These instructions cover the following parts:

**PS902 Power Supply Specifications:**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>120/240 VAC, 1.1 A, 50/60Hz, High Voltage Class 1 Wiring Required</td>
</tr>
<tr>
<td>Output</td>
<td>2 Amp DC @ 12/24 VDC</td>
</tr>
<tr>
<td>Enclosure</td>
<td>14” H x 12” W x 4” D (8 knockouts, 1/2” or 3/4”)</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>32°-120° F (0°- 49° C)</td>
</tr>
<tr>
<td>Fuse</td>
<td>F1, T3.15A, 250VAC</td>
</tr>
<tr>
<td>Compliance</td>
<td>UL 294, ULC-S318, RoHS, &amp; FCC Part 15, Class 2 Output</td>
</tr>
<tr>
<td>Fire Alarm Input Board</td>
<td>900-FA</td>
</tr>
<tr>
<td>Battery Backup Board</td>
<td>900-BB</td>
</tr>
<tr>
<td>AC Monitor Output</td>
<td>Form C Contacts, 30 VDC, 1 Amp, Resistive Load</td>
</tr>
</tbody>
</table>

**DANGER:**

To avoid risk of electric shock, turn off AC power before installing or servicing PS902 power supply.

**CAUTION:**

For protection against risk of fire, replace fuse with same type and rating.
MOUNTING NOTES

The PS902 must be installed in accordance with the article 760 of the National Electrical Code or NFPA 72, Canadian Electrical Code, or any other applicable codes.

Install the PS902 indoors within the protected premises.

Check national and local codes for additional installation requirements.

Enclosure must be firmly mounted to a solid surface using hardware suitable for the surface.

1 MOUNT POWER SUPPLY

1a Mark 2 Top Holes

1b Secure Enclosure with 4 Screws

2 SECURE ENCLOSURE DOOR

If No Keylock
Enclosure will be secured with 2 screws as shown (done as last step)

OR

If Keylock
Remove knockout and insert key cylinder, then slide in clip

Board not shown for clarity
3a Connect AC Wiring

AC (In)
120/240 VAC

Green (Ground)
White (Neutral)
Black (Hot)

AC Input

DANGER:
Ensure AC Breaker is Turned Off

3b Use Jumper to Select 24 VDC or 12 VDC Output

24 VDC Output Setting
12 VDC Output Setting

OR

Note: Minimum of 1/4" separation between AC and DC wiring as well as power limited and non-power limited.

DANGER
High Voltage
If main board must be removed, turn off AC power and wait 8 minutes before removal
Do not remove this cover, no serviceable parts

AC Input (Green LED)

Fire Alarm Jumper
Remove when 900-FA installed

AC Monitor
Active when AC present and F1 fuse not open (Form C dry contacts)

DANGER
If AC LED is off, turn off AC breaker prior to checking F1 fuse

900-FA Connector
DC Output (Red LED)

12/24 VDC Output Terminals

4a Place Batteries in Box with Terminals to the Left

Note: Allow 24 hours for batteries to fully charge

4b Attach Wires from Battery Board

Red wires = (+)
Black wires = (-)

Note: Refer to 900-BB instructions for additional info

5 TURN ON AC BREAKER TO TEST POWER SUPPLY

- Verify AC LED is On = GREEN
- Verify DC LED is On = RED
- Verify BB LED (if applicable) is On = AMBER
### 6 WIRE 900-FA (FIRE ALARM BOARD) IF INCLUDED

**Terminal Definitions**

<table>
<thead>
<tr>
<th>NC</th>
<th>C</th>
<th>NO</th>
<th>FA1</th>
<th>FA2</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Image of terminals" /></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Fire Alarm Contact**
  - Closed = no fire
  - Open = fire

- **Supervision Output**
  - Contacts shown FA active (open)

- **Fire Alarm Input**

#### One 900-FA Board - Automatic Reset

- ![Diagram of automatic reset board](image2.png)

#### One 900-FA Board - Manual Reset

- ![Diagram of manual reset board](image3.png)

**Note:** If FA is installed on PS902:
- Verify jumper J13 is removed
- Power will be removed from PS902 when fire alarm is active

### OPTION BOARDS

Refer to appropriate instructions if any board shown below is factory-installed

**Available option boards:**

- **900-2Q**
  - (2 Relay w/com)
- **900-4R**
  - (4 Relay)
- **900-4RL**
  - (4 Relay w/logic)
- **900-8F**
  - (8 Zone Distribution-fuse)
- **900-8P**
  - (8 Zone Distribution-PTC)

