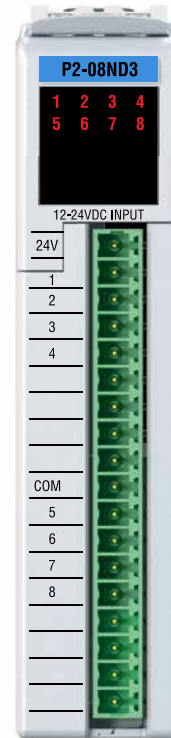


## Input Specifications

|                               |                                                                                                             |
|-------------------------------|-------------------------------------------------------------------------------------------------------------|
| Inputs per Module             | 8 (Any input can be wired to sink or source current)                                                        |
| External Power Required       | 24VDC (-20% / +25%), 60mA                                                                                   |
| Input Voltage Range           | 12-24VDC ( $\pm 10\%$ ) $\leq$ External Voltage                                                             |
| Peak Voltage Range            | 26.4VDC                                                                                                     |
| Input Current                 | 7.5mA @ 12VDC<br>15mA @ 24VDC                                                                               |
| Maximum Input Current @ temp. | 20mA @ 60°C (26.4VDC)                                                                                       |
| Input Impedance               | 1.6K @ 24VDC                                                                                                |
| ON Voltage Level              | $\leq 4$ VDC sourcing<br>$\geq 12.5$ VDC sinking<br>*See external power requirements for 12VDC inputs below |
| OFF Voltage Level             | $> 6$ VDC sourcing<br>$< 8.5$ VDC sinking                                                                   |
| Maximum ON Current            | 4.2mA                                                                                                       |
| Maximum OFF Current           | 3mA                                                                                                         |
| OFF to ON Response            | 2ms Maximum, 1ms Typical                                                                                    |
| ON to OFF Response            | 2ms Maximum, 1ms Typical                                                                                    |
| Status Indicators             | Logic Side (8 Points)                                                                                       |
| Commons                       | 1 (8 points/common)                                                                                         |

\*External Supply Voltage    On Voltage Level

|          |           |
|----------|-----------|
| 19.2 VDC | >9.0 VDC  |
| 24.0 VDC | >11.3 VDC |
| 26.4 VDC | >12.5 VDC |



## P2-08ND3 Discrete Input

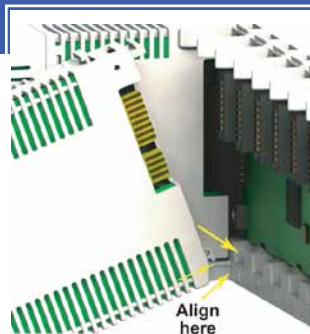
The P2-08ND3 Module provides eight inputs for switches and other devices connected to ground or supplies ranging from 12-24 VDC.

|                                               |   |
|-----------------------------------------------|---|
| Input Specifications .....                    | 1 |
| Module Installation Procedure.....            | 2 |
| Wiring Options.....                           | 2 |
| Wiring Diagram and Schematic.....             | 3 |
| Hot Swap Information.....                     | 3 |
| Warning .....                                 | 4 |
| Removable Terminal Block Specifications ..... | 4 |
| General Specifications .....                  | 4 |

**Terminal Block sold separately, (see wiring options on page 2).**

Warranty: Thirty-day money-back guarantee. Two-year limited replacement. (See [www.productivity2000.com](http://www.productivity2000.com) for details).

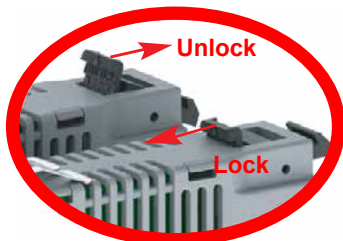
# Module Installation



**WARNING:** Do not apply field power until the following steps are completed. See hot-swapping procedure for exceptions.

**Step One:** Align module catch with base slot and rotate module into connector.

**Step Two:** Pull top locking tab toward module face. Click indicates lock is engaged.



**Step Three:** Attach field wiring using optional terminal block or ZIPLink wiring system.



# Wiring Options

## 1 ZIPLink Connection System

Cable + ZIPLink Module = Complete System

ZIPLink pre-wired terminal block cables



0.5m (1.6FT) cable  
1.0m (3.3FT) cable  
2.0m (6.6FT) cable

ZL-P2-CBL18  
ZL-P2-CBL18-1  
ZL-P2-CBL18-2



ZIPLink Modules

Feed through

ZL-RTB20



## 2

Terminal Block with pigtail cable



1.0m (3.3FT) cable  
2.0m (6.6FT) cable

ZL-P2-CBL18-1P  
ZL-P2-CBL18-2P



## 3

Screw Terminal Block only



P2-RTB  
(Quantity 1)

## 4

Press Terminal Block only



P2-RTB-1  
(Quantity 1)

