Analog Input Modules

P3-04ADS $724.00

Isolated Voltage/Current Analog Input

The P3-04ADS Isolated Voltage/Current Analog Input Module provides four isolated channels for receiving ± 10 VDC, 0 to 5 VDC, 0 to 10 VDC and 0 to 20mA signals.

Patent-pending LCD gives access to field signal values, as well as module and signal faults.

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

We recommend using prewired ***ZIP***Link cables and connection modules. See Wiring Solutions.

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 N·m) Self-jacking screws - 2.7–3.6 in·lb (0.3–0.4 N·m). Do not overtighten screws when installing terminal block.

WARNING: *EXPLOSION HAZARD – SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.*

Input Specifications	
Input Channels	4 Channel-to-Channel Isolated
Module Signal Input Ranges*	±10VDC, 0–5 VDC, 0–10 VDC, 0–20 mA
Resolution	15 bit + sign (0-10V), 16-bit (all others)
Value of LSB (least significant bit)	±10V = 305µV, 0–5 V = 152µV, 0–10 V = 305µV, 0–20 mA = 0.610 µA
Data Range	0 to 65535 counts unipolar -32768 to +32767 counts bipolar
Isolated Loop Pwr for Ext. Xmitters	20–30 VDC, current limited to < 30mA
Input Type	Differential
Common Mode Rejection Ratio	-75dB min. @ DC, -500kHz
Maximum Continuous Overload	±31mA., current input ±100V, voltage input
Input Impedance	250kV ±5% voltage input 250V ±0.1% ¼W. current input
Filter Characteristics	Active low pass, -3dB @ 30Hz, -10dB @ 55Hz
Sample Duration Time	1.28 ms per channel (does not include ladder scan time)
All Channel Update Rate	5.2 ms
Open Circuit Detection Time	Zero reading within 1s
Conversion Method	Successive Approximation
Accuracy vs. Temperature	±25 PPM / °C max
Maximum Inaccuracy	0.1% of range voltage, 0.2% of range current (including temperature drift)
Linearity Error (End to End)	±0.025% of range maximum, Monotonic with no missing codes
Input Stability and Repeatability	±0.02% of range maximum after 10 min.
Full Scale Calibration Error (not including Offset)	±0.05% of range maximum
Offset Calibration Error	±0.05% of range maximum
Max Crosstalk	-96 dB 1 LSB
Channel to Channel Isolation	900VDC applied for 1s
Recommended Fuse (external)	Edison S500-32-R, 0.032A fuse on current inputs only

***Select any two ranges via hardware jumpers. Range setting is for channels 1 and 3; and channels 2 and 4.**

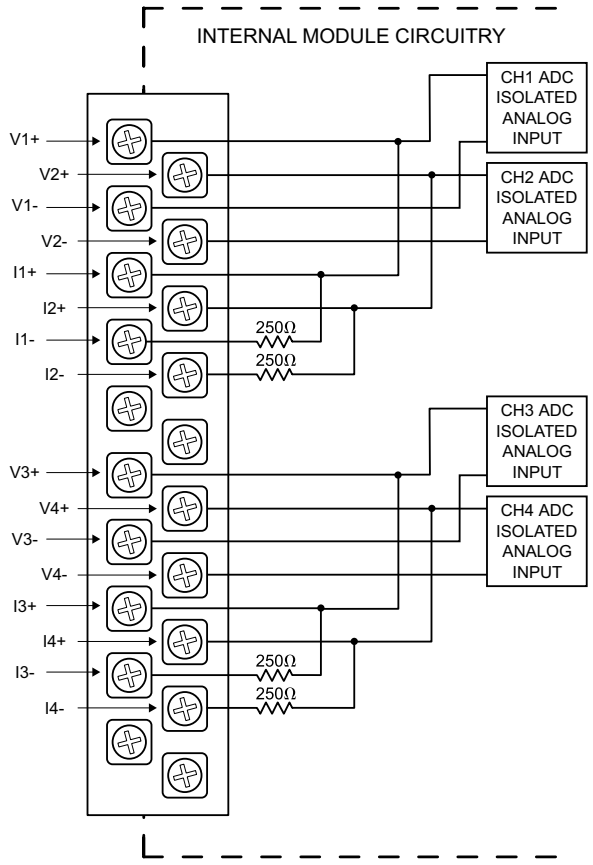
General Specifications	
Operating Temperature	0°C– 60°C (32°F–140°F),
Storage Temperature	-20ºC–70ºC (-4ºF–158ºF)
Humidity	5 to 95% (non-condensing)
Environmental Air	No corrosive gases permitted
Vibration	IEC60068-2-6 (Test Fc)
Shock	IEC60068-2-27 (Test Ea)
Field to Logic Side Isolation	1800VAC applied for 1s
Insulation Resistance	>10MΩ @ 500VDC
Heat Dissipation	2.6 W
Enclosure Type	Open equipment
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 ***ZIP***Link wiring system or optional terminal block. See Wiring Solutions.
Terminal Type (not included)	20-position removable terminal block
Weight	61g (2.14 oz)
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.

