**xP Expansion Module Reference for UL 864**

30-3001-1010 Rev A

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**Mechanical**

**xP Expansion Module Pin Assignments**

- **xP DO2-S**
  - NC 1
  - C 2
  - NO 3

- **xP DO4-S**
  - NC 1
  - C 2
  - NO 3
  - NC 4

- **xP D18-S**
  - RTN 1
  - IN1 2
  - IN2 3
  - RTN 4

- **xP UI4-S**
  - RTN 1
  - IN1 2
  - IN2 3
  - IN3 4

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**bCX1-S Controller**

**Modules Plug Together**

Adding an expansion module to a controller may be done while the power is applied.

**Note:** All inputs and outputs are power-limited.

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**FIRST EXPANSION POINT ASSIGNMENTS FOR bCX1-S CONTROLLER**

First Expansion Point

<table>
<thead>
<tr>
<th>INPUT</th>
<th>OUTPUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

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**xP Expansion Points Assignments**

xP Expansion Module points add to the existing points within the controller. The point assignment in the first xP module connected to a controller will be one more than the highest point number that exists in the controller.

Subsequent expansion modules plugged into other expansion modules assume point assignments that are one higher than the previous module.

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**Note:** This equipment is intended for field installation within the UL Listed enclosure model UL-ENCL.
### Expansion I/O Module Features

<table>
<thead>
<tr>
<th>MODULE</th>
<th>OUTPUTS</th>
<th>POINTS</th>
<th>INPUTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital Output Only:</td>
<td>xPDO2-S</td>
<td>2</td>
<td>Universal</td>
</tr>
<tr>
<td>xPDO4-S</td>
<td></td>
<td></td>
<td>Digital</td>
</tr>
<tr>
<td>Digital Input Only:</td>
<td>xPDI8-S</td>
<td>8</td>
<td>Digital</td>
</tr>
</tbody>
</table>

* xPUI4-S input 4 may be configured as a high speed (140Hz) counter input.

- **Contact Rating:**
  - 3A @ 24 VAC
  - 3A @ 30 VDC

### Basic Expansion Limitations

The number of expansion modules is limited by the controller firmware and the capacity of the power supply current available from the controller. The firmware supports a maximum of two modules as long as the power consumption does not draw more current than the controller can supply.

<table>
<thead>
<tr>
<th>Module</th>
<th># Channels</th>
<th>Current Draw @ 24VDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>xPDO2-S Digital Output Module</td>
<td>2</td>
<td>60mA</td>
</tr>
<tr>
<td>xPDO4-S Digital Output Module</td>
<td>4</td>
<td>100mA</td>
</tr>
<tr>
<td>xPUI4-S Universal Input Module</td>
<td>4</td>
<td>50mA</td>
</tr>
<tr>
<td>xPDI8-S Digital Input Module</td>
<td>8</td>
<td>25mA</td>
</tr>
</tbody>
</table>

Note: Cable length for I/O modules is not evaluated by UL.

### Basic Expansion Limitations

- **UL Listed:**
  - UL 986 Listed product for the United States and Canada, Open Energy Management Equipment.
  - UL Listed product for the United States: UL 864, 9th Edition Smoke Control System
  - UL Listed product for the United States and Canada: UL 30-3001-1006 Smoke Control System Design Guide
  - UL Listed product for the United States and Canada: UL 30-3001-1007, for specific wiring, operation, and compatibility information.

### XPD02-S/XPD04-S

- **Relay Output Module**
- **Output Override Control**

### XPD18-S

- **Digital Input Module**

### XPU14-S

- **Universal Input Module**

Note: All circuits are Non-Supervised.