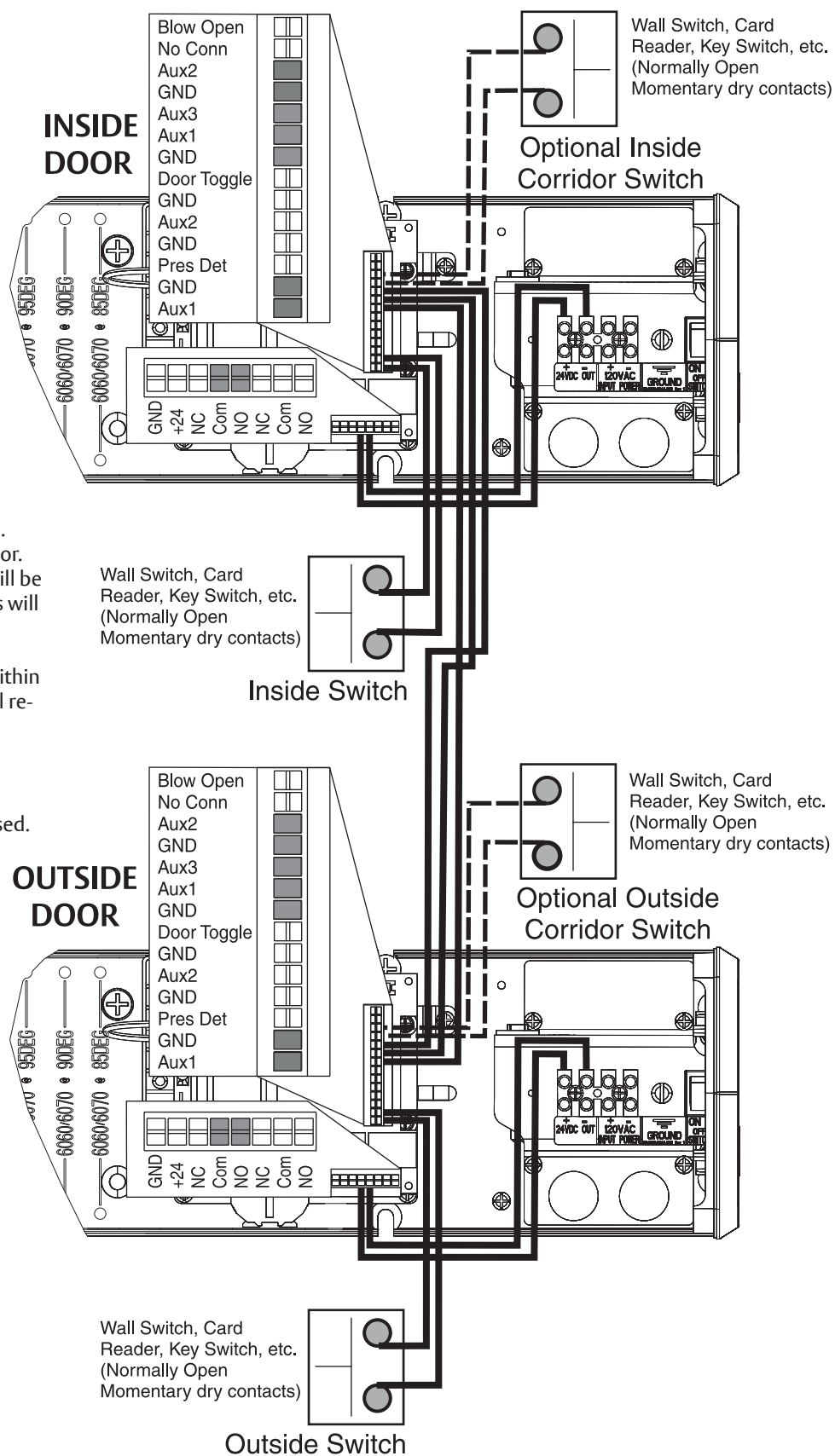
If Installing in the Field, change Factory Pre-Wiring to Illustration Below (move NO to +24)

- Doors are normally closed and latched.
- Activating wireless switch or hand held wireless transmitter will open door.
- Door will remain in indefinite hold open until wireless switch or hand held transmitter is activated a second time causing door to close.
- Current draw at Power Outputs not to exceed 1.3 amps.