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

Analog Input Modules

P3-04ADS (cont'd)

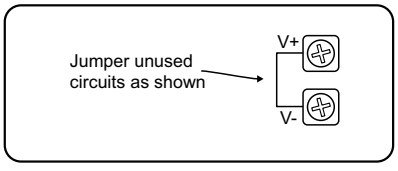
Wiring Diagrams

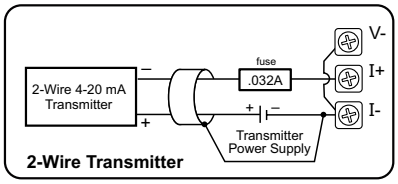


Current Input Circuits

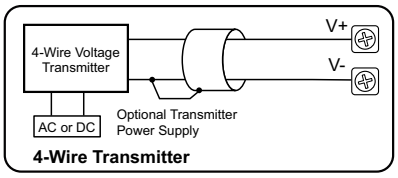
An Edison S500-32-R 0.032A fast-acting fuse is recommended for all 4-20mA current loops.

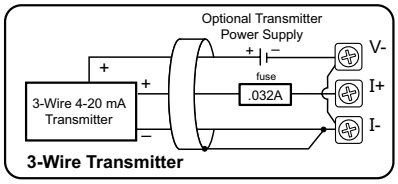
Unused Circuits

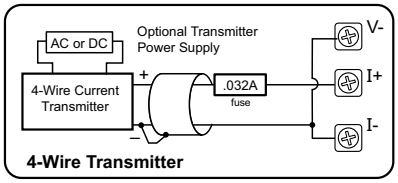




Voltage Input Circuits







NOTES:
1. Shield connected to signal source common.
2. If current is chosen, I- **MUST** be jumpered to V-. For example, when using 4-20 mA source for Input 3, I3- must be connected to V3-.

Analog Input Modules

P3-08AD $393.00

Voltage/Current Input

The P3-08AD Voltage/Current Analog Input Module provides 8 channels for receiving ±10VDC, ±5VDC, 0 to 5 VDC, 0 to 10VDC, and 0 to 20mA signals.

Patent-pending LCD gives access to field signal values, as well as module and signal faults.

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

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 N·m) Self-jacking screws - 2.7–3.6 in·lb (0.3–0.4 N·m). Do not overtighten screws when installing terminal block.

We recommend using prewired ***ZIP***Link cables and connection modules. See Wiring Solutions.

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

WARNING: *EXPLOSION HAZARD – SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.*

Input Specifications	
Input Channels	8
Module Signal Input Ranges	±10VDC, ±5VDC, 0–5 VDC, 0–10 VDC, 0–20mA
Signal Resolution	16-bit
Resolution Value of LSB (least significant bit)	1 LSB = 1 count ±10V = 305µV ±5V = 152µV 0–5V = 76µV 0–10V = 152µV 0–20mA = 0.305 µA
Data Range	0 to 65535 counts unipolar -32768 to +32767 counts bipolar
Maximum Continuous Overload	±31mA, current input ±100V, voltage input
Input Impedance	1MΩ ±10% voltage input 250Ω ±0.1% 1/4 W. current input
Hardware Filter Characteristics	Low pass 1st order, -3dB@48Hz
Sample Duration Time	455µs per channel (does not include ladder scan time)
All Channel Update Rate	4ms
Open Circuit Detection Time	Zero reading within 1s (current input only)
Conversion Method	Successive approximation
Accuracy vs. Temperature	±10PPM / °C maximum
Maximum Inaccuracy	0.1% of range voltage, 0.2% of range current (including temperature drift)
Linearity Error (end to end)	±0.01% of range max., ±10V & ±5V ±0.015% of range max., 0–10 V, 0–5 V & 0–20 mA Monotonic with no missing codes
Input Stability and Repeatability	±0.035% of range (after 10 min. warmup)
Full Scale Calibration Error (not including offset)	±0.1% of range maximum
Offset Calibration Error	±0.065% of range maximum
Max Crosstalk	-96dB
Recommended Fuse (external)	Edison S500-32-R, .032A fuse on current inputs only
External DC Power Required	24VDC (-20% / + 25%) 33mA

