Devices covered by these instructions:
QEL94/9575 Mortise Device (Panic and Fire)

Read All Warnings
Before Starting Installation!

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PARTS

- Mortise lock
- Strike
- Rod connector
- Device
- QEL motor
- QEL cable
- End cap
- Dogging key (panic devices only)
**GENERAL INFORMATION**

The QEL94/9575 Exit Device is designed to provide reduced pushpad projection and a unique appearance by embedding the device into the face of the door.

These instructions assume that a factory-prepared door and frame are being used.


**SPECIFICATIONS**

**Mechanical**
- Pushpad projection (depressed) $1\frac{1}{8}''$ to $1\frac{3}{4}''$

**Electrical Load**
- Voltage: 1.4 A inrush (0.5 sec)
- Current: 0.14 A holding
  - 2.0 A calibrate (3 sec, one time)

**TOOLS NEEDED**

These are the tools needed for installing a QEL94/9575 into a factory-prepared door and frame.

- 7/64" hex key
- Phillips screwdriver
1 PREPARE DOOR FOR OUTSIDE TRIM (SKIP THIS STEP IF NOT USING TRIM)

Drill through the four mounting holes and trim access hole at the latch side of the cutout. See trim installation instructions for hole sizes and locations.

2 PREPARE DOOR FOR OUTSIDE CYLINDER (SKIP STEP IF NOT USING OUTSIDE CYLINDER)

a. Temporarily install mortise lock in door and locate cylinder hole on outside face of door as shown.

b. Remove mortise lock and prepare cylinder hole through outside face of door only.
3 INSTALL STRIKE

1" flat head combination screws (quantity: 2)

4 WIRE LX SWITCH (LX DEVICES ONLY)

a. Connect field wiring to frame side of power transfer (Figure 4-1).

b. See LX switch wiring information (Figure 4-2) for switch configuration.

c. Connect LX switch wiring to door side of power transfer using crimp connectors. Unused wires should be insulated separately.

![Figure 4-1](image)

**WARNING**
Disconnect power before wiring LX switch.

![Figure 4-2](image)

**NOTE**
The latch bolt monitor switch is activated whenever the latch bolt is retracted. The switch function is shown with the latchbolt extended and the touchbar not depressed.
5 MOUNT DEVICE ON DOOR

a. Mount device on door using supplied mounting screws (Figure 5-1).

b. Center device in pocket, leaving an even gap all around the device.

c. If outside trim is used, bolt through to trim (see Figure 5-2 and trim installation instructions).

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6 ROUTE TWO WIRES FROM QEL EXIT DEVICE TO POWER SUPPLY

QEL Electrical Load

<table>
<thead>
<tr>
<th>Voltage</th>
<th>1.4 A inrush (0.5 sec)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
<td>0.14 A holding</td>
</tr>
<tr>
<td>Calibrate</td>
<td>2.0 A calibrate (3 sec, one time)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Distance (one way)</th>
<th>Wire Gauge</th>
</tr>
</thead>
<tbody>
<tr>
<td>200'</td>
<td>18AWG</td>
</tr>
<tr>
<td>320'</td>
<td>16AWG</td>
</tr>
<tr>
<td>500'</td>
<td>14AWG</td>
</tr>
<tr>
<td>800'</td>
<td>12AWG</td>
</tr>
</tbody>
</table>
7 INSTALL MORTISE LOCK

a. Thread rod connector into mortise lock.

b. Remove retaining screws, scalp plate, and insert.

c. Adjust faceplate for door bevel.
   1. Loosen top and bottom faceplate screws.
   2. Pivot faceplate to match door bevel.
   3. Tighten top and bottom faceplate screws.

d. Install mortise lock in door with two #12-12 x 12-24 combination screws.

e. If using outside cylinder:
   1. Back out cylinder set screws enough to clear cylinder mounting hole.
   2. Thread cylinder into mortise lock through hole in outside face of door.
   3. Tighten the cylinder set screw that is closest to outside face of door. Remove the other cylinder set screw.

f. Rotate latch bolt so flat side faces exit direction.

