

# Auto EntryControl™

Low Energy Swing Door Operator



## SAMPLE WIRING DIAGRAMS

*the lock behind the system*



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**FOR FULL INSTALLATION INSTRUCTIONS VISIT:**

<https://sdcsecurity.com/docs/INST-AutoEntry.pdf>

# IMPORTANT

## READ THIS SECTION BEFORE PROCEEDING WITH THE INSTALLATION

Security Door Controls (hereafter referred to as “SDC”) recommends that its automated pedestrian door products be installed by a trained automatic door technician and that the resulting performance of the product be in full compliance with the most current version of the American National Standards Institute (ANSI) document A156.19 as well as any applicable building codes and/or fire codes. SDC further recommends that a full inspection of the operating system be performed in accordance with the guidelines of the American Association of Automatic Door Manufacturers (AAADM). SDC recommends this documented inspection be performed upon completion of the installation, as well as following the completion of every service call thereafter. If service is not performed within one year of the previous service action, a routine AAADM inspection should be performed and documented. SDC does NOT recommend service on any of their automated pedestrian door products, by any individual who is not certified as an AAADM inspector.

Following the installation or service of any SDC automated pedestrian door product, if it is deemed unsafe, or is operating in an unsatisfactory manner according to national performance standards or recommended performance guidelines as defined by SDC, repairs should be made immediately. If an immediate repair cannot be made, the product should be disabled, and appropriate measures should be taken to secure the door in a safe position or to enable the door to safely be used manually. During this situation, every effort should be made to notify the owner (or person responsible) of the condition and to advise on corrective actions that must be taken to return the product to safe operation.

### LOW ENERGY APPLICATION NOTE

When using the Auto EntryControl™ Series, SDC recommends the use of a door-mounted presence sensor, like the SDC P/N: AUTO-IR, on the push side of the door to be used as a secondary activation device when the door is closing. This type of sensor can be installed at time of installation or can also be retrofitted. This device serves to re-activate the door to the open position should a person enter into the closing path at the push side of the door, as it is closing. Once the door is fully closed, the door-mounted presence sensor is inactive, and a “knowing act” device must then be used for initial activation. SDC considers this device to be essential in reducing the possibility of doors “timing out” and closing before all pedestrians have passed through the doorway.

# INSTALLATION NOTES

## READ THIS SECTION BEFORE PROCEEDING WITH THE INSTALLATION

1. ALL WIRING MUST BE REVIEWED AND APPROVED BY THE PROJECT ENGINEER ASSIGNED TO THE LOCATION FOR ITS CORRECTNESS AND SUITABILITY FOR THE APPLICATION IN WHICH THE EQUIPMENT IS INSTALLED AND OPERATED.
2. ALL WIRING MUST CONFORM TO NATIONAL, STATE, AND LOCAL CODES FOR CLASS 2 FIRE PROTECTION AND CONTROL DEVICES
3. ALWAYS CONSULT WITH THE AUTHORITY HAVING JURISDICTION (AHJ) BEFORE INSTALLATION.
4. WHERE REQUIRED BY CODE, CONNECT FAILSAFE SYSTEMS TO THE LOCAL FIRE LIFE SAFETY SYSTEM FOR EMERGENCY RELEASE.
5. ALL LOW VOLTAGE SIGNAL WIRING SHALL BE 22-GUAGE MINIMUM. WHEN POWERING A LOCK, THE MINIMUM INDUCTIVE LOAD (LOCK) POWER WIRE GUAGE SHALL BE DETERMINED USING THE SDC WIRE GUAGE CHART OR ANOTHER VOLTAGE DROP ESTIMATION TOOL. ALL WIRING (SINGLE OR MULTI-CONDUCTOR) SHALL BE COLOR CODED WITHOUT SPLICES. A MINIMUM OF TWO SPARE CONDUCTORS IS RECOMMENDED.
6. VOLTAGE MAY NOT BE SPECIFIED ON THESE WIRE DIAGRAMS. VERIFY THAT ALL PRODUCTS ARE VOLTAGE COMPATIBLE.



# SPECIFICATIONS & CERTIFICATIONS

The **SDC Auto EntryControl™ Low Energy Swing Door Operator** provides safe and reliable point of entry door control featuring a state-of-the-art microprocessor-based controller with electro-mechanical drives. The unit is self-tuning and self-learning while offering non-handed operation, full mechanical stops, and a variety of interface options for sensors, push-plates, fire alarm systems, and electrified locks. A versatile, slim-line design makes it suitable for surface mounted (push/pull) applications.



## SPECIFICATIONS

<b>Power Supply</b>	115VAC @ 60Hz (+6%, -10%)	
<b>Power Consumption</b>	100W	
<b>Current consumption</b>	1A	
<b>Motor</b>	24 VDC Permanent Magnet with Belt Driven Encoder	
<b>Header Dimension</b>	4 1/2"H x 4 7/8"D; length: 39"/45"/51" for 36"/42"/48" opening, respectively	
<b>Fused Protection</b>	3.5A Fuse (F1 located on I/O Board)	
<b>Weight</b>	22 lbs per Operator Drive Assembly	
<b>Ambient Operating Temperature</b>	14° to 131°F	
<b>Ingress Protection</b>	IP23 - protection from spray water up to 60° from the vertical - i.e. Rainstorm	
<b>Maximum Door Weight</b>	PUSH Arm	PULL Arm
	36" Door: 438 lbs	342 lbs
	42" Door: 328 lbs	256 lbs
	48" Door: 254 lbs	198 lbs
<b>24 VDC Accessory / Lock Power Supply</b>	24 VDC / 1 Amp +	
<b>Maximum Door Opening Angle</b>	125°	
<b>Adjustable Timers &amp; Timers Potentiometers</b>	<ul style="list-style-type: none"> <li>• Auto Opening Speed</li> <li>• Auto Closing Speed</li> <li>• Hold Open Time</li> <li>• Closing Speed w/ Power Off</li> </ul>	
<b>External Selector Switch Functions</b>	<ul style="list-style-type: none"> <li>• Automatic</li> <li>• Hold Open</li> <li>• Manual (Off)</li> </ul>	
<b>Standard Control Outputs</b>	<ul style="list-style-type: none"> <li>• 24 VDC Power Supply</li> <li>• Lock Relay</li> <li>• Door Status (Fully Open &amp; Fully Closed)</li> </ul>	
<b>Standard Control Inputs</b>	<ul style="list-style-type: none"> <li>• Interior Activation</li> <li>• Exterior Activation</li> <li>• Emergency Shutdown</li> <li>• Fire Alarm Input</li> <li>• Safety Device Input</li> </ul>	
<b>Shipping Weight</b>	32.2 lbs	



## CERTIFICATIONS

- ANSI/BHMA A156.19 certified Standard For Power Assist And Low Energy Power Operated Doors
- UL 325 Standard for Door, Drapery, Gate, Louver, and Window Operators and Systems or use on fire and smoke check doors
- Meets ADA – Americans With Disabilities Act
- In compliance with FCC 47 CFR Part 15 Class B emissions requirements (USA)
- NFPA 101 – Life Safety Code
- ETL Intertek Listed



## WARRANTY

Two years from the date of invoice

# POWERING THE OPERATOR

## MAIN 115VAC ELECTRICAL CONNECTION

### WARNING:

Ensure all incoming electrical power is shut off before proceeding with any high voltage wiring. Failure to do so may result in damage to equipment or personal harm.