**Refer to 900-FA instructions for additional info**

**Option Board to be Plugged into Option Connector**

- ![Diagram of option board](image4.png)

- See option board installation instructions for wiring info

**NOTE: WHEN INSTALLATION IS COMPLETE, SECURE ENCLOSURE DOOR WITH SCREWS (PROVIDED) OR KEYLOCK**

4 of 4
900-FA Fire Alarm Input

**Installation Instructions**

<table>
<thead>
<tr>
<th>Input (Fire Alarm)</th>
<th>Dry contacts required (Closed = no fire alarm) Connect control contacts between FA1 and FA2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output (Supervision)</td>
<td>30VDC, 1A resistive dry contact</td>
</tr>
<tr>
<td>Board Input Power</td>
<td>Board requires 0.05A max. of power supply output current to operate</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>32°-120° F (0°- 49° C)</td>
</tr>
<tr>
<td>Compliance</td>
<td>UL 294, ULC-S318, RoHS, &amp; FCC Part 15</td>
</tr>
</tbody>
</table>

**DANGER:**

To avoid risk of electric shock, turn off AC power to power supply before installing or wiring 900-FA board. In the event a fire alarm is active, this board will remove power from the PS902 DC output and any 900-series option board output.

- If 900-FA was factory installed, go to step 2
- If installing to option board, go to 1a
- If installing to PS902 main board, go to 1b

### 1a IF INSTALLING TO OPTION BOARD

**Choose Option Board where 900-FA is to be Installed**

- PS902 (Power Supply)
- 900-2RS (2 Relay)
- 900-2Q (2 Relay w/com)
- 900-4R (4 Relay)
- 900-4RL (4 Relay w/logic)
- 900-8F (8 Zone Distribution-fuse)
- 900-8P (8 Zone Distribution-PTC)

**Remove Jumper from Option Board**

Note: If using battery backup, location 3 is not available.

**Install 900-FA to Option Board**

Option board may be in any of these three locations.
1b IF INSTALLING TO PS902 MAIN BOARD

Remove Jumper

Install 900-FA Here

Note: Complete power failure shall result in a fail safe operation. When connected to a fire alarm releasing control unit, total loss of power for the locking mechanisms shall be configured for a fail safe operation.

2 900-FA WIRING

Terminal Definitions

<table>
<thead>
<tr>
<th>NC</th>
<th>C</th>
<th>NO</th>
<th>FA1</th>
<th>FA2</th>
</tr>
</thead>
</table>

Supervision Output
Contacts Shown FA Active (open)

Fire Alarm Input

Note: Use 18 gauge wire for all wiring. Wire length dependent on physical layout.

One 900-FA Board - Automatic Reset

Fire Alarm Contact
Closed = no fire
Open = fire

One 900-FA Board - Manual Reset

Fire Alarm Contact
(Temporarily close to reset)
Closed = no fire
Open = fire

Two 900-FA Boards on one power supply
Automatic Reset

Fire Alarm Contact
Closed = no fire
Open = fire

Two 900-FA Boards on two power supplies
Automatic Reset

Fire Alarm Contact
Closed = no fire
Open = fire

NOTE: WHEN INSTALLATION IS COMPLETE, SECURE ENCLOSURE DOOR WITH SCREWS OR KEYLOCK
INSTALL OPTION BOARD(S) INTO POWER SUPPLY

**a** Review Available Board Mounting Locations (gray)

- **PS902**
- **PS904**
- **PS914**
- **PS906**

**b** Plug Cable into any Available Option Connector

- **PS902**
- **PS904, 914**
- **PS906**

**c** Secure Board(s) with Screws

(900-4R board shown)

**DANGER:**
To avoid risk of electric shock, turn off AC power to power supply before installing or wiring option board.

Refer to installation instructions for compatible supply models - PS902, PS904, PS906, and PS914.

