

DC Input Modules

P3-08ND3S



Isolated Sinking/Sourcing Input

The P3-08ND3S DC Input Module provides eight 12-24 VDC sinking or sourcing isolated inputs.



Terminal block sold separately; terminal block cover included with module.

| Input Specifications | | |
|-------------------------------------|----|--------------------------------------|
| Inputs per Module | | 8 (sinking / sourcing) |
| Operating Voltage Range (Tolerance) | CE | 12-24 VDC (± 10%) |
| | UL | 12-24 VDC (± 10%) |
| Peak Voltage | | 26.4 VDC |
| Input Current (Typical) | | 5 mA @ 12 VDC |
| | | 11 mA @ 24 VDC |
| Maximum Input Current @ Temp | | 12.5 mA @ 60° C (26.4 VDC) |
| Input Impedance | | 2.2k Ω @ 12-24 VDC |
| ON Voltage Level | | > 10 VDC |
| OFF Voltage Level | | < 3 VDC |
| Minimum ON Current | | 4 mA |
| Maximum OFF Current | | 2 mA |
| OFF to ON Response | | Max. 2 ms Typical 1ms |
| ON to OFF Response | | Max. 2 ms Typical 1ms |
| Status Indicators | | Logic Side (8 points) |
| Terminal Type (not included) | | 20-position removable terminal block |
| Commons | | 8 Isolated (1 point / common) |

| General Specifications | |
|-------------------------------|--|
| Operating 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 | 1500 VAC applied for 1 minute |
| Insulation Resistance | >10MΩ @ 500 VDC |
| Heat Dissipation | 2.81W |
| Enclosure Type | Open Equipment |
| Agency Approvals | UL508 file E157382, Canada & USA UL1604 file E200031, Canada & USA CE (EN61131-2*) This equipment is suitable for use in Class 1, Division 2, Groups A, B, C and D or non-hazardous locations only. |
| Module Keying to Backplane | Electronic |
| Module Location | Any I/O slot in any local, expansion, or remote base in a Productivity3000 System. |
| Field Wiring | Removable terminal block (not included). Use ZIPLink wiring system or optional terminal block. See "Wiring I/O Modules". |
| EU Directive | See the "EU Directive" topic in the Productivity3000 Help File. Information can also be obtained at: www.productivitypac.com |
| Weight | 80g (2.82 oz) |

*Meets EMC and Safety requirements. See the Declaration of Conformity for details.

We recommend using prewired ZIPLink cables and connection modules. See "Wiring Systems".

Terminal block cover included. If you wish to hand-wire your module, a removable terminal block is sold separately. Order part number P3-RTB.



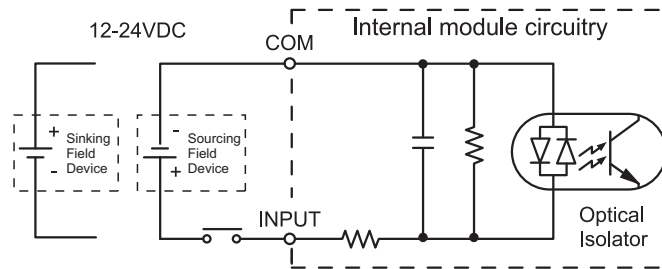
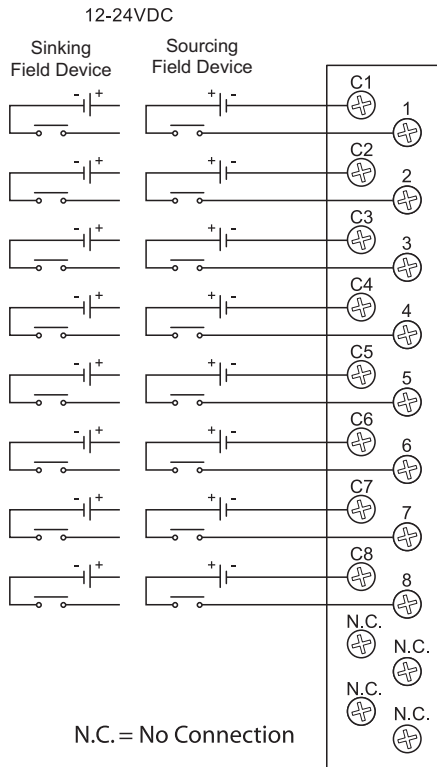
| Removable Terminal Block Specifications | |
|---|---|
| Description | Part No. P3-RTB; 20 screw terminals |
| Wire Range | 22-14 AWG (0.324 to 2.08 sq. mm) Solid / stranded conductor 3/64 in. (1.2 mm) insulation maximum "USE COPPER CONDUCTORS , 60°C" or equivalent. |
| Screw Driver Width | 1/4 inch (6.5 mm) maximum |
| Screw Size | M3 size |
| Screw Torque | Field terminals – 7 - 9 in./lb (0.882 - 1.02 Nm) |
| | Self-jacking screws – 2.7 - 3.6 in./lb (0.3 - 0.4 Nm). Do not overtighten screws when installing terminal block. |