- Connect the main power to the Black / White / Green connector on the back-plate.  
Main power supply: 115 VAC (+6%, -5%), 15A, Single Phase, 60 Hz Dedicated Circuit  
Attach the incoming 115 VAC line wires to the wiring provided in the header – as shown below.

**NOTE:** IF THE UNIT HAS TWO WHITE WIRES, BOTH WILL CONNECT TOGETHER TO INCOMING NEUTRAL.



- VERIFY THE OPERATOR'S MAIN POWER SWITCH IS OFF BEFORE ENERGIZING CIRCUIT. THE ORANGE ROCKER SWITCH WILL BE FLIPPED TOWARDS THE TWO BLACK WIRE CONNECTERS.
- VERIFY THAT THE QUICK CONNECT TERMINAL LUGS ARE FIRMLY IN PLACE.



- TAKE CARE TO SEPARATE HIGH VOLTAGE AND LOW VOLTAGE CABLING

# WIRING CONNECTIONS

	Position	Function	Description
<b>TERMINAL STRIP J5</b>	<b>1</b>	<b>Electric Lock Relay</b>	Relay Common
	<b>2</b>	<b>Electric Lock Relay</b>	N.O. Dry contact – Contact closes upon activation. May be used for fail-secure locks by routing 1 leg of power through the relay. Relay is triggered by activation inputs 10, 11, or 15. Relay remains energized until door is fully closed again.
	<b>3</b>	<b>Electric Lock Relay</b>	N.C. Dry Contact - Contact opens upon activation. May be used for fail-safe locks by routing 1 leg of power through the relay. Relay is triggered by activation inputs 10, 11, or 15. Relay remains energized until door is fully closed again.
	<b>4</b>	<b>Door Status - Closed</b>	N.O. Contact is closed when door is closed. The contact opens as soon as the door opens.
	<b>5</b>	<b>Door Status - Common</b>	Common contact for door status
	<b>6</b>	<b>Door Status - Open</b>	N.C. – Contact is closed when door is fully open. The contact opens as soon as the door starts to close.
<b>TERMINAL STRIP J4</b>	<b>7</b>	<b>GND</b>	Common GND
	<b>8</b>	<b>GND</b>	Common GND
	<b>9</b>	<b>+ 24 VDC</b>	1A Max. Current (Total for terminals 9 & 25)
	<b>10</b>	<b>Internal Activation</b>	Requires N.O. Contact between input 10 & GND.
	<b>11</b>	<b>External Activation</b>	Requires N.O. Contact between input 11 & GND.
	<b>12</b>	<b>Emergency Closing</b>	Requires N.C. contact between 12 & GND. Upon open contact, door closes and overrides all other inputs. Remains jumpered if input is not used.
	<b>13</b>	<b>Secondary Activation</b>	Requires N.C. contact between 13 & GND. Disabled in full closed position. Used for AUTO-IR door-mounted presence sensor.
	<b>14</b>	<b>Stall Safety</b>	Requires N.C. contact between 14 & GND. Upon open contact, during opening, door stops, then resumes at reduced speed when input is released.
	<b>15</b>	<b>Night Activation Input</b>	Requires N.O. Contact between input 15 & GND. Remains capable to activate during Night Mode (i.e., when dip switch 3 is ON AND On-Off switch is OFF).
	<b>16</b>	<b>Fire Alarm Input</b>	N.O. contact, when closed causes door closing. All inputs inhibited during closed contact
	<b>17</b>	<b>Not Used</b>	Requires N.O. contact
	<b>18</b>	<b>GND</b>	Common GND
<b>19</b>	<b>GND</b>	Common GND	
<b>TERMINAL STRIP J6</b>	<b>20</b>	<b>Aux Relay</b>	Auxiliary Relay COM. NOTE: Relay is triggered by input 14
	<b>21</b>	<b>Aux Relay</b>	Auxiliary Relay N.O.
	<b>22</b>	<b>Aux Relay</b>	Auxiliary Relay N.C.
	<b>23</b>	<b>Alarm Output - Common</b>	Common
	<b>24</b>	<b>Alarm Output</b>	N.O. output is closed upon closed contact from fire alarm. LED 2 also illuminates.
	<b>25</b>	<b>+ 24 VDC</b>	1A max. (Total for terminals 9 & 25)
	<b>26</b>	<b>GND</b>	Common GND



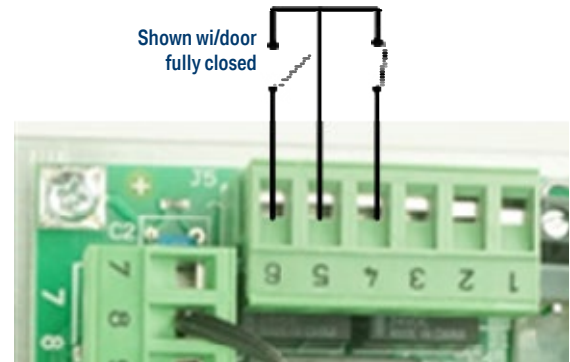
# WIRING CONNECTIONS

## SAMPLE #1 – DOOR STATUS SWITCH OUTPUT

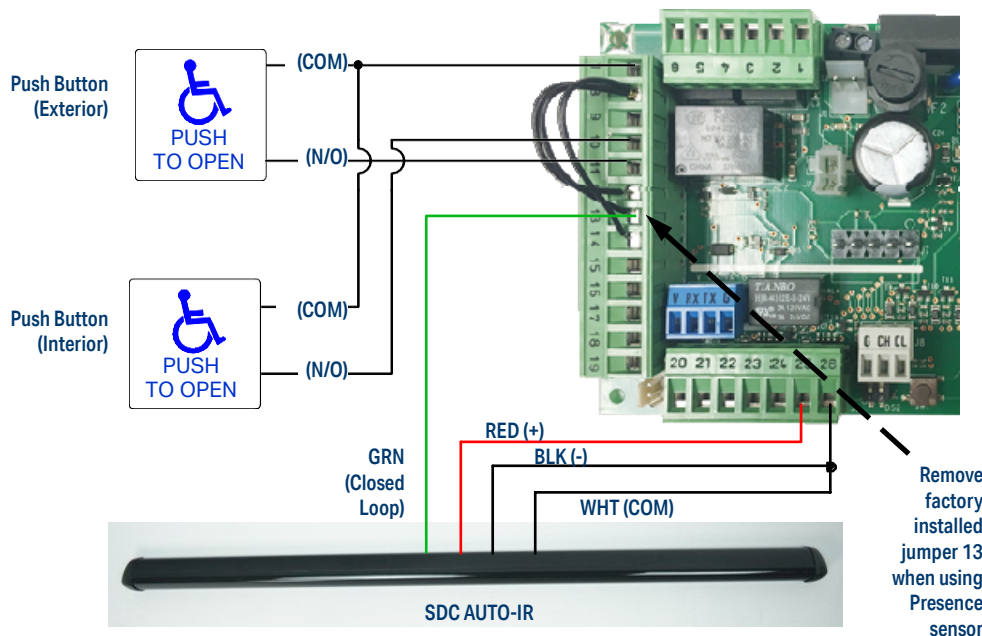
**Terminal 4:** Door "Closed" status switch: Contact closes upon full door closed position.

