The P1-15CDD1 Input/Output Module provides eight 12–24 VDC inputs plus seven outputs that sink up to 1A per output for loads connected to 3.3–24 V supplies for use with the Productivity1000 system.

**Input Specifications**
- **Inputs per Module**: 8 (sink/source)
- **Rated Voltage**: 12–24 VDC
- **Operating Voltage Range**: 10.2–26.4 VDC, Max 30VDC
- **Input Current**: 8.4 mA @ 24VDC
- **Maximum Input Current**: 10mA @ 26.4 VDC
- **Input Impedance**: 3kΩ
- **ON Voltage Level**: > 9VDC
- **OFF Voltage Level**: < 4.5 VDC
- **Minimum ON Current**: 1.4 mA
- **Maximum OFF Current**: 1mA
- **OFF to ON, ON to OFF Response**: 2ms Maximum, 1ms Typical
- **Status Indicators**: Logic Side (8 points)
- **Commons**: 1 (8 points/common)

**Output Specifications**
- **Outputs per Module**: 7 (sinking)
- **Rated Voltage**: 3.3–24 VDC
- **Operating Voltage Range**: 2.9–26.4 VDC
- **Maximum Output Current**: 1A per point
- **Minimum Load Current**: 1mA
- **Maximum Leakage Current**: 0.3 mA @ 26.4 VDC
- **On Voltage Drop**: 0.2 VDC @1A
- **Maximum Inrush Current**: 4A for 50ms, 6A for 10ms
- **OFF to ON, ON to OFF Response**: ≤0.5 ms
- **Status Indicators**: Logic Side (7 points)
- **Commons**: 1 (7 points/common)
- **Maximum Applicable Fuse**: 8A
- **External Power Supply Required**: 12–24 VDC (-15% / +20%), 22mA

**Terminal Block sold separately, (see wiring options on page 3).**

Warranty: Thirty-day money-back guarantee. Two-year limited replacement (See www.productivity1000.com for details).
Module Installation

**WARNING:** Do not add or remove modules with field power applied.

**Step One:** With latch in “locked” position, align connectors on the side of each module and stack by pressing together. Click indicates lock is engaged.

**Step Two:** Attach field wiring using the removable terminal block or ZIP Link wiring system.

**Step Three:** To unstack modules, pull locking latch up into the unlocked position and then pull modules apart.

Use any QR Code reader application to display the module’s product insert.
# Wiring Options

1. **ZIPLink Feed Through Modules and Cables¹**
   - 0.5 m (1.6 ft) cable
   - 1.0 m (3.3 ft) cable
   - 2.0 m (6.6 ft) cable
   - ZL-RTB20
   - ZL-RTB20-1
   - ZL-P1-CBL18
   - ZL-P1-CBL18-1
   - ZL-P1-CBL18-2

2. **Terminal Block with pigtail cable**
   - 1.0 m (3.3 ft) cable
   - 2.0 m (6.6 ft) cable
   - ZL-P1-CBL18-1P
   - ZL-P1-CBL18-2P

3. **Screw Terminal Block only**
   - P2-RTB
   - (Quantity 1)

4. **Spring Clamp Terminal Block only**
   - P2-RTB-1
   - (Quantity 1)

5. **Accessories²**
   - ZL-RTB-COM
   - TW-SD-SL-1
   - TW-SD-MSL-1

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1. **Cable + ZIPLink Module = Complete System**
2. **ZL-RTB-COM provides a common connection point for power or ground**

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**P1-15CDD1 Schematic and Wiring Diagram**

**Typical Input Circuit**

**Typical Output Circuit**

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Sales 800-633-0405  www.productivity1000.com
**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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### Terminal Block Specifications

<table>
<thead>
<tr>
<th>Part Number</th>
<th>P2-RTB</th>
<th>P2-RTB-1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Positions</strong></td>
<td>18 Screw Terminals</td>
<td>18 Spring Clamp Terminals</td>
</tr>
<tr>
<td><strong>Wire Range</strong></td>
<td>30–16 AWG (0.051–1.31 mm²)</td>
<td>28–16 AWG (0.081–1.31 mm²)</td>
</tr>
<tr>
<td>Solid / Stranded Conductor</td>
<td>Solid / Stranded Conductor</td>
<td></td>
</tr>
<tr>
<td>3/64 in (1.2 mm) Insulation Max.</td>
<td>3/64 in (1.2 mm) Insulation Max.</td>
<td></td>
</tr>
<tr>
<td>1/4 in (6–7 mm) Strip Length</td>
<td>19/64 in (7–8 mm) Strip Length</td>
<td></td>
</tr>
<tr>
<td><strong>Conductors</strong></td>
<td>“USE COPPER CONDUCTORS, 75ºC” or equivalent.</td>
<td></td>
</tr>
<tr>
<td><strong>Screw Driver</strong></td>
<td>0.1 in (2.5 mm) Maximum*</td>
<td></td>
</tr>
<tr>
<td><strong>Screw Size</strong></td>
<td>M2</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Screw Torque</strong></td>
<td>2.5 lb·in (0.28 N·m)</td>
<td>N/A</td>
</tr>
</tbody>
</table>

*Recommended Screw Driver TW-SD-MSL-1*

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### General Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operating Temperature</strong></td>
<td>0° to 60°C (32° to 140°F)</td>
</tr>
<tr>
<td><strong>Storage Temperature</strong></td>
<td>-20° to 70°C (-4° to 158°F)</td>
</tr>
<tr>
<td><strong>Humidity</strong></td>
<td>5 to 95% (non-condensing)</td>
</tr>
<tr>
<td><strong>Environmental Air</strong></td>
<td>No corrosive gases permitted</td>
</tr>
<tr>
<td><strong>Vibration</strong></td>
<td>IEC60068-2-6 (Test Fc)</td>
</tr>
<tr>
<td><strong>Shock</strong></td>
<td>IEC60068-2-27 (Test Ea)</td>
</tr>
<tr>
<td><strong>Field to Logic Side Isolation</strong></td>
<td>1800VAC applied for 1 second</td>
</tr>
<tr>
<td><strong>Insulation Resistance</strong></td>
<td>&gt;10MΩ @ 500 VDC</td>
</tr>
<tr>
<td><strong>Heat Dissipation</strong></td>
<td>1800mW</td>
</tr>
<tr>
<td><strong>Enclosure Type</strong></td>
<td>Open Equipment</td>
</tr>
<tr>
<td><strong>Module Location</strong></td>
<td>Any I/O position in a Productivity1000 System.</td>
</tr>
<tr>
<td><strong>Field Wiring</strong></td>
<td>Use ZIP_link Wiring System or removable terminal block (sold separately). See “Wiring Options” on page 3.</td>
</tr>
<tr>
<td><strong>EU Directive</strong></td>
<td>See the “EU Directive” topic in the Productivity Suite Help File. Information can also be obtained at: <a href="http://www.productivity1000.com">www.productivity1000.com</a></td>
</tr>
<tr>
<td><strong>Connector Type (sold separately)</strong></td>
<td>18-Position Removable Terminal Block</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>71g (2.5 oz)</td>
</tr>
<tr>
<td><strong>Agency Approvals</strong></td>
<td>UL 61010-1 and UL 61010-2-201 File E139594, Canada &amp; USA</td>
</tr>
<tr>
<td></td>
<td>CE (EN 61131-2 EMC, EN 61010-1 and EN 61010-2-201 Safety)*</td>
</tr>
</tbody>
</table>

*See CE Declaration of Conformance for details.*