WARNING: Explosion hazard – Substitution of components may impair suitability for Class I, Division 2.

DC Input Modules

P3-08ND3S (cont'd)

Wiring Diagrams





Specify your ZIPLink system

Use the Compatibility Matrix table below.

| | |
|--|---|
| Step 1 | Locate the I/O module part number. |
| Step 2 | Locate Connector Module Type. (Feedthrough Module, Fuse Module, etc...) |
| Step 3 | Select the cable length by replacing the # symbol with: Blank = 0.5m, -1 = 1.0m, -2 = 2.0m ¹ |
| ¹ Note: Cable part number denotes compatibility between Connector Module and I/O Modules. | |

| Productivity3000 ZIPLink Wiring System Compatibility Matrix | | | | | | | | |
|---|---------------------|---------------------|-----------|---------------|-----------|--------------|-------------------|----------------|
| Step 2: Connector Module Type | | Feedthrough Modules | | Fuse Modules | | Relay Module | Sensor Input Mod. | Pigtail Cable |
| Step 1: I/O Module | Number of Terminals | ZL-RTB20 | ZL-RTB40 | ZL-RFU20 | ZL-RFU40 | ZL-RRL16-24 | ZL-LTB16-24 | |
| | | Step 3: Cables | | | | | | |
| Inputs | | | | | | | | |
| P3-08NAS | 20 | ZL-P3-CBL20# | | | | | | ZL-P3-CBL20-#P |
| P3-08ND3S | 20 | ZL-P3-CBL20# | | | | | | ZL-P3-CBL20-#P |
| P3-16NA | 20 | ZL-P3-CBL20L# | | | | | | ZL-P3-CBL20-#P |
| P3-16ND3 | 20 | ZL-P3-CBL20L# | | | | | | ZL-P3-CBL20-#P |
| P3-32ND3 | 40 | | ZL-CBL40# | | | | ZL-P3-CBL40# | |
| P3-64ND3* | 40 | | ZL-CBL40# | | | | ZL-P3-CBL40# | |
| Outputs | | | | | | | | |
| P3-08TAS | 20 | ZL-P3-CBL20# | | | | | | ZL-P3-CBL20-#P |
| P3-08TD1S | 20 | ZL-P3-CBL20L# | | | | | | ZL-P3-CBL20-#P |
| P3-08TD2S | 20 | ZL-P3-CBL20L# | | | | | | ZL-P3-CBL20-#P |
| P3-08TRS | 20 | ZL-P3-CBL20# | | | | | | ZL-P3-CBL20-#P |
| P3-16TA | 20 | ZL-P3-CBL20# | | ZL-P3-CBL20L# | | | | ZL-P3-CBL20-#P |
| P3-16TD1 | 20 | ZL-P3-CBL20# | | ZL-P3-CBL20# | | ZL-P3-CBL20# | | ZL-P3-CBL20-#P |
| P3-16TD2 | 20 | ZL-P3-CBL20# | | ZL-P3-CBL20# | | | | ZL-P3-CBL20-#P |
| P3-16TR | 20 | ZL-P3-CBL20# | | ZL-P3-CBL20# | | | | ZL-P3-CBL20-#P |
| P3-08TRS-1*** | 20 | ZL-P3-CBL20# | | | | | | ZL-P3-CBL20-#P |
| P3-32TD1 | 40 | | ZL-CBL40# | | ZL-CBL40# | | | |
| P3-32TD2 | 40 | | ZL-CBL40# | | ZL-CBL40# | | | |
| P3-64TD1* | 40 | | ZL-CBL40# | | ZL-CBL40# | | | |