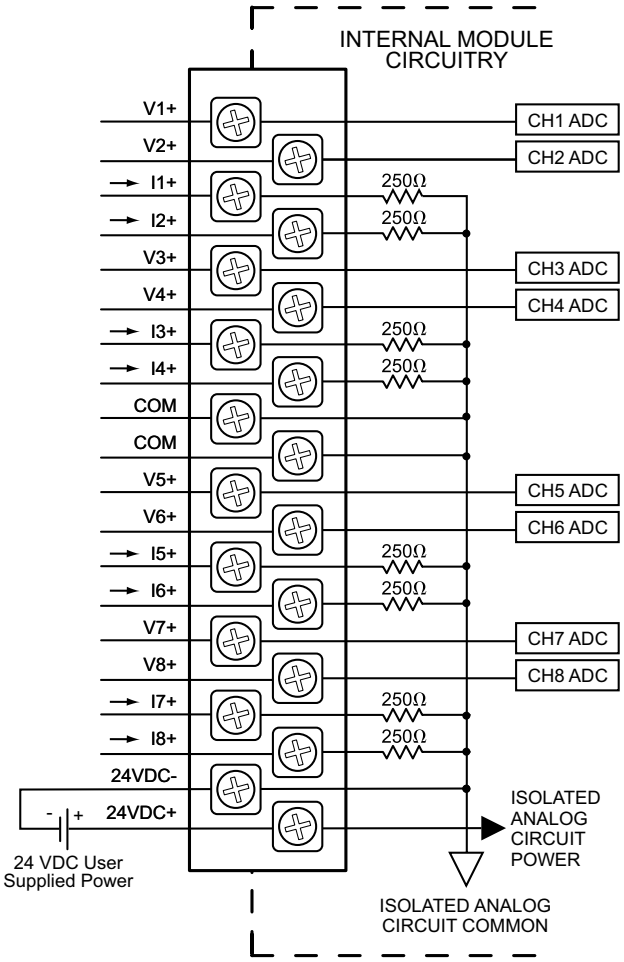
General Specifications	
Operating Temperature	0°C– 60°C (32°F–140°F),
Storage Temperature	-20ºC–70ºC (-4ºF–158ºF)
Humidity	5 to 95% (non-condensing)
Environmental Air	No corrosive gases permitted
Vibration	IEC60068-2-6 (Test Fc)
Shock	IEC60068-2-27 (Test Ea)
Field to Logic Side Isolation	1800VAC applied for 1s
Insulation Resistance	>10MΩ @ 500VDC
Heat Dissipation	1.1 W
Enclosure Type	Open equipment
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 ***ZIP***Link wiring system or optional terminal block. See Wiring Solutions.
Terminal Type (not included)	20-position removable terminal block
Weight	105g (3.73 oz)
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.

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

Analog Input Modules

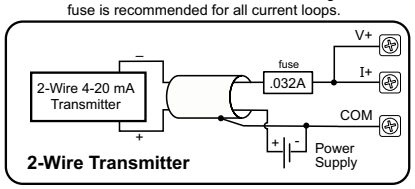
P3-08AD (cont'd)

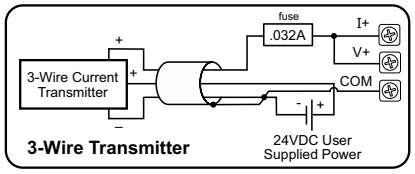
Wiring Diagrams

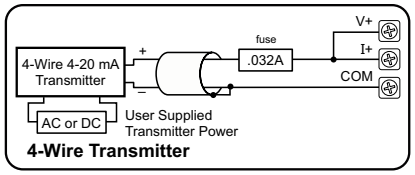


Current Sinking Input Circuits

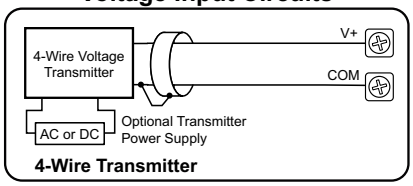
An Edison S500-32-R 0.032A fast-acting fuse is recommended for all current loops.