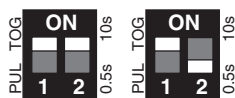


Vestibule Function Wiring Using Factory Pre-Wiring

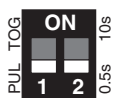
- Doors are normally closed and latched.
- Activating outside door switch will open outside door. After vestibule time delay has elapsed, a signal will be sent to inside door which will open. Activating inside door switch will open inside door. After vestibule time delay has elapsed, a signal will be sent to outside door which will open. Both doors will close when hold open time delay has elapsed.
- Activating optional inside door switch located within corridor will open inside door only. This door will re-close after hold open delay has elapsed.
- Activating optional outside door switch located within corridor will open outside door only. This door will re-close after hold open delay has elapsed.



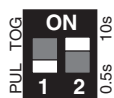
433MHz Receiver User's Guide



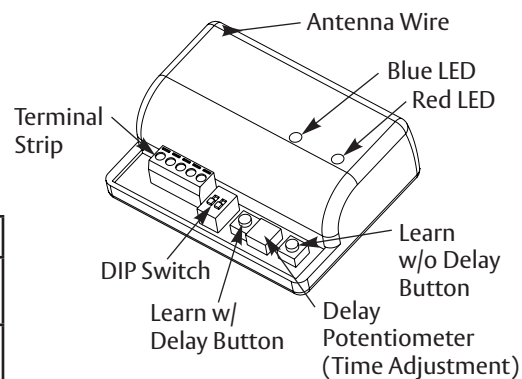
In Toggle Setting (1-ON), Hold Time is inactive. Either setting for #2 dip switch will have same result.



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.

NOTE:

- Always stop pedestrian traffic through doorway when performing tests that may result in unexpected reactions by door.
- Ensure compliance with all applicable safety standards upon completion of installation.
- See diagrams on page 20 for wire colors.

Hand-Held Configuration

1. Set dip switches to receiver to desired activation cycle (dip switch 1 - Toggle or Pulse and dip switch 2 - 0.5s or 10s hold).
2. Press either Learn w/ Delay Button or Learn w/o Delay Button on receiver depending on activation requirements (if delay learn is selected, adjust potentiometer to counterclockwise limit, 0 second delay). Red LED on receiver will flash. After learn cycle is complete, adjust potentiometer to desired delay time (0 - 30 sec).
3. Depress transmitter button repeatedly until Blue LED on receiver illuminates (indicating reception of signal from transmitter).
NOTE: Repeat Steps 2 - 3 to program additional transmitters.
4. To test system, depress 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 installation of push plate.
2. Connect wires from transmitter to NO and COM contacts of push plate's switch.
3. Follow Steps 1 - 4 (Hand-Held Configuration); depress push plate to activate transmitter.
4. Attach transmitter to inside of electrical box and complete installation.

Removing Transmitter Code(s)

Single Transmitter Code:

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

All Transmitter Codes:

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

Troubleshooting	
Problem	Solution
LED on receiver is flickering - unable to program and/or won'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" (171) Example: $6.75 \times 4 = 27"$ (686) of extended antenna wire.

