The PX-412 Analog Output Terminal provides two electrically isolated, 0 to 10 VDC outputs with 12-bit resolution, common ground potential, and Run LED status. Use with the Protos X™ I/O System.

### PX-412 Analog Voltage Output Terminal

- **Number of Channels**: 2
- **Output Ranges**: 0 to 10 VDC
- **Resolution**: 12 bit
- **Output Type**: Single-ended
- **Data Format**: Decimal: 0-32767
- **Data Bytes Consumed**: PX-MOD: 4-bytes output
- **Output Power Source**: 24VDC via terminal power bus
- **Load Consumption (from Power Terminals)**: None
- **Source Load**: > 5kΩ (short-circuit protected)
- **Conversion Time**: Approx. 1.5ms
- **Accuracy**: ± 0.5 LSB linearity error, ± 0.5 LSB offset error ± 0.1% of the full scale value
- **Current Consumption from I/O Bus (5V)**: 75mA
- **Electrical Isolation**: 500Vrms (I/O Bus/signal voltage)
- **Heat Dissipation**: 1W max.
- **Adjacent Mounting on Bus Terminals with Power Contact**: Yes
- **Adjacent Mounting on Bus Terminals without Power Contact**: Yes
- **Passes Terminal Bus Power**: No
- **Passes PE Bus**: No
- **Status Indicators**: 2, see LED Status chart

<table>
<thead>
<tr>
<th>LED Status</th>
<th>On</th>
<th>Off</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green LED: RUN</td>
<td>Normal Operation</td>
<td>Watchdog error if no data transmitted within WD set time.</td>
</tr>
</tbody>
</table>

### General Specifications

- **Operating Temperature**: 32° to 131°F (0° to 55°C)
- **Storage Temperature**: 13° to 185°F (-25° to 85°C)
- **Relative Humidity**: 5% to 95%, non-condensing
- **Environment Air**: No corrosive gases permitted
- **Mounting/Orientation Restrictions**: 35mm DIN rail/None
- **Vibration**: conforms to EN 60068-2-6
- **Shock**: conforms to EN 60068-2-27, EN 60068-2-29
- **Noise Immunity**: conforms to EN 61000-6-2/ EN61000-6-4
- **Protection Class**: IP20
- **Weight**: 85g
- **Dimensions (WxHxD)**: 12 x 100 x 68.8 mm (0.47 x 3.94 x 2.71 in)
- **Agency Approvals**: UL File No. E157382, CE
HOT SWAP NOT PERMITTED
Always remove power from the system before inserting or removing bus terminals or couplers as failure to do so could cause malfunction or damage to the terminals, couplers or other connected devices.

WIRING CONNECTION
Wire connection is made through a spring clamp style terminal. This terminal is designed for a single-conductor solid or stranded wire. Wire connection is made by firmly pushing the screwdriver into the screwdriver slot, inserting the wire into the wire slot and removing the screwdriver, locking the wire into position.

WARNING
To minimize the risk of potential safety problems, you should follow all applicable local and national codes that regulate the installation and operation of your equipment. These codes vary from area to area and it is your responsibility to determine which codes should be followed, and to verify that the equipment, installation, and operation are in compliance with the latest revision of these codes.

Equipment damage or serious injury to personnel can result from the failure to follow all applicable codes and standards. We do not guarantee the products described in this publication are suitable for your particular application, nor do we assume any responsibility for your product design, installation, or operation.

If you have any questions concerning the installation or operation of this equipment, or if you need additional information, please call Technical Support at 770-844-4200.

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Wiring Specifications

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<tr>
<th>Connection Type</th>
<th>Spring Clamp Terminals</th>
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<tr>
<td>Wire Gauge / Wire Cross Section</td>
<td>28-14 AWG / 0.08 - 2.5mm²</td>
</tr>
<tr>
<td>Screwdriver Width</td>
<td>2.5mm (0.10) such as our TW-SD-MSL-2</td>
</tr>
<tr>
<td>Wire Stripping Length</td>
<td>8mm</td>
</tr>
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</table>

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Importantly, for complete assembly instructions and compatibility between terminals see the PX-USER-M manual available for free download at www.automationdirect.com.

Mounting
For system assembly, first attach a bus coupler by snapping onto 35mm DIN rail and securing into position using the DIN rail locking wheel (where applicable) located on the left side of the coupler. To add a bus terminal, insert unit onto right side of bus coupler using the tongue and groove at the top and bottom of the unit, pressing gently until it snaps onto the DIN rail. A proper connection cannot be made by sliding the units together on the DIN rail. When correctly installed, no significant gap can be seen between the attached units. Bus connection is made through the six slide contacts located on the upper right side of the units. Add up to 64 bus terminals per bus coupler, including a bus end terminal.

Removal
A locking mechanism prevents individual units from being pulled off. For bus terminal removal, pull the orange DIN rail release tab firmly to unlatch the unit from the rail. If attached to other terminal units, slide unit forward until released. For bus couplers with locking wheels, release the DIN rail locking wheel, then pull firmly on DIN rail release tab.

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