**Terminal 5:** Common for both Door Open & Closed Status

**Terminal 6:** Door "Open" status switch: Contact is closed when door is fully open.



## SAMPLE #2 – HARDWIRED PUSH PLATES WITH PUSH SIDE DOOR-MOUNTED SENSOR

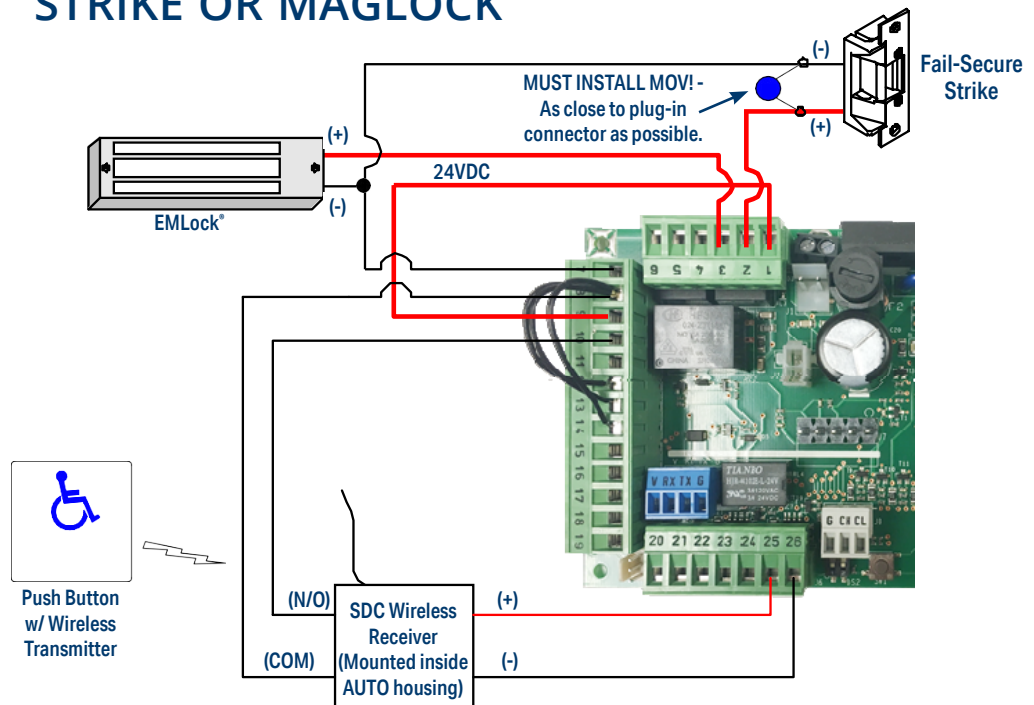


- Push side door-mounted sensor is wired into the secondary activation input (13) at the I/O board. It is a normally closed circuit. When using the AUTO-IR, remove factory installed jumper on terminal 13.
- AUTO-IR will cause re-activation when an obstruction is in the detection zone during the closing cycle.
- Secondary activation input is disabled at the full closed door position.
- Jumpers must remain installed between terminal 8 and 12 & 14 if those inputs are not required for the application.