**Note:**
For UL listed installations, use only UL listed locks and strikes.
900-4R Specifications:

| Inputs I1-I4 | Dry contacts required (Closed = Active) Connect control contacts between SC (Signal Common) and any input |
| Outputs 01-04 | • Form C contacts rated 30VDC, 3A (dry) • 12/24VDC, 3A (wet) when AC powered • 9.6-13.2VDC or 19.2-26.4VDC when battery powered • Maximum load cannot exceed power supply ratings or 6A for outputs combined |
| Board Input Power | Board requires 0.18A max. of power supply output current to operate |
| Temperature Range | 32°-120° F (0°-49° C) |
| Compliance | UL 294, ULC-S318, RoHS, & FCC Part 15 |
| Fire Alarm Input | Accepts 900-FA Fire Alarm Board (Optional) |

**Function:** Four independent dry-contact inputs control four Form C outputs.

**Powered Outputs (Default):**

- By default, all outputs provide 12/24VDC
- Jumper factory installed

**Dry Contact Outputs (Optional):**

- For dry contact outputs, remove appropriate jumpers and rotate 90°, then reinstall (Zone 1 - Zone 4)
- Jumper rotated 90°

900-4R Wiring Example

Fail Secure and Fail Safe Electric Strikes

**Note:**

- Fail secure output only allowed if approved by Authority Having Jurisdiction
- Refer to Wire Table (page 4)
### 900-8F Specifications:

<table>
<thead>
<tr>
<th>Function</th>
<th>Provides 8 independently-fused outputs.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Each Output</th>
<th>Rated for supply maximum when AC powered. Maximum load cannot exceed power supply ratings or 6A for outputs combined.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Board Input Power</td>
<td>Board requires 0.045A max. of power supply output current to operate.</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>32°-120° F (0°- 49° C)</td>
</tr>
<tr>
<td>Compliance</td>
<td>UL 294, ULC-S318, RoHS, &amp; FCC Part 15</td>
</tr>
<tr>
<td>Fire Alarm Input</td>
<td>Accepts 900-FA Fire Alarm Board (Optional)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>F1 - F8</th>
<th>32V, 7.5A, ATO blade style</th>
</tr>
</thead>
<tbody>
<tr>
<td>F9 Main Fuse</td>
<td>300V, 15A, 3AG style</td>
</tr>
</tbody>
</table>

**CAUTION:**
For protection against risk of fire, replace fuse with same type and rating.

**LED (each output)**

**Off** = fuse blown or missing

**Fire Alarm setting (if 900-FA installed)**
- Jumper on J5: Active fire alarm turns off all outputs
- Jumper on J6: Active fire alarm turns off outputs 1-4 only

Refer to Wire Table (page 4)

**Note:**
Fail secure output only allowed if approved by Authority Having Jurisdiction
900-8P Specifications:

| Each Output | • 1.4A maximum • 12/24VDC when AC powered • 9.6-13.2VDC or 19.2-26.4VDC when battery powered • Maximum load cannot exceed power supply ratings or 6A for outputs combined |
| Board Input Power | Board requires 0.045A max. of power supply output current to operate |
| Temperature Range | 32°-120° F (0°- 49° C) |
| Compliance | UL 294, ULC-S318, RoHS, & FCC Part 15 |
| Fire Alarm Input | Accepts 900-FA Fire Alarm Board (Optional) |

Function: Provides 8 independent outputs, each protected by an automatically-resettable thermal fuse.

| Terminals |
| Wire table (suggested maximum) |

<table>
<thead>
<tr>
<th>Wire Ga (AWG)</th>
<th>Device Current (Amps DC)</th>
<th>Output* (max. ft)</th>
<th>Input (max. ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>0.3</td>
<td>850</td>
<td>1200</td>
</tr>
<tr>
<td></td>
<td>0.5</td>
<td>500</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>0.3</td>
<td>340</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.5</td>
<td>200</td>
<td></td>
</tr>
</tbody>
</table>

*Wiring allows for 10% voltage drop at device current at 12 or 24VDC
Max. ft = one way distance between power supply and device

Note: Fail secure output only allowed if approved by Authority Having Jurisdiction

NOTE: WHEN INSTALLATION IS COMPLETE, SECURE ENCLOSURE DOOR WITH SCREWS OR KEYLOCK
QEL Wiring and Configuration Instructions with 900-2Q

**Note:**
1. QEL must be powered by a PS900-Series Power Supply with 900-2Q board
2. QEL requires 18AWG minimum wire. Maximum wire run is 200' between power supply and QEL device.
3. QEL will NOT operate with a Von Duprin “4RL” or “2RS” power supply board.