   Exit direction

   Flat side of latch bolt

   Top view

g. Replace insert, scalp plate, and scalp plate retaining screws (See step b).
8 ADJUST ROD CONNECTOR

a. Fully depress and hold pushpad and pull rod connector to set mortise lock latch bolt in fully retracted (hold) position (Figure 8-1).

b. Push down on center case connector, adjust rod connector length, and connect rod to center case connector (Figure 8-2).

c. Verify that pushpad projection is 1\(\frac{1}{8}\)" to 1\(\frac{1}{4}\)" when depressed. Adjust rod connector if necessary: **Lengthening the rod connector reduces pushpad projection when depressed.**

d. If using trim, verify that the trim fully retracts the latch bolt. If the trim does not fully retract the latch bolt, adjust the rod connector so it is shorter.

e. Open the door and release latch by pushing in auxiliary bolt. Check deadlocking: Latch bolt should not retract when pressed in.

![Figure 8-1](image1)

![Figure 8-2](image2)

9 INSTALL RETAINER CLIP ON ROD CONNECTOR AT CENTER CASE

- Center case connector
- Retainer clip fits **behind** legs of center case connector
- Install screw with \(\frac{3}{64}\)" hex key
10 TEST MECHANICAL DEVICE OPERATION

a. Fully depress pushpad, push door open, and release pushpad.
   b. Close door or press auxiliary bolt in.

11 INSTALL 900-2RS, 4RL, OR 4R OPTION BOARD(S) INTO POWER SUPPLY

**a** Review Available 900 series Option Board Mounting Locations (Gray)

- PS902
- PS904
- PS914
- PS906

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

- PS902 1 Board
- PS904, 914 2 Boards
- PS906 3 Boards

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

**Notes:**
1. 24VDC output setting required when EL or QEL device connected
2. If installing board in location 2 or 3, rotate board 180°
3. The QEL is compatible with an existing 900-2Q board if currently installed.
4. When powering (2) QEL's with a PS902, both cannot be activated at the same time, they must be sequenced.
5. Latchbolt retraction of (2) sequenced QEL's requires more than 1 second to complete.
6. For double door QEL applications with auto operators, it is recommended to use a PS904, 906, or 914 power supply.
12 CONNECT INPUT AND OUTPUT WIRES TO OPTION BOARD, 2RS SHOWN

Individual Mode - Typical Wiring

Sequential Mode - Typical Wiring

For other option board wiring diagrams, see the appropriate instruction sheet.

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

14 CHECK OPERATION

a. Activate each input and verify all QEL devices operate properly.
   NOTE: During the first activation, each device will perform a one time self calibration, which is normal. For best results, power each device separately so that the calibration cycles do not overlap.

b. If any device does not operate properly, see step 15 for troubleshooting.
## Troubleshoot Operation

<table>
<thead>
<tr>
<th>Power at the QEL</th>
<th>QEL Response</th>
<th>Condition / Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>0VDC</td>
<td>LED - Off</td>
<td>QEL is not receiving power to operate</td>
</tr>
<tr>
<td></td>
<td>Latchbolt extended</td>
<td>1. Problem with power supply or wiring</td>
</tr>
<tr>
<td></td>
<td>LED - Solid green</td>
<td>Operation normal</td>
</tr>
<tr>
<td></td>
<td>Latchbolt retracted</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LED - Solid red</td>
<td>Improper mechanical adjustment or QEL calibration</td>
</tr>
<tr>
<td></td>
<td>after latchbolt attempts to retract multiple times</td>
<td>First check mechanical adjustment (on vertical rods or mortise lock devices, if used) and correct adjustments*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Calibrate the QEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1. Apply power and wait until the LED is solid red</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Momentarily press the calibrate pushbutton (LED will flash green)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. QEL will go through a retraction sequence to complete calibration, LED will be solid green and latchbolt retracted</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Remove and reapply power to verify correct operation</td>
</tr>
<tr>
<td>24VDC</td>
<td>LED - Flashing green/red</td>
<td>Excessive tamper (while power was applied, the pushpad was pulled out at least 3 times)</td>
</tr>
<tr>
<td></td>
<td>Latchbolt is not retracted</td>
<td>1. Wait 2 minutes, latchbolt will retract again; OR</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Remove and reapply power to clear the condition</td>
</tr>
<tr>
<td></td>
<td>LED - Solid red</td>
<td>Power supply is not set for proper voltage output</td>
</tr>
<tr>
<td></td>
<td>after latchbolt attempts to retract multiple times</td>
<td>1. Remove AC from power supply, change it from 12 to 24VDC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Apply AC power to power supply and verify proper operation</td>
</tr>
</tbody>
</table>

*For information about adjusting exit devices, go to [www.vonduprin.com/installation_instruction_library.asp](http://www.vonduprin.com/installation_instruction_library.asp) or call Technical Services at 1-877-671-7011*
Make sure pushpad is in outward position before installing end caps.