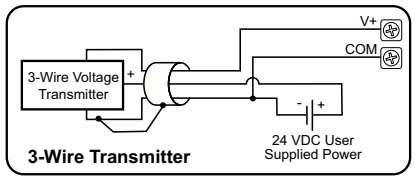






Voltage Input Circuits





Analog Input Modules

P3-16AD-1 $535.00

Current Analog Input
The P3-16AD-1 Current Analog Input Module provides sixteen channels for receiving current sinking 0 to 20mA input signals.

Patent-pending LCD gives access to field signal values, as well as module and signal faults.

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

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

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 N·m) Self-jacking screws - 2.7–3.6 in·lb (0.3–0.4 N·m). Do not overtighten screws when installing terminal block.

We recommend using prewired ***ZIP***Link cables and connection modules. See Wiring Solutions.

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

Input Specifications	
Input Channels	16 sinking
Module Signal Input Range	0–20mA
Signal Resolution	16-bit
Resolution Value of LSB (least significant bit)	0–20mA = 0.305µA per count (1 LSB = 1 count)
Data Range	0–65535 counts
Input Type	Single-ended (1 common)
Maximum Continuous Overload	±31mA
Input Impedance	250Ω ±0.1% ¼W
Filter Characteristics	Low Pass, -3dB @ 100Hz
Sample Duration Time	7ms per channel (does not include ladder scan time)
All Channel Update Rate	112ms
Open Circuit Detection Time	Zero reading within 1s
Conversion Method	Successive approximation
Accuracy vs. Temperature	±25PPM / °C maximum
Maximum Inaccuracy	0.1% of range (including temperature drift)
Linearity Error (end to end)	±10 LSB maximum (±0.015% of range) Monotonic with no missing codes
Input Stability and Repeatability	±10 LSB
Full Scale Calibration Error (not including offset)	±10 LSB maximum (±0.015% of range)
Offset Calibration Error	±10 LSB maximum
Max Crosstalk	-76dB, ±10 LSB
Recommended Fuse (external)	Edison S500-32-R, 0.032 A fuse
External DC Power Required	24VDC (-20% / + 25%) 20mA

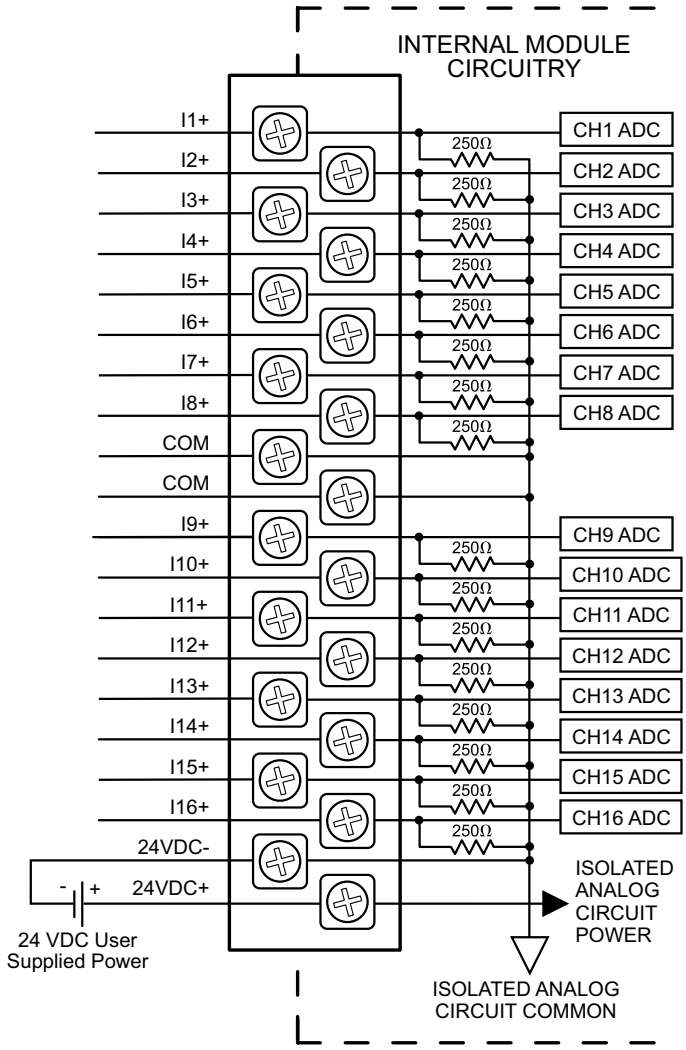
General Specifications	
Operating Temperature	0°C– 60°C (32°F–140°F),
Storage Temperature	-20ºC–70ºC (-4ºF–158ºF)
Humidity	5 to 95% (non-condensing)
Environmental Air	No corrosive gases permitted
Vibration	IEC60068-2-6 (Test Fc)
Shock	IEC60068-2-27 (Test Ea)
Field to Logic Side Isolation	1800VAC applied for 1s
Insulation Resistance	>10MΩ @ 500VDC
Heat Dissipation	2.1 W
Enclosure Type	Open equipment
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 ***ZIP***Link wiring system or optional terminal block. See Wiring Solutions.
Terminal Type (not included)	20-position removable terminal block
Weight	105g (3.73 oz)
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.