### 900-2Q Specifications:

<table>
<thead>
<tr>
<th>Inputs I1, I2</th>
<th>Dry Contacts required (Closed = Active) Connect control contacts between SC (Signal Common) and any input</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outputs O1, O2</td>
<td>• 24VDC, 3A (wet) when AC powered • 19.2-26.4VDC when battery powered • May be used with PS914 to power EL device at 24VDC, 16A, 300ms • Maximum load cannot exceed power supply ratings or 3A for outputs combined</td>
</tr>
<tr>
<td>Board Input Power</td>
<td>Board requires 0.08A max. of power supply output current to operate</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>32°-120° F (0°- 49° C)</td>
</tr>
<tr>
<td>Compliance</td>
<td>UL 294, ULC-S318, RoHS, &amp; FCC Part 15</td>
</tr>
<tr>
<td>Fire Alarm Input</td>
<td>Accepts 900-FA Fire Alarm Board (Optional)</td>
</tr>
</tbody>
</table>

Refer to installation instructions for compatible supply models - PS902, PS904, PS906, and PS914.

### 1 DRILL WIRE ACCESS HOLE

1a. [Diagram showing a device with a drill bit labeled 5/16” drill through a door and connections labeled a, b, c, d]

1b. [Diagram showing a device mounted on a door with a bracket labeled a and connection b]

1c. [Diagram showing a drill 5/16” dia. access hole through device side of door labeled 5/16”]

1d. [Diagram showing a bracket labeled a and a connection b]
2 ROUTE TWO WIRES FROM QEL EXIT DEVICE TO POWER SUPPLY

PS900-Series Power Supply with 900-2Q Option Board

QEL Electrical Load
Voltage: 24 VDC
Current: 2 A inrush (0.5 sec.)
0.35 A holding

18 AWG required
Maximum distance = 200'

3 INSTALL 900-2Q OPTION BOARD(S) INTO POWER SUPPLY

3a Review Available 900-2Q Mounting Locations (Gray)

PS902
1

PS904
1 2

PS914
1 2

PS906
1 2 3

3b Plug 2Q Cable into any Available Option Connector

PS902
1 900-2Q Board (2 QEL's) max

PS904, 914
2 900-2Q Boards (4 QEL's) max

PS906
3 900-2Q Boards (6 QEL's) max

3c Secure Board(s) with Screws

Note:
Power supply model needs to be set to 24VDC to operate this device
4 CONNECT INPUT AND OUTPUT WIRES TO 900-2Q OPTION BOARD

- QEL requires 18AWG minimum wire.
- Maximum wire run is 200' between power supply and QEL device.
- Maximum of 2 QEL devices per 900-2Q board.
- For auto operator with unlock delay of 1 second or less, connect both QEL to output 1.

Sequential Mode - Typical Wiring

Input I1 will activate both outputs

Input I1 will activate both outputs

Add jumper wire between I1 and I2

Note: Fail secure output only allowed if approved by Authority Having Jurisdiction

QEL Device 1 (not polarized)

Access Control for Devices 1 & 2

QEL Device 2 (not polarized)

Individual Mode - Typical Wiring

Input I1 will activate output 1
Input I2 will activate output 2

EPT-2/10

QEL Device 2 (not polarized)

Access Control for Device 2

EPT-2/10

QEL Device 1 (not polarized)

Access Control for Device 1

5 APPLY POWER TO POWER SUPPLY. IF 900-BB IS USED, THEN RECONNECT BATTERIES

6 SET TIME DELAYS ON 900-2Q BOARD

1. For example, 2 flashes = 10 seconds. If no delay has been set, no flashes will be displayed.

2. For example, 2 presses = 10 seconds. (Minimum time delay 5 seconds) (Maximum time delay 60 seconds) (Adjustable in 5 second increments)
7 CHECK OPERATION

a. Activate input(s) and verify all QEL devices operate properly.  
   NOTE: During the first activation, each device will perform a self calibration. This is normal.

b. Check LED on the 900-2Q board for the following indications:

<table>
<thead>
<tr>
<th>Output LEDs on 900-2Q Board</th>
<th>Indication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid</td>
<td>Input active</td>
</tr>
<tr>
<td>Flashing</td>
<td>Input has been released, and time delay is running</td>
</tr>
</tbody>
</table>

c. If any device does not operate properly, see step 8 for troubleshooting.

8 IF NECESSARY, TROUBLESHOOT OPERATION

Maintain input and then check for the following indications:

NOTE: The setup LED flashes slowly to indicate 900-2Q board is powered.

