**OVERVIEW**

**Bus Coupler Power**
- **Label**
  - Us: GNDs
  - 24VDC Power

**Terminal Bus Power**
- **Label**
  - GNDp
  - 0V
  - 24VDC Power or 24VAC Power

**Wiring Diagrams**

**Bus Coupler**
- **Ports**
  - I/O Bus contacts
  - 24VDC Power

**Terminal Bus**
- **Ports**
  - 24VDC Power In
  - Terminal Power In PE
  - Terminal Power In PE (Earth Ground)

**Electrical Specifications**

**PX-EIP1 I/O Bus Specifications**
- **Power for I/O Bus**
  - 24VDC (+15%/-20%)
- **Input Current from Power Supply**
  - 70mA (total I/O bus current) / 4
- **Recommended Fuse**
  - 10mA Max Total
- **I/O Bus Current Supply**
  - 1000mA Max
- **Number of Bus Terminals Supported**
  - 54 per assembly, 255 w/I/O Bus Expansion (based on power budget)
- **Number of Discrete Inputs/Outputs**
  - 1020 Inputs and 1020 Outputs with 255 terminals
- **Number of Analog Inputs/Outputs**
  - 128 total
- **Maximum Number of Data Bytes**
  - 512 Input Bytes and 512 Output Bytes

**PX-EIP1 Ethernet Port Specifications**
- **Configuration**
  - Dip switches and PX-CFGSW software
- **Protocol**
  - EtherNet/IP
- **Connection Type**
  - Ethernet, RJ45
- **Maximum Cable Length**
  - 100m between Coupler and switch
- **Scanner/Client Connections**
  - 1
- **Protocol**
  - EtherNet/IP

**PX-EIP1 General Specs**
- **Operating Temp**
  - -32° to 131°F (0° to 55°C)
- **Humidity**
  - 5 to 95%, non-condensing
- **Vibration**
  - Conforms to EN 60068-2-6
- **Shock**
  - Conforms to EN 60068-2-27
- **Noise Immunity**
  - Conforms to EN 61000-6-4
- **Noise Emission**
  - Conforms to EN 61000-6-4
- **Protection Class**
  - IP20
- **Weight**
  - 100g
- **Dimensions**
  - 44 x 100 x 64.4 mm (1.73 x 3.94 x 2.56 in)
- **Agency Approvals**
  - UL Listed, TUV, CE

**LED Status**

<table>
<thead>
<tr>
<th>LED Status</th>
<th>On</th>
<th>Off</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red LED 1: EIP Error</td>
<td>Dim PX-CFGSW Help File or PX-USER-M manual for codes</td>
<td>No EIP Error</td>
</tr>
<tr>
<td>Green LED 2: EIP Run</td>
<td>EIP Communication with Scanner (Client) Flushing: No Active Communication</td>
<td>N/A</td>
</tr>
<tr>
<td>Red LED 3: DIAG Err</td>
<td>Dim PX-CFGSW Help File or PX-USER-M manual for codes</td>
<td>No DIAG Err</td>
</tr>
<tr>
<td>Green LED 4: DIAG Run</td>
<td>Diagnostics active with error: Flushing: Used in conjunction with DIAG Error to determine fault.</td>
<td>N/A</td>
</tr>
<tr>
<td>Green LED 5: Us</td>
<td>Bus Coupler Power On</td>
<td>Bus Coupler Power Off</td>
</tr>
<tr>
<td>Green LED 6: Up</td>
<td>Terminal Power On</td>
<td>Terminal Power Off</td>
</tr>
<tr>
<td>Green LED 7: I/O Bus Run</td>
<td>I/O Bus Data Active On or flashing</td>
<td>No I/O Bus Activity</td>
</tr>
<tr>
<td>Red LED 8: I/O Bus Err</td>
<td>I/O Bus Error: blinking Code: Same PX-CFGSW Help File or PX-USER-M manual for codes</td>
<td>No I/O Bus Error</td>
</tr>
</tbody>
</table>

**Communication Format**
- **Integer 8 bit**: 0
- **Integer 16 bit**: 0
- **Integer 32 bit**: 1
- **Output**: 1020
- **Input**: 1020

**PX-EIP1 I/O Bus Specifications**

**Wireless Connectivity**

- **Supported Protocols**
  - EtherCAT
  - EtherCAT EtherCAT

**Power Usage**
- **Supply Power**
  - 24VDC

**Physical Specifications**
- **Weight**
  - 100g
- **Dimensions**
  - 44 x 100 x 64.4 mm (1.73 x 3.94 x 2.56 in)

**Environmental Specifications**
- **Temperature**
  - -32° to 131°F (0° to 55°C)
- **Humidity**
  - 5 to 95%, non-condensing
- **Vibration**
  - Conforms to EN 60068-2-6
- **Shock**
  - Conforms to EN 60068-2-27
- **Noise Immunity**
  - Conforms to EN 61000-6-4
- **Noise Emission**
  - Conforms to EN 61000-6-4