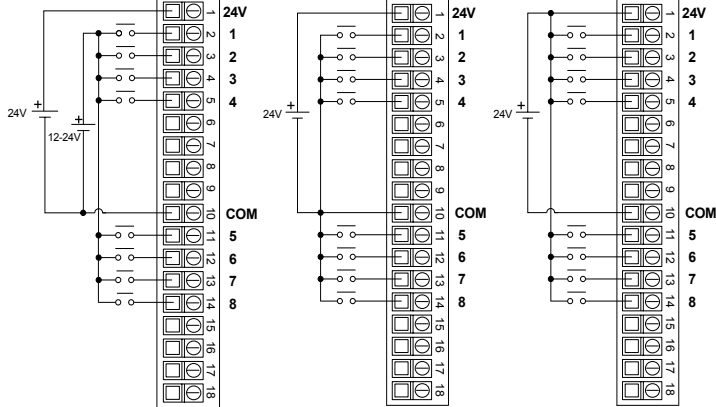
# Wiring Diagram and Schematic

# QR Code

Dual Supply Sinking

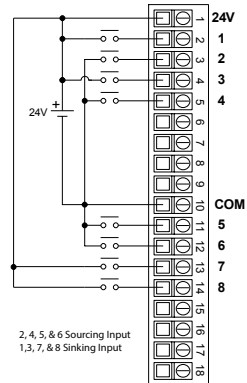
Single Supply Sourcing

Single Supply Sinking

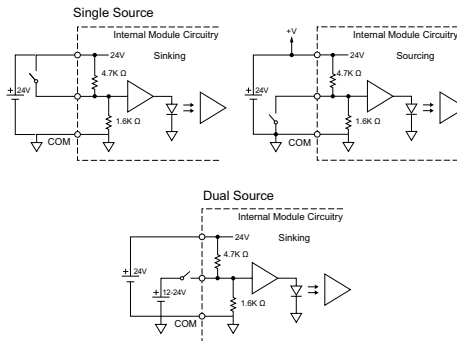


Use any QR Code reader application to display the module's product

Single Supply Sinking and Sourcing



Equivalent Input Circuit



**Caution:** If possible, remove field power prior to proceeding. If not, then **EXTREME** care **MUST** be taken to prevent damage to the module, or even personal injury due to a short circuit from the live terminal block.

## Important Hot-Swap Information

### The Productivity2000 PAC supports hot-swap!

Individual modules can be taken offline, removed, and replaced while the rest of the PAC system continues controlling your process. Before attempting to use the hot-swap feature, be sure to read the hot-swap topic in the programming software's help file or our online documentation at [AutomationDirect.com](http://AutomationDirect.com) for details on how to plan your installation for use of this powerful feature.

**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.

This publication is based on information that was available at the time it was printed. At AutomationDirect.com® we constantly strive to improve our products and services, so we reserve the right to make changes to the products and/or publications at any time without notice and without any obligation. This publication may also discuss features that may not be available in certain revisions of the product.

## Removable Terminal Block Specifications

| Part Number         | P2-RTB                                                                                                                                 | P2-RTB-1                                                                                                                                 |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Number of Positions | 18 Screw Terminals                                                                                                                     | 18 Push Release Terminals                                                                                                                |
| Wire Range          | 30-16 AWG (0.051 - 1.31 sq. mm)<br>Solid / Stranded Conductor<br>3/64 in. (1.2 mm) Insulation Maximum<br>1/4 in. (6-7 mm) Strip Length | 28-16 AWG (0.051 - 1.31 sq. mm)<br>Solid / Stranded Conductor<br>3/64 in. (1.2 mm) Insulation Maximum<br>19/64 in. (7-8 mm) Strip Length |
| Conductors          | "USE COPPER CONDUCTORS, 75°C" or Equivalent.                                                                                           |                                                                                                                                          |
| Screw Driver Width  | 1/8 inch (3.8 mm) Maximum                                                                                                              |                                                                                                                                          |
| Screw Size          | M2                                                                                                                                     | N/A                                                                                                                                      |
| Screw Torque        | 2.5 lb-in (0.28 N-m)                                                                                                                   | N/A                                                                                                                                      |

## General Specifications

|                               |                                                                                                                                                                               |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Surrounding Air Temperature   | 0° to 60°C (32° to 140°F)                                                                                                                                                     |
| Storage Temperature           | -20° to 70°C (-4° to 158°F)                                                                                                                                                   |
| Humidity                      | 5 to 95% (non-condensing)                                                                                                                                                     |
| Environmental Air             | No corrosive gases permitted                                                                                                                                                  |
| Vibration                     | IEC60068-2-6 (Test Fc)                                                                                                                                                        |
| Shock                         | IEC60068-2-27 (Test Ea)                                                                                                                                                       |
| Field to Logic Side Isolation | 1800VAC applied for 1 second                                                                                                                                                  |
| Insulation Resistance         | >10MΩ @ 500VDC                                                                                                                                                                |
| Heat Dissipation              | 6000mW                                                                                                                                                                        |
| Enclosure Type                | Open Equipment                                                                                                                                                                |
| Agency Approvals              | UL508 file E139594, Canada & USA<br>CE (EN61131-2*)                                                                                                                           |
| Module Keying to Backplane    | Electronic                                                                                                                                                                    |
| Module Location               | Any I/O slot in a Productivity2000 System.                                                                                                                                    |
| Field Wiring                  | Use ZIPLink Wiring System or removable terminal block (not included). See "Wiring Options" on page 2.                                                                         |
| EU Directive                  | See the "EU Directive" topic in the Productivity Suite Help File. Information can also be obtained at: <a href="http://www.productivity2000.com">www.productivity2000.com</a> |
| Weight                        | 100g (3.52 oz)                                                                                                                                                                |

\*Meets EMC and Safety requirements. See the D.O.C. for details.

| Document Name | Edition/Revision | Date       |
|---------------|------------------|------------|
| P2-08ND3-DS   | 1st Ed, Rev A    | 11/23/2015 |

Copyright 2015, AutomationDirect.com Incorporated/All Rights Reserved Worldwide

Tech Support 770-844-4200

[www.productivity2000.com](http://www.productivity2000.com)