| P3-64TD2* | 40 | | ZL-CBL40# | | ZL-CBL40# | | | |
| Analog In | | | | | | | | |
| P3-04ADS | 20 | ZL-P3-CBL20L# | | | | | | ZL-P3-CBL20-#P |
| P3-08AD | 20 | ZL-P3-CBL20L# | | | | | | ZL-P3-CBL20-#P |
| P3-16AD-1 | 20 | ZL-P3-CBL20L# | | | | | | ZL-P3-CBL20-#P |
| P3-16AD-2 | 20 | ZL-P3-CBL20L# | | | | | | ZL-P3-CBL20-#P |
| P3-08RTD** | Matched Only | | | | | | | |
| P3-08THM** | T/C Wire Only | | | | | | | |
| Analog Out | | | | | | | | |
| P3-04DA | 20 | ZL-P3-CBL20L# | | | | | | ZL-P3-CBL20-#P |
| P3-08DA-1 | 20 | ZL-P3-CBL20L# | | | | | | ZL-P3-CBL20-#P |
| P3-08DA-2 | 20 | ZL-P3-CBL20L# | | | | | | ZL-P3-CBL20-#P |
| P3-06DAS-1 | 20 | ZL-P3-CBL20L# | | | | | | ZL-P3-CBL20-#P |
| P3-06DAS-2 | 20 | ZL-P3-CBL20L# | | | | | | ZL-P3-CBL20-#P |
| P3-16DA-1 | 20 | ZL-P3-CBL20L# | | | | | | ZL-P3-CBL20-#P |
| P3-16DA-2 | 20 | ZL-P3-CBL20L# | | | | | | ZL-P3-CBL20-#P |
| Analog Combo | | | | | | | | |
| P3-8AD4DA-1 | 20 | ZL-P3-CBL20L# | | | | | | ZL-P3-CBL20-#P |
| P3-8AD4DA-2 | 20 | ZL-P3-CBL20L# | | | | | | ZL-P3-CBL20-#P |

*The P3-64ND3, P3-64TD1, and P3-64TD2 modules have two 32-point connectors and require 2 ZIPLink cables and 2 ZIPLink connector modules.

**These modules are not supported by the ZIPLink wiring system. Removable terminal block P3-RTB included.

***The P3-08TRS-1 output module is derated, not to exceed 2A per point maximum when used with the ZIPLink wiring system.

I/O Modules

A variety of discrete and analog I/O modules are available for use in local, expansion, and remote I/O bases. Specifications for each module are on the following pages.

A filler module is available for unused I/O module slots (part number P3-FILL).



Discrete Input Modules

| Productivity3000 Discrete Input Modules | | | |
|---|------------------|------------------------------------|-------|
| Part Number | Number of Inputs | Description | Price |
| P3-16SIM | 16 | Input Simulator Module | <---> |
| P3-08ND3S | 8 | Isolated Sinking/Sourcing DC Input | <---> |
| P3-16ND3 | 16 | Sinking/Sourcing DC Input | <---> |
| P3-32ND3* | 32 | Sinking/Sourcing DC Input | <---> |
| P3-64ND3* | 64 | Sinking/Sourcing DC Input | <---> |
| P3-08NAS | 8 | Isolated AC Input | <---> |
| P3-16NA | 16 | AC Input | <---> |

*ZIPLink required.