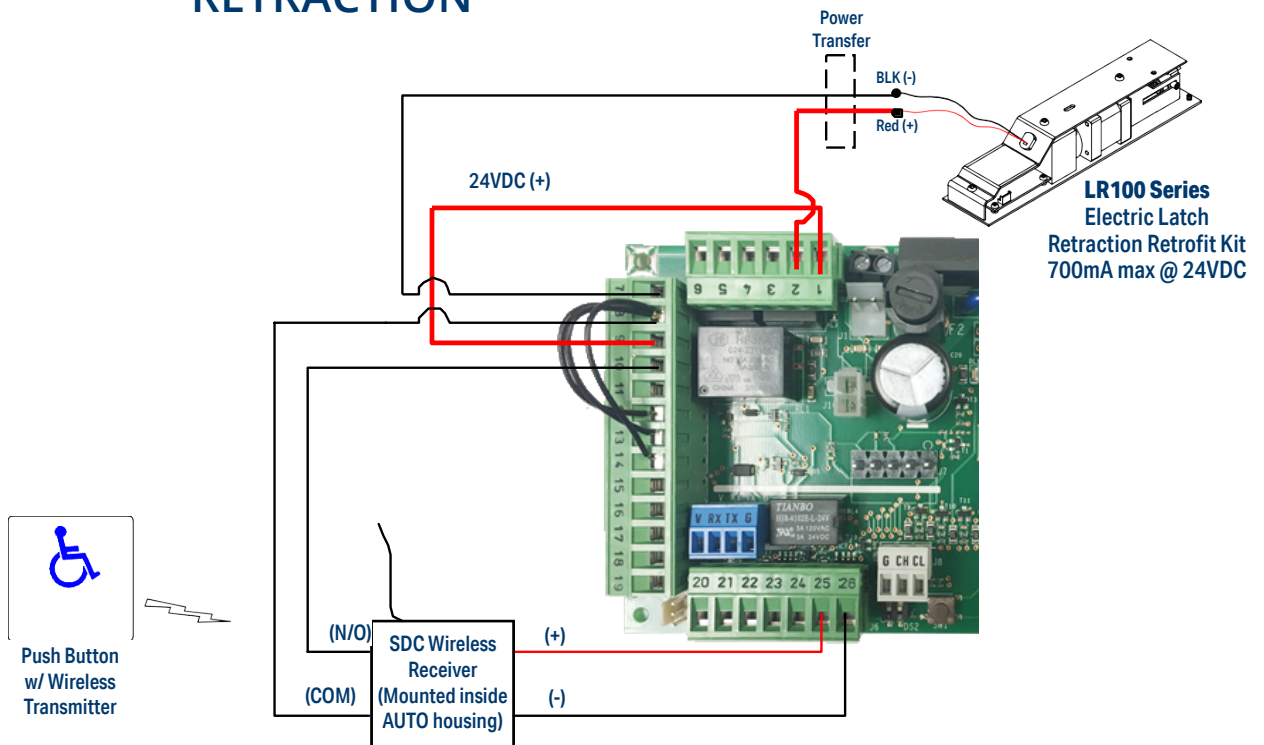


# WIRING CONNECTIONS

## SAMPLE #3 – WIRELESS PUSH PLATE WITH 24VDC ELECTRIC STRIKE OR MAGLOCK

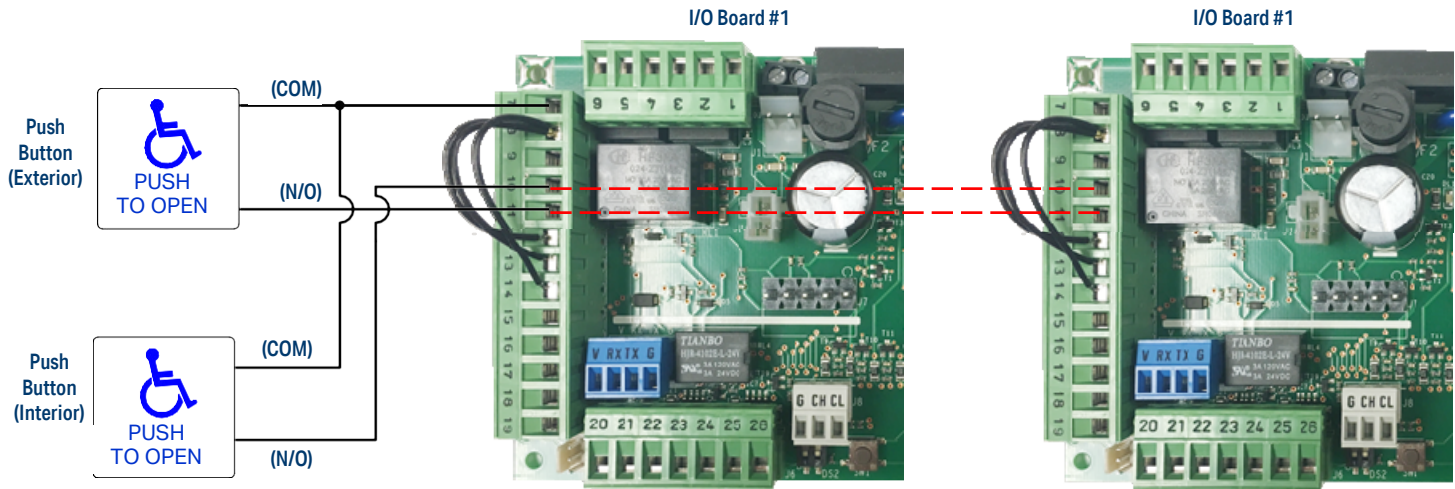


## SAMPLE #4 – WIRELESS PUSH PLATE W/ SDC ELECTRIC LATCH RETRACTION



# WIRING CONNECTIONS

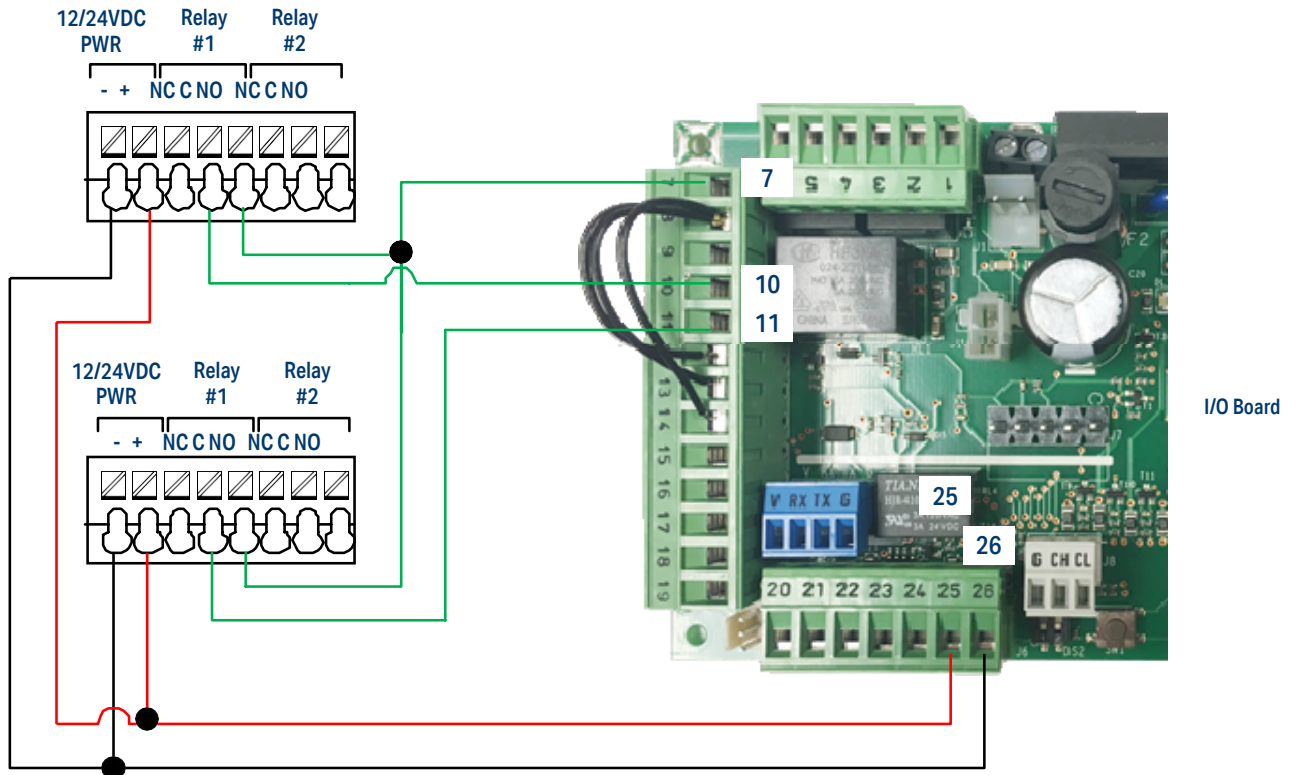
## SAMPLE #5 – SIMULTANEOUS PAIRS WITHIN A SINGLE HOUSING (BASIC OPERATION)



- When wiring controls for use as a simultaneous pair, all required inputs need to be parallel connected between Door #1 and Door #2 as shown as dotted lines in above diagram.
- In the example shown above, hardwired push plates are connected to inputs 7, 10 and 11 at Door #1 and are wired via parallel connection to Door #2.
- In a basic application, N.C. inputs 12, 13 and 14 on each I/O board may have its own jumpers installed. If any of these inputs are required for an application, the jumper will be removed for the respective input on both I/O boards. In place of the jumper, a N.C. switching circuit will be connected to Door #1, and a parallel line will be connected to Door #2.
- For simultaneous pairs, each J2 plug-in connector for the mode control is pre-wired in parallel to a single On-Off-Hold switch located in the header end-cap. One switch will control both doors.
- All control adjustments (e.g., speed, time delays) must be made independently at each logic board.
- All dip switches controls must be set independently.