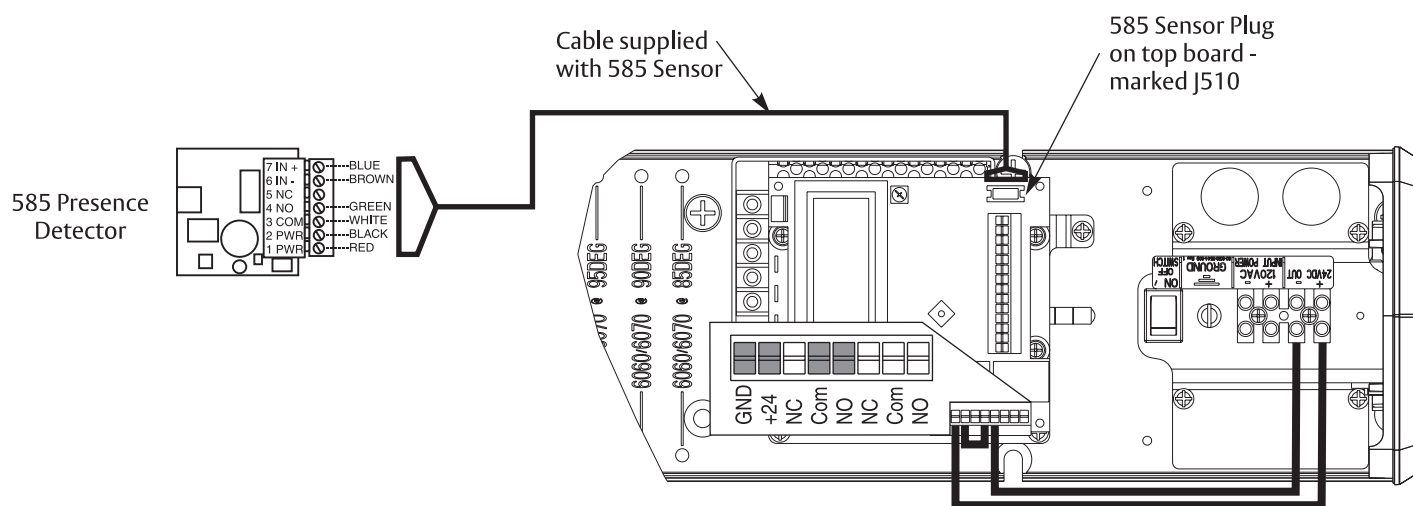
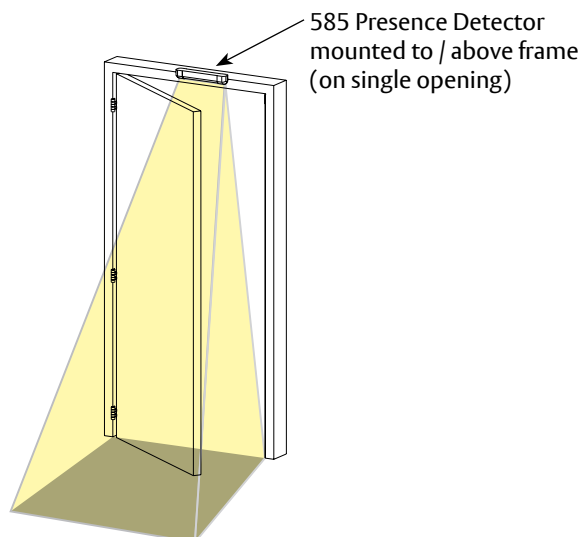
585 Presence Detector Wiring on Single Door Opening

- 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 use on a single door application only.

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

To activate presence detector functionality:

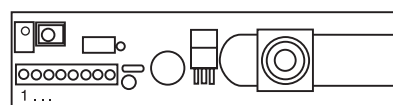
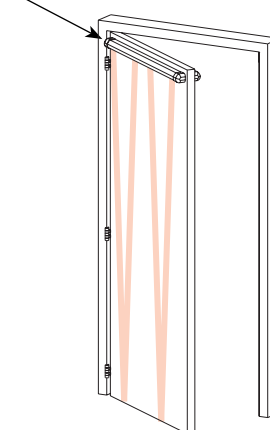
- On inverter, use up/down arrows to scroll to Page 1.
- Use left/right arrows to change to Page 2.
- Use up/down arrows to scroll to PDET Option.
- Use left/right arrows to change value from OFF to ON.
- Use instructions provided with 585 sensor to program and make any necessary adjustments to sensor.