Analog I/O Modules

| Productivity3000 Analog Input Modules | | | |
|---------------------------------------|--------------------|---------------------------|-------|
| Part Number | Number of Channels | Description | Price |
| P3-04ADS | 4 | Isolated Analog Input | <---> |
| P3-08AD | 8 | Analog Input | <---> |
| P3-16AD-1 | 16 | Analog Input (Current) | <---> |
| P3-16AD-2 | 16 | Analog Input (Voltage) | <---> |
| P3-08RTD | 8 | Analog RTD Input | <---> |
| P3-08THM | 8 | Analog Thermocouple Input | <---> |

| Productivity3000 Analog Output Modules | | | |
|--|--------------------|----------------------------------|-------|
| Part Number | Number of Channels | Description | Price |
| P3-04DA | 4 | Analog Output | <---> |
| P3-08DA-1 | 8 | Analog Output (Current) | <---> |
| P3-08DA-2 | 8 | Analog Output (Voltage) | <---> |
| P3-06DAS-1 | 6 | Isolated Analog Output (Current) | <---> |
| P3-06DAS-2 | 6 | Isolated Analog Output (Voltage) | <---> |
| P3-16DA-1 | 16 | Analog Output (Current) | <---> |
| P3-16DA-2 | 16 | Analog Output (Voltage) | <---> |

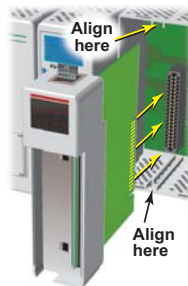
| Productivity3000 Analog Input/Output Modules | | | |
|--|--------------------|-------------------------------|-------|
| Part Number | Number of Channels | Description | Price |
| P3-8AD4DA-1 | 8/4 | Analog Input/Output (Current) | <---> |
| P3-8AD4DA-2 | 8/4 | Analog Input/Output (Voltage) | <---> |

Discrete Output Modules

| Productivity3000 Discrete Output Modules | | | |
|--|-------------------|--------------------------|-------|
| Part Number | Number of Outputs | Description | Price |
| P3-08TD1S | 8 | Isolated Sinking Output | <---> |
| P3-08TD2S | 8 | Isolated Sourcing Output | <---> |
| P3-16TD1 | 16 | Sinking Output | <---> |
| P3-16TD2 | 16 | Sourcing Output | <---> |
| P3-32TD1* | 32 | Sinking Output | <---> |
| P3-32TD2* | 32 | Sourcing Output | <---> |
| P3-64TD1* | 64 | Sinking Output | <---> |
| P3-64TD2* | 64 | Sourcing Output | <---> |
| P3-08TAS | 8 | Isolated AC Output | <---> |
| P3-16TA | 16 | AC Output | <---> |
| P3-08TRS | 8 | Isolated Relay Output | <---> |
| P3-16TR | 16 | Relay Output | <---> |
| P3-08TRS-1 | 8 | Isolated Relay Output | <---> |

*ZIPLink required.

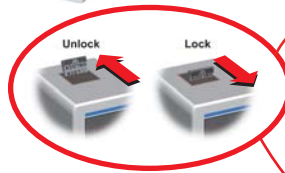
Module Installation Procedure



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

Step One: Align circuit card with slot and press firmly to seat module into connector.

Step Two: Pull top and bottom locking tabs toward module face. Click indicates lock is engaged.



Step Three: Attach field wiring using optional terminal block or ZIPLink wiring system and install cover.



To install or remove terminal block cover, press middle to flex cover.



WARNING: Explosion hazard – Do not connect or disconnect connectors or operate switches while circuit is live unless the area is known to be non-hazardous. Do not hot-swap modules unless the area is known to be non-hazardous.