# WIRING CONNECTIONS

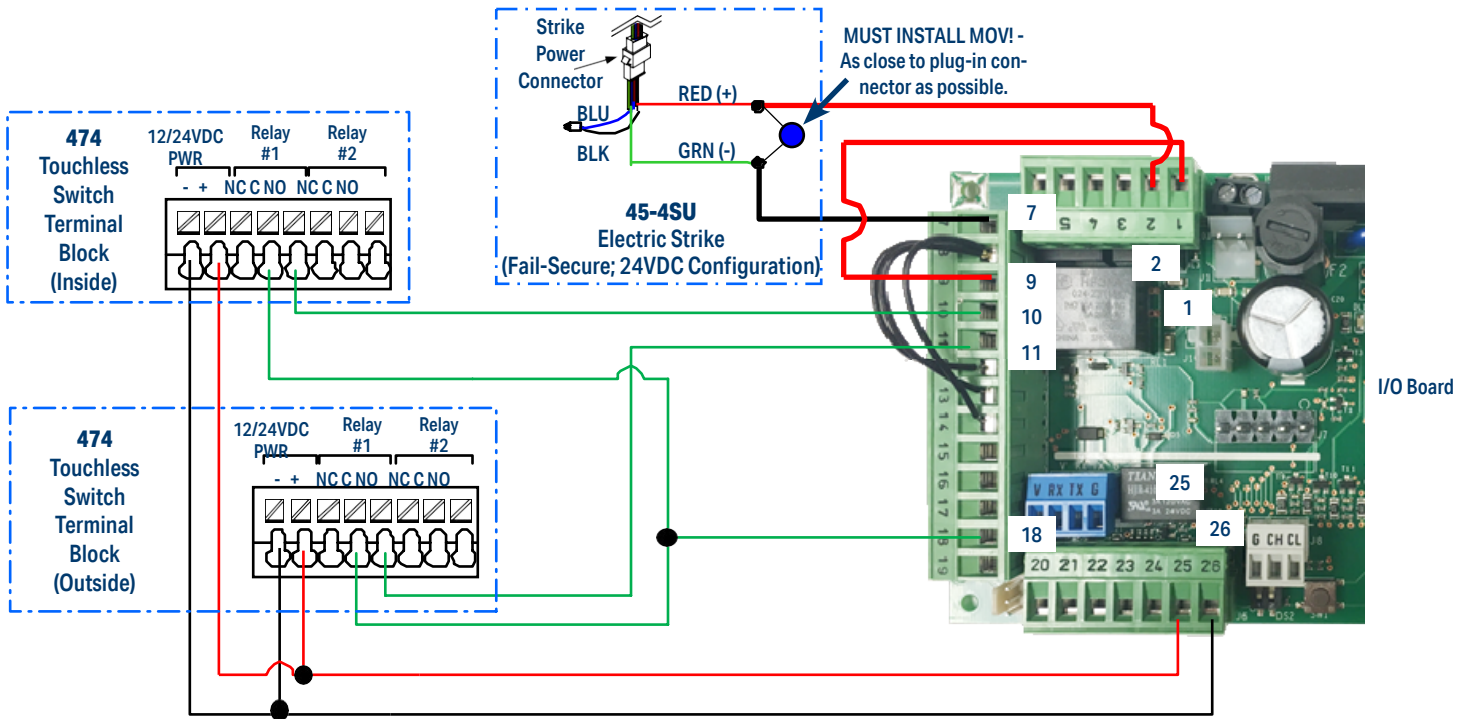
## SAMPLE #6 – HANDS FREE BASIC APPLICATION (NO LATCHING OR LOCKING HARDWARE)