<table>
<thead>
<tr>
<th>If Output LED on 900-2Q Board is:</th>
<th>and LED on Device is:</th>
<th>Indication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off</td>
<td>Off</td>
<td>Problem with input wiring or input device</td>
</tr>
<tr>
<td>Solid</td>
<td>Off</td>
<td>Problem with wiring between power supply and exit device</td>
</tr>
<tr>
<td>Solid</td>
<td>Solid green</td>
<td>No detectable failures</td>
</tr>
<tr>
<td>Solid</td>
<td>Flashing green</td>
<td>Adjustment in progress</td>
</tr>
<tr>
<td>Solid</td>
<td>Solid red</td>
<td>Pushpad may vibrate when powered. This indicates that rods or mortise lock are misadjusted. See rod or mortise lock adjustment in installation instructions. If necessary, go to <a href="http://www.vonduprin.com/installation_instruction_library.asp">www.vonduprin.com/installation_instruction_library.asp</a> or contact Technical Services at 1-877-671-7011</td>
</tr>
<tr>
<td>Solid</td>
<td>Flashing red</td>
<td>Contact Technical Services at 1-877-671-7011</td>
</tr>
<tr>
<td>Solid</td>
<td>Flashing green/red</td>
<td>Excessive tamper (automatically clears after 2 minutes)</td>
</tr>
</tbody>
</table>

9 REINSTALL COVER AND END CAP

NOTE: WHEN INSTALLATION IS COMPLETE, SECURE ENCLOSURE DOOR WITH SCREWS OR KEYLOCK
900-4RL Specifications:

**Inputs I1–I4**
- Dry contacts required (Closed = Active)
- Connect control contacts between SC (Signal Common) and any input

**Outputs O1–O4**
- Form C contacts rated 30VDC, 3A (Dry)
- 12/24VDC, 3A (Wet) when AC powered
- 9.6-13.2VDC or 19.2-26.4VDC when battery powered
- May be used with PS914 to power EL device at 24VDC, 16A, 300ms
- Maximum load cannot exceed power supply ratings or 6A for outputs combined

**Board Input Power**
- Board requires 0.18A max. of power supply output current to operate

**Temperature Range**
- 32°-120°F (0°-49° C)

**Compliance**
- UL 294, ULC-S318, RoHS, & FCC Part 15

**Fire Alarm Input**
- Accepts 900-FA Fire Alarm Board (Optional)

---

### 1 INSTALL 4RL BOARD(S) INTO POWER SUPPLY

**1a Review Available 900-4RL Mounting Locations (Gray)**

Refer to installation instructions for compatible supply models - PS902, PS904, PS906, and PS914.

**1b Plug 4RL Cable into any Available Option Connector**

**1c Secure Board(s) with Screws**

---

**DANGER:**
To avoid risk of electric shock, turn off AC power to power supply before installing or wiring option board.

**Note:**
For UL listed installations, use only UL listed locks and strikes.
2  CHOOSE FUNCTION OF 900-4RL BOARD BY SETTING SW2 DIP SWITCHES

**4TD**
Four Zone Controller Function (4TD):
- Controls up to four inputs and four outputs with time delay.
- This is the default setting.
- Function LED will blink one time every 5 seconds

**AO**
Auto Operator Function (AO):
- Coordinates the unlocking of one or two zones with the signaling of an auto operator.
- Function LED will blink two times every 5 seconds

**SI**
Security Interlock Function (SI):
- Controls multi-door interlocks. Two through six door systems are possible (additional boards required for three to six doors).
- Function LED will blink three times every 5 seconds

---

3  TO COMPLETE CONFIGURATION AND WIRING, GO TO APPROPRIATE SECTION

For 4TD: Go to pages 3-4
For AO: Go to pages 5-6
For SI: Go to pages 7-8
Basic Troubleshooting: Go to page 8

---

(OPTIONAL) DRY CONTACT CONFIGURATION

**Powered Outputs**  (Default)

By default, all outputs provide 12/24VDC

- Jumpers factory installed

---

**Dry Contact Outputs**  (Optional)

For dry contact outputs, remove appropriate jumpers and rotate 90°, then reinstall (Zone 1 - Zone 4)
**Summary of Operation**

- Output turns “ON” when input is activated (closed).
- Time delay begins when input is released (opened).
- Locking Device output will remain “ON” during time delay.
- If I1–I4 inputs are wired together, outputs will sequence.

DIP switches on SW1 can be turned “ON” by moving them in the direction that the arrow is pointing. Switches below shown in “OFF” position.