**Mounting/Orientation Restrictions**
- **35mm DIN rail**
- **None**

**Environment**
- **Air**
  - No corrosive gases permitted
- **Relative Humidity**
  - 5 to 95%, non-condensing
- **Temperature**
  - 32° to 131°F (0° to 55°C)

**Recommended Cables**
- **Connection Type**
  - Ethernet, RJ45
- **Maximum Cable Length**
  - 100m between Coupler and switch
- **Scanner/Client Connections**
  - 1
- **Protocol**
  - EtherNet/IP

**Configuration Port**
- **DIAG Run**
  - DIAG Port
- **I/O BUS RUN**
  - I/O Bus Run Port
- **EIP ERR**
  - EIP Error Port

**I/O Bus Specifications**
- **Number of Devices Supported**
  - 255 w/I/O Bus Expansion (based on power budget)
- **Number of Digital Inputs/Outputs**
  - 1020 Inputs and 1020 Outputs with 255 terminals
- **Number of Analog Inputs/Outputs**
  - 128 total
- **Maximum Number of Data Bytes**
  - 512 Input Bytes and 512 Output Bytes

**Recommended Cable Shielded, Twisted Pair, Cat5e**

**Connection**
- **Type**
  - Ethernet, RJ45
- **Maximum Cable Length**
  - 100m between Coupler and switch

**Scanner/Client Connections**
- **1**

**Protocol**
- **EtherNet/IP**

**Configuration**
- **Dip switches and PX-CFGSW software**

**Overview**

**PX-EIP1 – EtherNet/IP Bus Coupler with 1 RJ45 Port**

The PX-EIP1 EtherNet/IP Bus Coupler server allows connection of up to 64 terminals per assembly, 255 terminals total with I/O bus expansion. The PX-EIP1 consists of one RJ45 Ethernet 10/100 Base-T port for connection to an Ethernet client. Use with the Protos X™ I/O System.

**Wiring Diagram**

- **Bus Coupler**
  - **Ports**
    - I/O Bus contacts
    - 24VDC Power
  - **Label**
    - Us: GNDs
    - 24VDC Power
- **Terminal Bus**
  - **Ports**
    - 24VDC Power In
    - Terminal Power In PE
    - Terminal Power In PE (Earth Ground)
  - **Label**
    - GNDp
    - 0V
    - 24VDC Power or 24VAC Power

**Diagram**

- **PX-EIP1 General Specs**
- **Power for I/O Bus**
  - 24VDC (+15%/-20%)
- **Input Current from Power Supply**
  - 70mA (total I/O bus current) / 4
- **Recommended Fuse**
  - 10mA Max Total
- **I/O Bus Current Supply**
  - 1000mA Max
- **Number of Bus Terminals Supported**
  - 54 per assembly, 255 w/I/O Bus Expansion (based on power budget)
- **Number of Discrete Inputs/Outputs**
  - 1020 Inputs and 1020 Outputs with 255 terminals
- **Number of Analog Inputs/Outputs**
  - 128 total
- **Maximum Number of Data Bytes**
  - 512 Input Bytes and 512 Output Bytes

**PX-EIP1 Ethernet Port Specifications**

- **Configuration**
  - Dip switches and PX-CFGSW software
- **Protocol**
  - EtherNet/IP
- **Connection Type**
  - Ethernet, RJ45
- **Maximum Cable Length**
  - 100m between Coupler and switch
- **Scanner/Client Connections**
  - 1
- **Protocol**
  - EtherNet/IP

** PX-EIP1 General Spes**

- **Operating Temp**
  - -32° to 131°F (0° to 55°C)
- **Humidity**
  - 5 to 95%, non-condensing
- **Vibration**
  - Conforms to EN 60068-2-6
- **Shock**
  - Conforms to EN 60068-2-27
- **Noise Immunity**
  - Conforms to EN 61000-6-4
- **Noise Emission**
  - Conforms to EN 61000-6-4
- **Protection Class**
  - IP20
- **Weight**
  - 100g
- **Dimensions**
  - 44 x 100 x 64.4 mm (1.73 x 3.94 x 2.56 in)

**Agency Approvals**
- UL Listed, TUV, CE
A Terminal Power Bus provides power for the I/O terminals via three contacts: 24V, 0V, and PE. A power source used in a group of assemblies. Connection is made between the Terminal Power Bus and the Power Terminals. This terminal provides low voltage power to the I/O terminals. The I/O bus is supplied low voltage power to the I/O terminals. The I/O bus supply is rated at a maximum of 1000mA that must be taken into consideration when planning an assembly. Each terminal has an I/O bus current consumption listing that can be used to determine the total I/O bus current. The maximum I/O bus current of the coupler must not exceed as there is no internal overcurrent protection.

A variety of Power Terminals are available for isolating, changing, or supplying power to the I/O terminals. For isolating voltages across the Terminal Power Bus, a Power Isolation Terminal is used. This terminal separates the Terminal Power contacts but passes I/O Bus communication.