**Recommended Wiring:**  
474U to AUTO Operator – (1) 4C/22AWG ea.

# WIRING CONNECTIONS

## SAMPLE #7 – HANDS FREE INTERIOR DOOR APPLICATION (WITH ELECTRIC STRIKE)

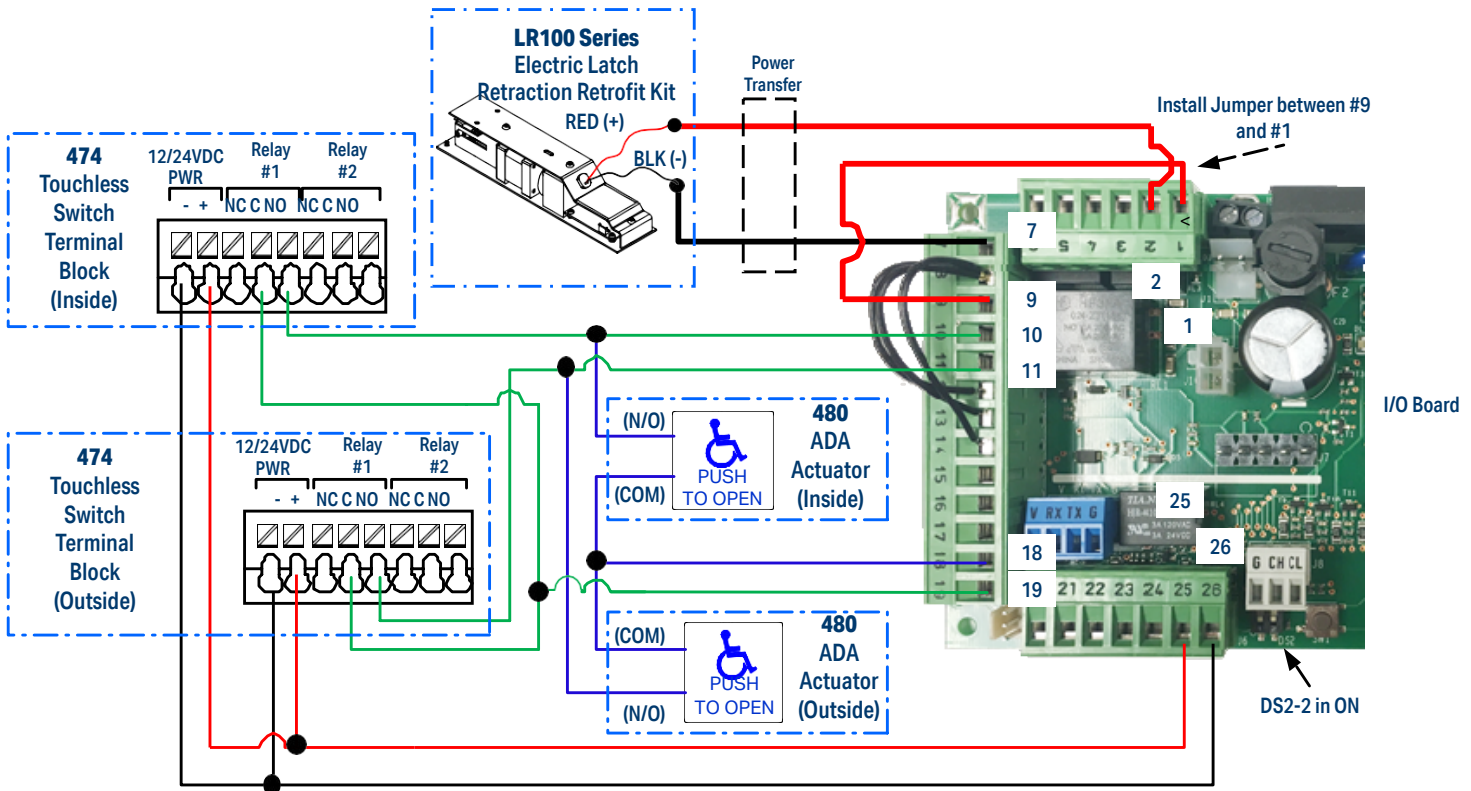


### Recommended Wiring:

- 474U to AUTO Operator – (1) 4C/22AWG ea.
- 45-4S Electric Strike to AUTO Operator – (1) 2C/18AWG

# WIRING CONNECTIONS

## SAMPLE #8 – HANDS FREE & ADA COMPLIANT LATCH RETRACTION EXIT DEVICE APPLICATION

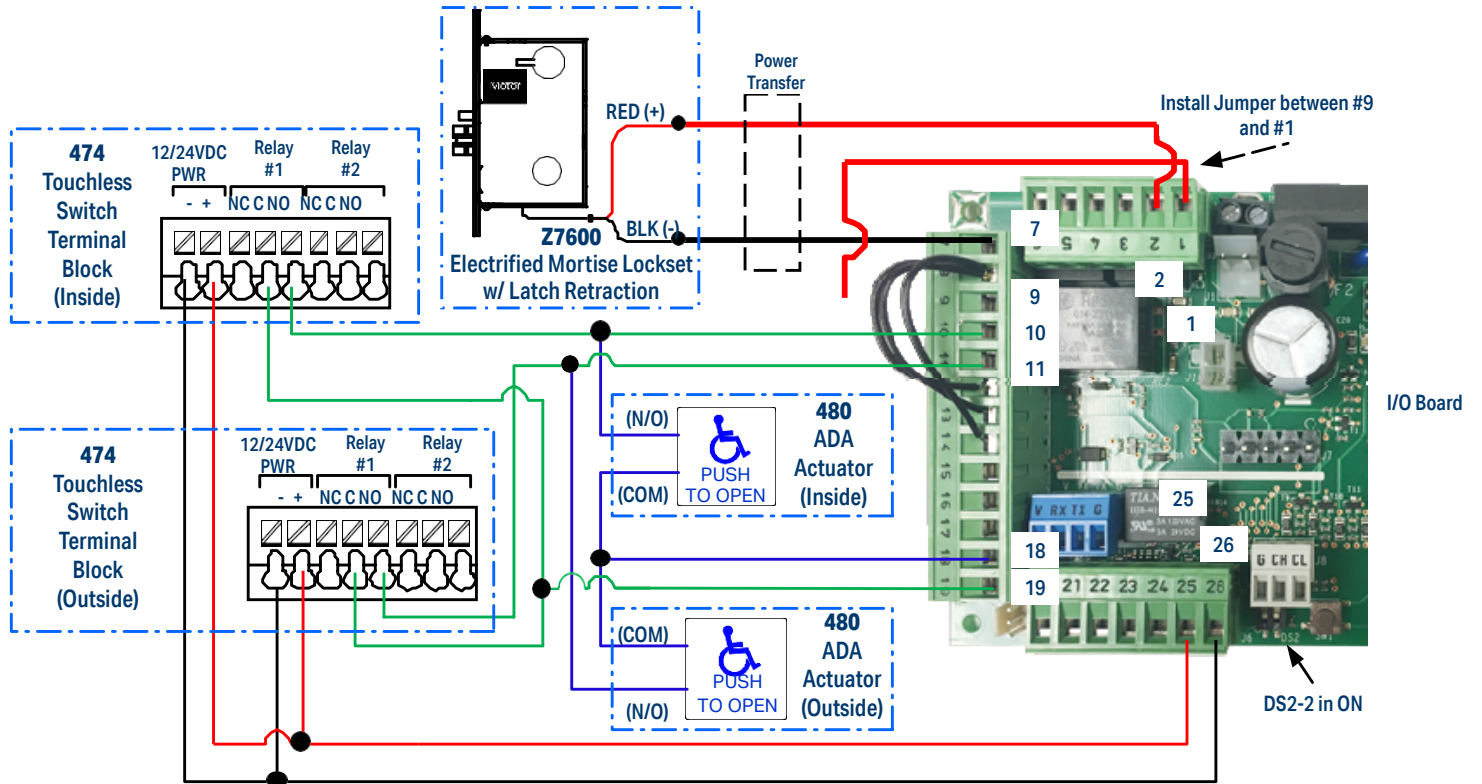


### Recommended Wiring:

- 474U to AUTO Operator – (1) 4C/22AWG ea.
- ADA Actuators to AUTO Operator – (2) 2C/22AWG ea.
- LR100 Latch Retraction Kit to AUTO Operator – (1) 2C/18AWG

