QEL Wiring and Configuration Instructions with 900-2Q

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

**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

1b

1c

1d

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44487098 Rev. 10/10_a
2 ROUTE TWO WIRES FROM QEL EXIT DEVICE TO POWER SUPPLY

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

PS904

PS914

PS906

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**

![Sequential Mode Diagram](sequential-diagram.png)

Add jumper wire between I1 and I2

**Individual Mode - Typical Wiring**

![Individual Mode Diagram](individual-diagram.png)

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

**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)

- **View Current Time Delays**
  - Press once: Output 1 (green) 1 flash per 5 seconds'
  - Press once: Output 2 (red) 1 flash per 5 seconds'
  - Green/red alternating flash indicates all delays have been displayed

- **Set Delay(s)**
  - Press and hold until LED turns green: Press once for each 5 seconds desired\(^1\) (Output 1)
  - Wait for red: Press once for each 5 seconds desired\(^2\) (Output 2)
  - Wait for green/red alternating flash

- **Set All Delay(s) to Zero (0) Seconds**
  - Press and hold until LED turns green: Wait for green/red alternating flash

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\(^1\) Minimum time delay 5 seconds
\(^2\) 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