Door Mounted Presence Detector (596 Series) Wiring on Single Door Opening

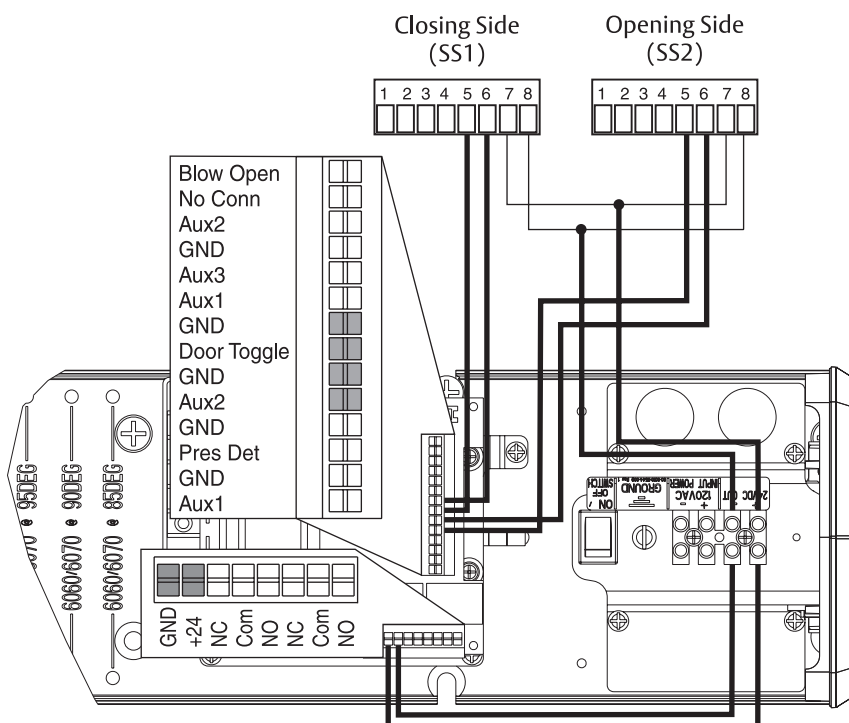
- Door is normally closed.
- Activating switch will open door.
- Door will close after hold open time delay has elapsed.
- If using door mounted presence sensors:
 - For Closing cycle sensor (SS1), adjust DT on page 2 of controller screen. If DT is set to Standard, this is normal Door Toggle mode and will not work with Presence Sensor; set to Stall, door closing will stall until presence not sensed; set to Return Open, presence is sensed and door fully reopens; set to Stall/Open, presence is sensed and door will stall then reopen once presence not sensed.
 - For Opening cycle sensor (SS2), adjust A2 Option on page 2 of controller screen. If door is set to Standard, switch or other activation into A2 acts like A1. If A2 set to Stall, door will stop opening and stall until presence not sensed; set to Return Home, door will close back to Home position when presence is sensed; if set to Stall/Home, door will stall and return home once presence not sensed.

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



Door Mounted Presence Sensor

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



The ASSA ABLOY Group is the global leader in access solutions. Every day we help people feel safe, secure and experience a more open world.

Troubleshooting Guide

Problem	Solution
Door closing too fast	1) Adjust Latch and/or Sweep valves on closer clockwise OR 2) Decrease Closing Speed on controller (see page 11)
Door closing too slow	1) Adjust Latch and/or Sweep valves on closer counterclockwise OR 2) Increase Closing Speed on controller (see page 11)
Door does not open to desired location	1) Repeat Home process (see page 12), OR 2) Increase Obst Delay, OR 3) Adjust Backcheck valve on closer counterclockwise, OR 4) Decrease spring force on closer body (door must still close in event of power failure (see page 11), OR 5) Ensure shoe is properly oriented on door (see page 10)
Door does not reach fully opened position	1) Repeat Home process (see page 12), OR 2) Increase Obst Delay, OR 3) Adjust Backcheck valve on closer counterclockwise, OR 4) Decrease spring force on closer body (door must still close in event of power failure (see page 11), OR 5) Ensure shoe is properly oriented on door (see page 10)
Door opens and closes repeatedly	Change selector mode switch from H/O to On
Motor is driving in the wrong direction	Change Mount (Push / Pull) on controller, reset Home process (see page 12), and save values
When door reaches open position, door drifts toward closed position	Increase Hold Speed on controller (see page 15) until door stops drifting
When door reaches open position, door drifts further open	Decrease Hold Speed on controller (see page 15) until door stops drifting
When door reaches open position, door bounces	Decrease Slow Speed on controller (see page 15)
When signal is received, operator tries to open door before auxiliary components are unlatched / 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 (see page 15) as needed, 3) If latch device is not retracting fast enough, increase Start Delay on controller (see page 15) to assure latch device has had sufficient time to fully retract before operator starts opening door.
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
Cover will not snap onto backplate	1) Wire protruding from under cover 2) Backplate is twisted / not mounted properly. (see page 7)
Cover will not stay on operator	Cover extrusion has been stretched too wide and will not properly secure

