xP Expansion Point 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.

The following is an example of a 920 with an A02 and DB1 attached:

- **i2/o3/i4920 Controller**
  - Function: Point Assignment
  - Input 1-6: 1-16
  - Smart Sensor Input 17: 17
  - Output 1-8: 1-8
  - Output 9-16: 9-16

- **xPAO2 Module**
  - Function: Point Assignment
  - Output 1: 1
  - Output 2: 18

- **xPDO2 Module**
  - Function: Point Assignment
  - Input 1-8: 18-25

---

**FIRST EXPANSION POINT ASSIGNMENTS**

<table>
<thead>
<tr>
<th>Controller</th>
<th>First Expansion Point Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>i2/o3/i4920</td>
<td>Input</td>
</tr>
<tr>
<td>I/O3810</td>
<td>10</td>
</tr>
<tr>
<td>I/O3814</td>
<td>10</td>
</tr>
<tr>
<td>I/O3850</td>
<td>9</td>
</tr>
<tr>
<td>I/O3851</td>
<td>6</td>
</tr>
<tr>
<td>I/O3853</td>
<td>9</td>
</tr>
<tr>
<td>x/4920</td>
<td>18</td>
</tr>
<tr>
<td>bCX1 Series</td>
<td>1</td>
</tr>
<tr>
<td>ACX 5740*</td>
<td>13</td>
</tr>
<tr>
<td>ACX 5720*</td>
<td>7</td>
</tr>
</tbody>
</table>

* The xP DO2, xP DO4, xP DB1, and xP DB2 can only be used with the ACX 57xx series for UL 294 and UL 1076 applications.

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**xP Expansion Module Pin Assignments**

**Example:** When adding an 8 Digital Inputs (xPU4) to an 853 controller, the first point in the DB will be assigned point #4 (one higher than the highest input). 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, used with the ACX 57xx series controller, for UL 294 and UL 1076 applications.

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**Expandable Controllers**

- 0-4920 Series
- 0-4920 Series
- 0-4920 Series

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**Modules Plug Together**

Adding an expansion module to a controller may be done while the power is applied. The exception is the bCX1 Series and ACX 57xx models. Adding expansion modules to the bCX 56xx or the ACX 57xx controller requires the controller to be cold started before it will recognize the module.

---

**Caution:** Earth ground (Ø) must be connected to avoid module damage.

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**xP Expansion Module Combinations**

### 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>Analog Output Only:</td>
<td>xPDO2</td>
<td>2 Analog, 2 Digital</td>
<td>4 Universal, 4 Digital</td>
</tr>
<tr>
<td>xPDO4</td>
<td>4 Analog, 4 Digital</td>
<td>4 Universal, 4 Digital</td>
<td></td>
</tr>
<tr>
<td>Digital Output Only:</td>
<td>xPDO2</td>
<td>2 Analog, 2 Digital</td>
<td>4 Universal, 4 Digital</td>
</tr>
<tr>
<td>xPDO4</td>
<td>4 Analog, 4 Digital</td>
<td>4 Universal, 4 Digital</td>
<td></td>
</tr>
<tr>
<td>Universal Input Only:</td>
<td>xPU1H</td>
<td>4 Analog, 4 Digital</td>
<td>4 Universal, 4 Digital</td>
</tr>
<tr>
<td>Digital Input Only:</td>
<td>xPOB</td>
<td>8 Analog, 8 Digital</td>
<td></td>
</tr>
</tbody>
</table>

**Keypad/Display**
- xPDISPLAY: 21 button, 4 x 16 char display

* xP/PU input 4 may be configured as a high speed (140Hz) counter input.

### 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 plus xPDISPLAY as long as the power consumption does not draw more current than the controller can supply.

- 2b or 4b Controllers: Maximum current available is 180 mA.
- 4bX Series Controllers: Maximum current available is 400 mA.
- 2bX Controllers: Maximum current available is 420 mA.

<table>
<thead>
<tr>
<th>Module</th>
<th># Channels</th>
<th>Current Draw @ 24VDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>xPAO2: Analog Output Module</td>
<td>2</td>
<td>80mA</td>
</tr>
<tr>
<td>xPAO4: Analog Output Module</td>
<td>4</td>
<td>120mA</td>
</tr>
<tr>
<td>xPDO2: Digital Output Module</td>
<td>2</td>
<td>60mA</td>
</tr>
<tr>
<td>xPDO4: Digital Output Module</td>
<td>4</td>
<td>10mA</td>
</tr>
<tr>
<td>xPU1H: Universal Input Module</td>
<td>4</td>
<td>50mA</td>
</tr>
<tr>
<td>xPOB: Digital Input Module</td>
<td>8</td>
<td>25mA</td>
</tr>
<tr>
<td>xPOB: Keypad/Display Module</td>
<td>70mA</td>
<td></td>
</tr>
</tbody>
</table>

---

**xPAO2 / xPAO4**

**Analog Output Module**

- Voltage Output: 0 - 20 mA
- Current Output: 0 - 10V DC

**Output Override Control**

- OFF: The output is set to zero volts, zero mA. Programs and the setting on the potentiometer have no effect on the output device when the switch is in this position.
- AUTO: The analog signal generated by the module is controlled manually by adjusting the potentiometer. Programs have no effect on the output when the switch is in this position.
- MANUAL: The analog signal generated by the module is controlled manually by adjusting the potentiometer. Programs have no effect on the output when the switch is in this position. Insert the tip of a small screwdriver to use this control. Turning to the right (clockwise) increases the output. Turning left (counter clockwise) decreases the output.

**xPDO2 / xPDO4**

**Relay Output Module**

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

**Output Override Control**

- OFF: The output relay is de-energized to an OFF state manually by setting the switch to OFF. Programs have no effect on the output when the switch is in this position.
- AUTO: The action of the output relay is determined as a direct result of program control.
- ON: The output relay is energized to an ON state manually by setting the switch to ON. Programs have no effect on the output when the switch is in this position.

**xPD18**

**Digital Input Module**

- Contact Closure

**Universal Input Module**

- Max DC Input Voltage: 5V

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**Notes:**

- UL 610 Listed for the United States and Canada, Open Energy Management Equipment.
- UL 234 (Access Control System Unit, Subsequently for the United States) and UL 1076 (Proprietary Burglar Alarm System Units, Subsequently for the United States) and C22.2 No. 205-M1983 (Signal Equipment for Canada).

**UL**

**Notes:**

- Refer to the UL Listed Control Proprietary Burglar Alarm Systems installation manual for specific wiring, operation, and compatibility information.
- Only these products mentioned in this document are evaluated by UL, for UL 234 and UL 1076 applications:
  - xP02
  - xP04
  - xPU1H
  - xPOB