# WIRING CONNECTIONS

## SAMPLE #9 – HANDS FREE & ADA COMPLIANT LATCH RETRACTION MORTISE LOCKSET APPLICATION



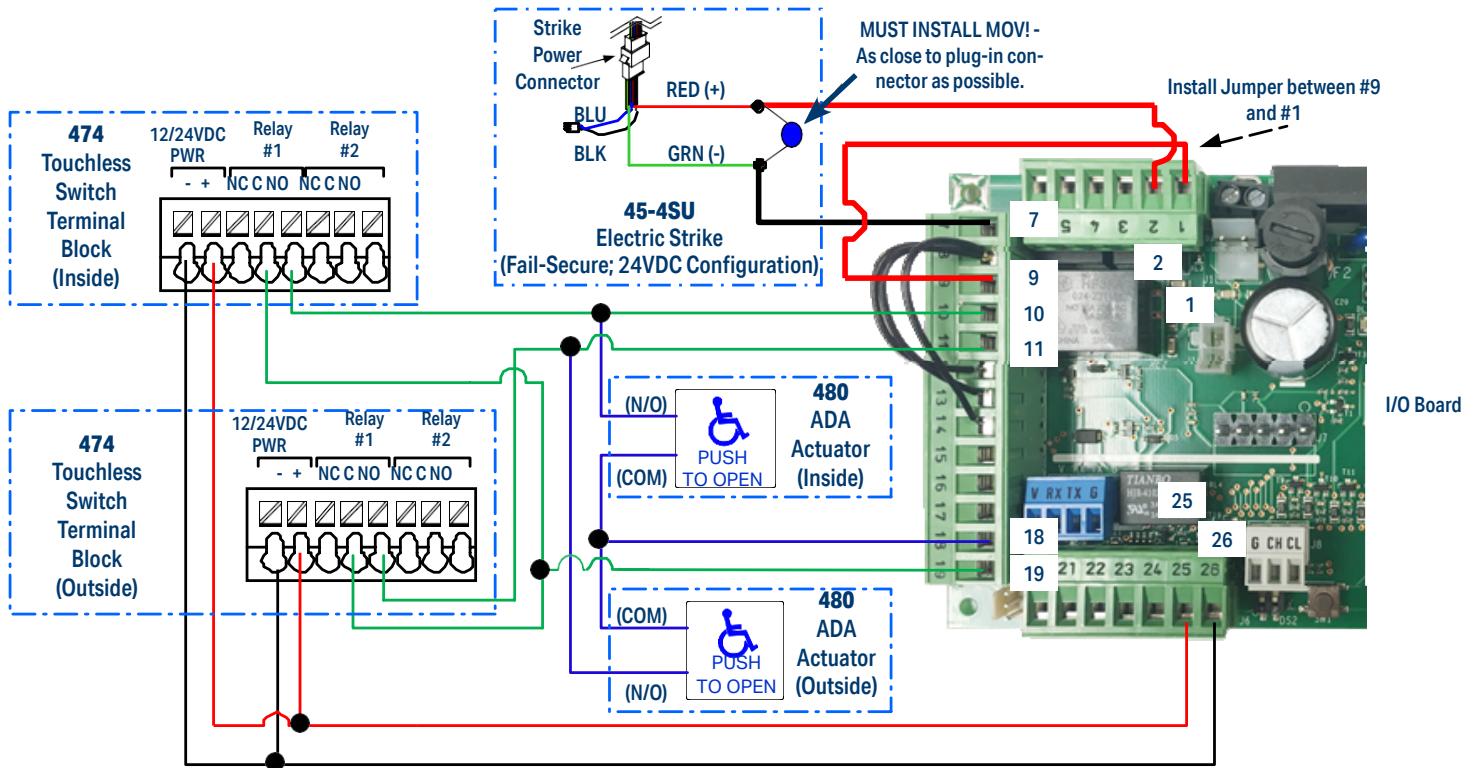
### Recommended Wiring:

- 474U to AUTO Operator – (1) 4C/22AWG ea.
- ADA Actuators to AUTO Operator – (2) 2C/22AWG ea.
- Latch Retraction Mortise Lock to AUTO Operator – (1) 2C/18AWG



# WIRING CONNECTIONS

## SAMPLE #10 – HANDS FREE & ADA COMPLIANT ELECTRIC STRIKE APPLICATION



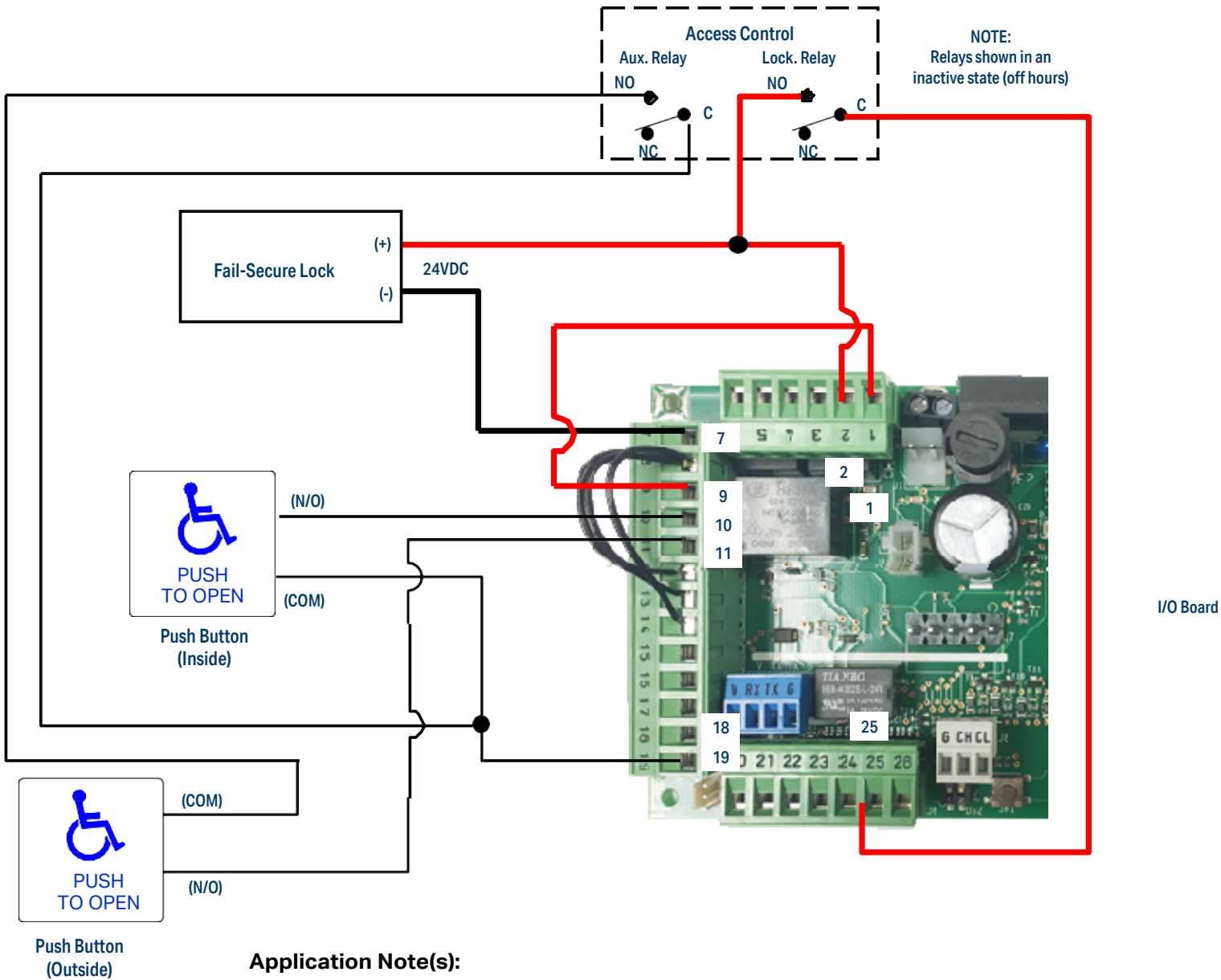
### Recommended Wiring:

- 474U to AUTO Operator – (1) 4C/22AWG ea.
- ADA Actuators to AUTO Operator – (2) 2C/22AWG ea.
- Electric Strike to AUTO Operator – (1) 2C/18AWG



# WIRING CONNECTIONS

## SAMPLE #11 – ADA COMPLIANT FAIL-SECURE LOCK APPLICATION WITH ACCESS CONTROL (BUSINESS ENTRANCE)



### Application Note(s):

1. Outside button is only active when authorized by Access Control.
2. Access Control may keep door unlocked during normal business hours.
3. Auxiliary Relay follows Lock Relay

# SDC WIRE GAUGE CHART & VOLTAGE/WIRE CALCULATORS

## FOR VOLTAGE & WIRE CALCULATORS VISIT:

<https://sdcsecurity.com/Calculators.htm>

SDC has assembled these easy-to-use calculators to assist security dealers, installers, integrators and consultants with designing, specifying and installing electrified access control hardware for their projects.

Ninety percent or more of common installation and operating problems can be avoided by simply ensuring the electrified access control hardware is receiving the power it needs to perform as expected.

These calculators use algorithms based on **Ohm's Law** - a formula used to calculate the relationship between voltage, current and resistance in an electrical circuit.

## OHMS LAW

To Determine an Unknown Voltage:

$$E = I \times R$$

How to calculate:

$$.25 \text{ Amps (I)} \times 96 \text{ Ohms (R)} = 24 \text{ Volts (E)}$$

To Determine an Unknown Current:

$$I = P / E$$

How to calculate:

$$6 \text{ Watts (P)} \div 24 \text{ Volts (E)} = .25 \text{ Amps (I)}$$

To Determine an Unknown Resistance:

$$R = E / I$$

How to calculate:

$$24 \text{ Volts (E)} \div .25 \text{ Amps (I)} = 96 \text{ Ohms (R)}$$

To Determine an Unknown Current:

$$I = E / R$$

How to calculate:

$$24 \text{ Volts (E)} \div 96 \text{ Ohms (R)} = .25 \text{ Amps (I)}$$

To Determine an Unknown Wattage:

$$P = E \times I$$

How to calculate:

$$24 \text{ Volts (E)} \times .25 \text{ Amps (I)} = 6 \text{ Watts (P)}$$

E=Volts

I=Current, Amps R=Resistance,

Ohms P=Power, Watts

In real world hardware installations, SDC recommends that you plan for a minimum 5% (or more) Voltage Drop with any electrified access control component. These calculators will determine the maximum distance allowable for a 5% Voltage Drop from the power supply to the furthest load on one circuit

### Minimum Wire Gauge for 12 volts AC or DC

Maximum Distance Allowable For a 5% Voltage Drop From the Power Supply to the Furthest Load On One Circuit

AMPS	25ft	50ft	75ft	100ft	150ft	200ft	250ft	300ft	350ft
0.12	20	20	20	20	20	20	20	18	18
0.25	20	20	20	20	18	18	16	16	16
0.35	20	20	20	18	18	16	16	14	
0.50	20	20	18	18	16	14	14		
0.75	20	18	18	16	14	14			
1.00	20	18	16	14	14				
1.50	18	18	16	14					
2.00	18	16	14	14					
2.50	18	14	14	14					
3.00	16	14	14						
3.50	16	14							
4 to 6	14								

### Minimum Wire Gauge for 24 volts AC or DC

Maximum Distance Allowable For a 5% Voltage Drop From the Power Supply to the Furthest Load On One Circuit

AMPS	25ft	50ft	75ft	100ft	150ft	200ft	250ft	300ft	350ft
0.12	20	20	20	20	20	20	20	20	20
0.25	20	20	20	20	20	20	20	18	18
0.35	20	20	20	20	20	18	18	18	16
0.50	20	20	20	20	18	18	16	16	16
0.75	20	20	20	18	16	16	16	14	14
1.00	20	20	18	18	16	16	14	14	
1.50	20	18	18	16	16	14			
2.00	18	18	16	16	14				
2.50	18	18	16	14	14				
3.00	18	16	14	14	14				
3.50	18	16	14	14					
4	16	16	14						
5	16	14	14						

# SDC ENGINEERED SYSTEM DESIGN SERVICES

## FOR SYSTEM DESIGN VISIT:

<https://sdcsecurity.com/Engineered-System-Design.htm>

Ever wish you could save **time and money** when programming **multidoor** projects?

Troubleshooting **product conflicts** frustrating you?

Are **system maintenance headaches** eating into your **profit**?



SDC's low cost comprehensive services are available when you purchase SDC locks, controller and power supply for door opening applications from your distributor.

### **No more man-hours for programming**

Take your system out of the box, set the dip switches and go.

### **Reduced maintenance headaches**

Wire diagrams eliminate dependence on the original installer.

### **Sophisticated and efficient troubleshooting**

SDC tech support can mock-up and recreate problem scenarios.

### **Self diagnostic LED's**

for quick system status.

### **Compatibility Ensured Systems™**

When paired with other SDC components, all products are guaranteed to work together.

# SDC DOORSNAP™ – RETROFIT MADE EASY

**FOR MORE INFO VISIT:**

<https://sdcsecurity.com/doorsnap.htm>

## ACCESS & EGRESS CONTROL RETROFITTS MADE EASY



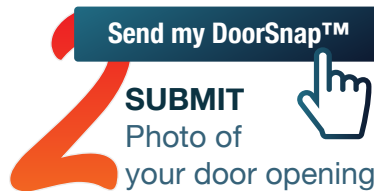
**Download the FREE SDCSecurity App with DoorSnap™ Now!**



**OPEN**  
SDC App



Use DoorSnap™  
to **TAKE A PHOTO**  
of your door opening



Send my DoorSnap™

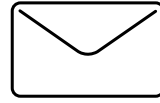
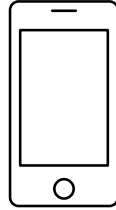
**SUBMIT**  
Photo of  
your door opening



**RECEIVE** a complete  
ELECTRICAL ACCESS  
& EGRESS SOLUTION



# We're Here to Help



Our fully staffed customer service department, technicians and engineers are available to assist with your design, discuss an application and coordinate all phases of your order.

- Product, application and installation assistance
- Ordering assistance
- Price and delivery quotation
- Purchase order status

## Customer Support Hours:

Monday – Friday, Pacific Standard Time

Technical Support	6:30am – 4:30pm
Return Authorizations	8:00am – 4:30pm
Sales	8:00am – 4:30pm
Invoices	8:00am – 4:30pm

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(800) 413-8783

USA Toll Free

## Contact us by Email:

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*the lock behind the system*  
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