---

### SWITCH NUMBER | 4TD DIP SWITCH DEFINITIONS
---|---
Enable Time Delay Allows you to choose which outputs will have the below time delay. | 1 Turn “ON” to enable time delay for Locking Device 1
| 2 Turn “ON” to enable time delay for Locking Device 2
| 3 Turn “ON” to enable time delay for Locking Device 3
| 4 Turn “ON” to enable time delay for Locking Device 4
Set Time Delay (0-75 seconds, 5 second increments) | 5 Adds 5 seconds to the time delay when “ON”
| 6 Adds 10 seconds to the time delay when “ON”
| 7 Adds 20 seconds to the time delay when “ON”
| 8 Adds 40 seconds to the time delay when “ON”

---

### 4TD INPUT / OUTPUT TERMINAL BLOCK DEFINITIONS

| Input 1 | Access Control 1
| Input 2 | Access Control 2
| Input 3 | Access Control 3
| Input 4 | Access Control 4
| Output 1* | Lock 1
| Output 2* | Lock 2
| Output 3* | Lock 3
| Output 4* | Lock 4

*See page 2 for dry contacts
**4TD - WIRING EXAMPLE - FAIL SECURE**

- EPT 2 or 10
  - EL Device 2 (not polarized)
  - Access Control 2

- EPT 2 or 10
  - EL Device 1 (not polarized)
  - Access Control 1

- Mag Lock 2
- Access Control 2

- Mag Lock 1
- Access Control 1

- Access Control 3
- Mag Lock 3

- Access Control 4
- Mag Lock 4

Note:
- To control EL1 & EL2 with Access Control 1, jumper I1-I2
- To control EL1 - EL4 with Access Control 1, jumper I1-I2-I3-I4

- 0-100 ft, use 14 gauge stranded wire
- 0-200 ft, use 12 gauge stranded wire

Refer to Wire Table
(page 7)

**4TD - WIRING EXAMPLE - FAIL SAFE**

- EPT 2 or 10
  - EL Device 4 (not polarized)
  - Access Control 4

- EPT 2 or 10
  - EL Device 3 (not polarized)
  - Access Control 3

- Mag Lock 2
- Access Control 2

- Mag Lock 1
- Access Control 1

- Access Control 3
- Mag Lock 3

- Access Control 4
- Mag Lock 4

Note:
- To control Mag Locks 1 & 2 with Access Control 1, jumper I1-I2
- To control Mag Locks 1 - 4 with Access Control 1, jumper I1-I2-I3-I4

Refer to Wire Table
(page 7)
AO - SET CONFIGURATION USING SW1 SWITCHES

DIP switches on SW1 can be turned “ON” by moving them in the direction that the arrow is pointing. Switches below shown in “OFF” position.

**AO DIP SWITCH DEFINITIONS**

All switches shown in “OFF” position in wiring diagram.

<table>
<thead>
<tr>
<th>SW1 SWITCH NUMBER</th>
<th>AO DIP SWITCH DEFINITIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Set Auto Operator Signaling Option</td>
<td>1 Off</td>
</tr>
<tr>
<td></td>
<td>2 Off</td>
</tr>
<tr>
<td></td>
<td>1 On</td>
</tr>
<tr>
<td></td>
<td>2 Off</td>
</tr>
<tr>
<td></td>
<td>1 Off</td>
</tr>
<tr>
<td></td>
<td>2 On</td>
</tr>
<tr>
<td></td>
<td>1 On</td>
</tr>
<tr>
<td></td>
<td>2 On</td>
</tr>
<tr>
<td>Not Used</td>
<td>3</td>
</tr>
<tr>
<td>Set Individual Mode or Sequential Mode</td>
<td>4</td>
</tr>
<tr>
<td>Individual Mode - One input will trigger one locking device. Sequential Mode - One input will trigger two locking devices.</td>
<td></td>
</tr>
<tr>
<td>Set Time Delay*</td>
<td>5</td>
</tr>
<tr>
<td>(0-30 seconds, 2 second increments)</td>
<td>6</td>
</tr>
<tr>
<td>0 Sec: Switches 5-8 &quot;OFF&quot;</td>
<td>7</td>
</tr>
<tr>
<td>30 Sec: Switches 5-8 &quot;ON&quot;</td>
<td>8</td>
</tr>
</tbody>
</table>

* Time Delay begins when an input is released.