If additional 24VDC power is required for terminal wiring, eighteen points of 24VDC power can be distributed from the Terminal Power Bus using a Power Distribution Terminal (PX-949). This terminal must be mounted to the right of a terminal that passes 24VDC on the power bus. Both I/O Bus communication and terminal bus power are passed through to adjoining terminals.

To connect field power to the Terminal Power Bus, or to change from one voltage to another, Power Feed Terminals (PX-940 & PX-970) are used. Power Feed Terminals are available in 24VDC or 120-230VAC, and provide power to I/O Terminals located to the right of the Power Feed Terminal. This terminal passes I/O Bus communication. Power Terminals do not consume any addresses.

For expansion beyond a 64 terminal assembly, a Bus End Terminal (PX-901), Bus Expand Coupler (PX-903), and a Bus Expansion End Terminal (PX-902) is used in place of a standard Bus Coupler, powered through the Bus Coupler, provides low voltage power to the I/O terminals. The I/O bus supply is rated at a maximum of 1000mA that must be taken into consideration when planning an assembly. Each terminal has an I/O bus current consumption listing that can be used to determine the total I/O bus current. The maximum I/O bus current of the coupler must not exceed as there is no internal overcurrent protection.

A variety of Power Terminals are available for isolating, changing, or supplying power to the I/O terminals. For isolating voltages across the Terminal Power Bus, a Power Isolation Terminal is used. This terminal separates the Terminal Power contacts but passes I/O Bus communication.

If additional 24VDC power is required for terminal wiring, eighteen points of 24VDC power can be distributed from the Terminal Power Bus using a Power Distribution Terminal (PX-949). This terminal must be mounted to the right of a terminal that passes 24VDC on the power bus. Both I/O Bus communication and terminal bus power are passed through to adjoining terminals.

To connect field power to the Terminal Power Bus, or to change from one voltage to another, Power Feed Terminals (PX-940 & PX-970) are used. Power Feed Terminals are available in 24VDC or 120-230VAC, and provide power to I/O Terminals located to the right of the Power Feed Terminal. This terminal passes I/O Bus communication. Power Terminals do not consume any addresses.

For expansion beyond a 64 terminal assembly, a Bus End Terminal (PX-901), Bus Expand Coupler (PX-903), and a Bus Expansion End Terminal (PX-902) is used in place of a standard Bus Coupler, powered through the Bus Coupler, provides low voltage power to the I/O terminals. The I/O bus supply is rated at a maximum of 1000mA that must be taken into consideration when planning an assembly. Each terminal has an I/O bus current consumption listing that can be used to determine the total I/O bus current. The maximum I/O bus current of the coupler must not exceed as there is no internal overcurrent protection.

A variety of Power Terminals are available for isolating, changing, or supplying power to the I/O terminals. For isolating voltages across the Terminal Power Bus, a Power Isolation Terminal is used. This terminal separates the Terminal Power contacts but passes I/O Bus communication.

If additional 24VDC power is required for terminal wiring, eighteen points of 24VDC power can be distributed from the Terminal Power Bus using a Power Distribution Terminal (PX-949). This terminal must be mounted to the right of a terminal that passes 24VDC on the power bus. Both I/O Bus communication and terminal bus power are passed through to adjoining terminals.

To connect field power to the Terminal Power Bus, or to change from one voltage to another, Power Feed Terminals (PX-940 & PX-970) are used. Power Feed Terminals are available in 24VDC or 120-230VAC, and provide power to I/O Terminals located to the right of the Power Feed Terminal. This terminal passes I/O Bus communication. Power Terminals do not consume any addresses.

For expansion beyond a 64 terminal assembly, a Bus End Terminal (PX-901), Bus Expand Coupler (PX-903), and a Bus Expansion End Terminal (PX-902) is used in place of a standard Bus Coupler, powered through the Bus Coupler, provides low voltage power to the I/O terminals. The I/O bus supply is rated at a maximum of 1000mA that must be taken into consideration when planning an assembly. Each terminal has an I/O bus current consumption listing that can be used to determine the total I/O bus current. The maximum I/O bus current of the coupler must not exceed as there is no internal overcurrent protection.

A variety of Power Terminals are available for isolating, changing, or supplying power to the I/O terminals. For isolating voltages across the Terminal Power Bus, a Power Isolation Terminal is used. This terminal separates the Terminal Power contacts but passes I/O Bus communication.

If additional 24VDC power is required for terminal wiring, eighteen points of 24VDC power can be distributed from the Terminal Power Bus using a Power Distribution Terminal (PX-949). This terminal must be mounted to the right of a terminal that passes 24VDC on the power bus. Both I/O Bus communication and terminal bus power are passed through to adjoining terminals.

To connect field power to the Terminal Power Bus, or to change from one voltage to another, Power Feed Terminals (PX-940 & PX-970) are used. Power Feed Terminals are available in 24VDC or 120-230VAC, and provide power to I/O Terminals located to the right of the Power Feed Terminal. This terminal passes I/O Bus communication. Power Terminals do not consume any addresses.