**AO INPUT / OUTPUT TERMINAL BLOCK DEFINITIONS**

<table>
<thead>
<tr>
<th>Input 1</th>
<th>Access Control 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input 2</td>
<td>Lock Monitor 1</td>
</tr>
<tr>
<td>Input 3</td>
<td>Access Control 2</td>
</tr>
<tr>
<td>Input 4</td>
<td>Lock Monitor 2</td>
</tr>
<tr>
<td>Output 1*</td>
<td>Lock 1</td>
</tr>
<tr>
<td>Output 2*</td>
<td>AO Signal 1</td>
</tr>
<tr>
<td>Output 3*</td>
<td>Lock 2</td>
</tr>
<tr>
<td>Output 4*</td>
<td>AO Signal 2</td>
</tr>
</tbody>
</table>

*See page 2 for dry contacts
AO - WIRING EXAMPLE - TWO SINGLE DOORS

Summary of Operation
For each door, access control input unlocks door.
Latch monitor (LX) triggers auto operator.

Single Door Board Configuration
1. Position jumpers for dry contact for outputs 2 and 4 (see page 2).
2. Turn on switches 5 and 6 on SW1 (6 second time delay).
3. If LX is not used, turn on switch 1 on SW1.

AO - WIRING EXAMPLE - DOUBLE DOORS

Summary of Operation
Access control input unlocks both doors.
Both latch monitors (LX) trigger auto operators.

Double Door Board Configuration
1. Position jumpers for dry contact for outputs 2 and 4 (see page 2).
2. Turn on switches 4, 5, and 6 on SW1 (6 second time delay).
3. If LX is not used, turn on switch 1 on SW1.

Note:
Fail secure output only allowed if approved by Authority Having Jurisdiction

Refer to Wire Table (page 7)
DIP switches on SW1 can be turned “ON” by moving them in the direction that the arrow is pointing. Switches below shown in “OFF” position.

### SI DIP SWITCH DEFINITIONS

All switches shown in “OFF” position in wiring diagram

<table>
<thead>
<tr>
<th>SWITCH NUMBER</th>
<th>Enable Time Delay</th>
<th>Enable Interlock</th>
<th>Set Time Delay (Output Active)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Turn “ON” to enable time delay for Locking Device 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Turn “ON” to enable time delay for Locking Device 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Turn “ON” to remove O2 from interlock (Allows a single independent door)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Turn “ON” for global interlock (interlocks with other SI boards that have this switch “ON”)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Adds 2 seconds to the time delay when “ON”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Adds 4 seconds to the time delay when “ON”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Adds 8 seconds to the time delay when “ON”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Adds 16 seconds to the time delay when “ON”</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### SI INPUT / OUTPUT TERMINAL BLOCK DEFINITIONS

- **Input 1**: Access Control 1
- **Input 2**: Access Control 2
- **Input 3**: Lock Monitor 1
- **Input 4**: Lock Monitor 2
- **Output 1**: Lock 1
- **Output 2**: Lock 2
- **Output 3**: Follows Output 1 by .5 Sec
- **Output 4**: Follows Output 2 by .5 Sec

*See page 2 for dry contacts

### GLOBAL INTERLOCK SWITCH SETTING EXAMPLES

<table>
<thead>
<tr>
<th>SI Board #1</th>
<th>SI Board #2</th>
<th>SI Board #3</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>SW1-3</td>
<td>SW1-4</td>
<td>SW1-3</td>
<td>SW1-4</td>
</tr>
<tr>
<td>Off</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
</tr>
<tr>
<td>Off</td>
<td>On</td>
<td>Off</td>
<td>On</td>
</tr>
<tr>
<td>Off</td>
<td>On</td>
<td>On</td>
<td>On</td>
</tr>
<tr>
<td>Off</td>
<td>On</td>
<td>Off</td>
<td>Off</td>
</tr>
</tbody>
</table>

### Wire Table (suggested maximum)

<table>
<thead>
<tr>
<th>Wire Ga (AWG)</th>
<th>Device Current (Amps DC)</th>
<th>Output (max. ft)</th>
<th>Input (max. ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>0.3</td>
<td>850</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.5</td>
<td>500</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>0.3</td>
<td>340</td>
<td>1200</td>
</tr>
<tr>
<td></td>
<td>0.5</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Using EL device with EPT or Door Loop (PS914 required)</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Using EL device with Electric Hinge/Pivot (PS914 required)</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Using EL device with EPT or Door Loop (PS914 required)</td>
<td>75</td>
<td></td>
</tr>
</tbody>
</table>

*Wiring allows for 10% voltage drop at device current at 12 or 24VDC

Max. ft = one way distance between power supply and device
**SI - WIRING EXAMPLE - 2 TO 6 DOOR INTERLOCK, NORMALLY LOCKED**

**Si Configuration**
1. Turn on switches 1, 2, 4, 5, and 6 on SW1.
2. Install 2 doors per SI board.
3. Add up to 2 additional SI boards for a total of 6 door interlock per power supply:
   - PS902 (2 doors maximum)
   - PS904 (4 doors maximum)
   - PS906 (6 doors maximum)

**Note:**
Fail secure output only allowed if approved by Authority Having Jurisdiction

Refer to Wire Table (page 7)

---

**BASIC TROUBLESHOOTING FOR ALL FUNCTIONS**

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Check</th>
</tr>
</thead>
<tbody>
<tr>
<td>900-4RL Function LED (yellow) is not blinking, and inputs and outputs are inactive</td>
<td>Verify 900-4RL cable is plugged into an “option” connector on the main board.</td>
</tr>
<tr>
<td></td>
<td>Check AC wiring and AC breaker.</td>
</tr>
<tr>
<td></td>
<td>Check PS-900 main board F1 fuse.</td>
</tr>
<tr>
<td></td>
<td>Use voltmeter to verify 12 VDC or 24 VDC output on PS-900 main board.</td>
</tr>
<tr>
<td>900-4RL Function LED (yellow) is blinking, but inputs and outputs are inactive</td>
<td>If 900-FA option is installed onto 900-4RL, verify fire alarm contacts are closed across FA1 and FA2.</td>
</tr>
<tr>
<td></td>
<td>If 900-FA option is not installed, then verify jumper wire is installed into FA-JMPR connector on the 4RL board.</td>
</tr>
<tr>
<td>Inputs and outputs behaving incorrectly.</td>
<td>Verify 2-position DIP switch is set for proper function.</td>
</tr>
<tr>
<td></td>
<td>Watch yellow LED to confirm 4RL function setting.</td>
</tr>
<tr>
<td></td>
<td>See page 2. (Verify each DIP switch is pushed into its fully-on or fully-off position.)</td>
</tr>
<tr>
<td></td>
<td>Verify 8-position DIP switch is set properly for your application. If you are unsure of proper settings, contact Technical Services for assistance. (Verify each DIP switch is pushed into its fully-on or fully-off position.)</td>
</tr>
<tr>
<td></td>
<td>Verify wiring for all input and output hardware is connected to proper terminals. (Reminder: If 900-4RL is mounted in location 1, top terminals will be GND. If 900-4RL mounted in location 2 or 3, top terminals will be SC.)</td>
</tr>
</tbody>
</table>

---

**NOTE: WHEN INSTALLATION IS COMPLETE, SECURE ENCLOSURE DOOR WITH SCREWS OR KEYLOCK**
Installation Instructions

900-BB Battery Backup

DANGER:
To avoid risk of electric shock, turn off AC power to power supply before installing or wiring 900-BB board.

BATTERY SPECIFICATIONS

| Battery Life | Model PS906 = 6A @ 24V  
Model PS904 = 4A @ 24V  
Model PS902 = 2A @ 24V  
Model PS914 = 4A @ 24V  |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Suitable for Canadian Class IV standby power for access control</td>
</tr>
<tr>
<td>Battery Type</td>
<td>12VDC, 7Ah Gel Sealed Rechargeable Battery (2 included)</td>
</tr>
<tr>
<td>Replacement Part Number</td>
<td>Schlage 991280</td>
</tr>
</tbody>
</table>

CAUTION:
Charge only Schlage 991280 batteries. Other types may burst, causing personal injury and damage. Observe the proper polarity when connecting the batteries.

Refer to installation instructions for compatible supply models - PS902, PS904, PS906, and PS914.

1 INSTALL 900-BB ONTO MAIN CIRCUIT BOARD AND SECURE WITH SCREW

(PS914 main board shown)
2 INSTALL AND CONNECT BATTERIES

2a Turn On AC Breaker to Energize Power Supply

2b Place Batteries in Box with Terminals to the Left

2c Attach Wires from Battery Board
Red wires = (+)
Black wires = (-)

2d Verify That Battery LED is On
If LED is not on, cycle AC power off and then back on.

Note: Allow 24 hours for batteries to fully charge

⚠️ WARNING: Incorrect connection may cause damage to the batteries

NOTE: WHEN INSTALLATION IS COMPLETE, SECURE ENCLOSURE DOOR WITH SCREWS OR KEYLOCK