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

Analog Input Modules

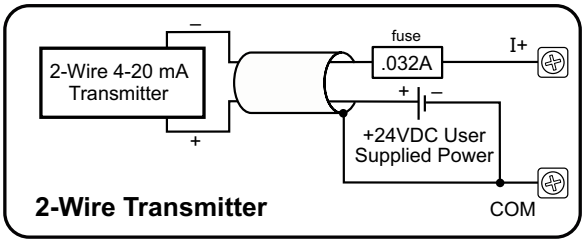
P3-16AD-1 (cont'd)

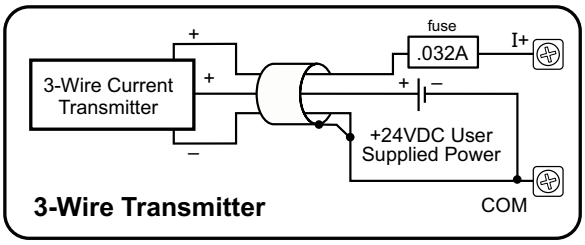
Wiring Diagrams

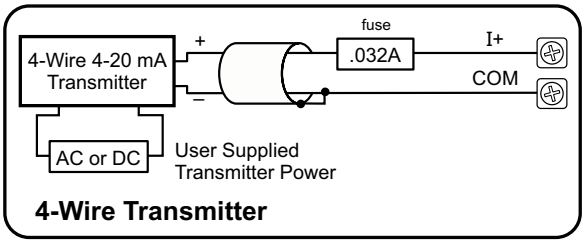


Current Input Circuits

An Edison S500-32-R 0.032A fast-acting fuse is recommended for current loops.







Note: Do not connect both ends of shield.

Analog Input Modules

P3-16AD-2 $524.00

Voltage Analog Input
The P3-16AD-2 Voltage Analog Input Module provides sixteen channels for receiving 0 to 10 VDC signals.

Patent-pending LCD gives access to field signal values, as well as module and signal faults.

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

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 N·m) Self-jacking screws - 2.7–3.6 in·lb (0.3–0.4 N·m). Do not overtighten screws when installing terminal block.

We recommend using prewired ***ZIP***Link cables and connection modules. See Wiring Solutions.

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

Input Specifications	
Input Channels	16
Module Signal Input Range	0–10 VDC
Signal Resolution	16-bit
Resolution Value of LSB (least significant bit)	0–10 VDC = 152µV per count (1 LSB = 1 count)
Data Range	0 to 65535 counts
Input Type	Single-ended (one common)
Maximum Continuous Overload	±100V
Input Impedance	250kΩ (typical)
Filter Characteristics	Low Pass, -3dB @ 100Hz
Sample Duration Time	7ms per channel (does not include ladder scan time)
All Channel Update Rate	112ms
Open Circuit Detection Time	Zero reading within 1s
Conversion Method	Successive approximation
Accuracy vs. Temperature	±25 PPM / °C maximum
Maximum Inaccuracy	0.1% of range (including temperature drift)
Linearity Error (end to end)	±10 LSB maximum (±0.015% of range) Monotonic with no missing codes
Input Stability and Repeatability	±10 LSB
Full Scale Calibration Error (not including offset)	±10 LSB maximum (±0.015% of range)
Offset Calibration Error	±10 LSB maximum
Max Crosstalk	-76dB, 10 LSB
External DC Power Required	24VDC (-20% / + 25%), 41mA maximum

General Specifications	
Operating Temperature	0°C– 60°C (32°F–140°F),
Storage Temperature	-20ºC–70ºC (-4ºF–158ºF)
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 1s
Insulation Resistance	>10MΩ @ 500VDC
Heat Dissipation	1.4 W
Enclosure Type	Open equipment
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 ***ZIP***Link wiring system or optional terminal block. See Wiring Solutions.
Terminal Type (not included)	20-position removable terminal block
Weight	105g (3.73 oz)
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.

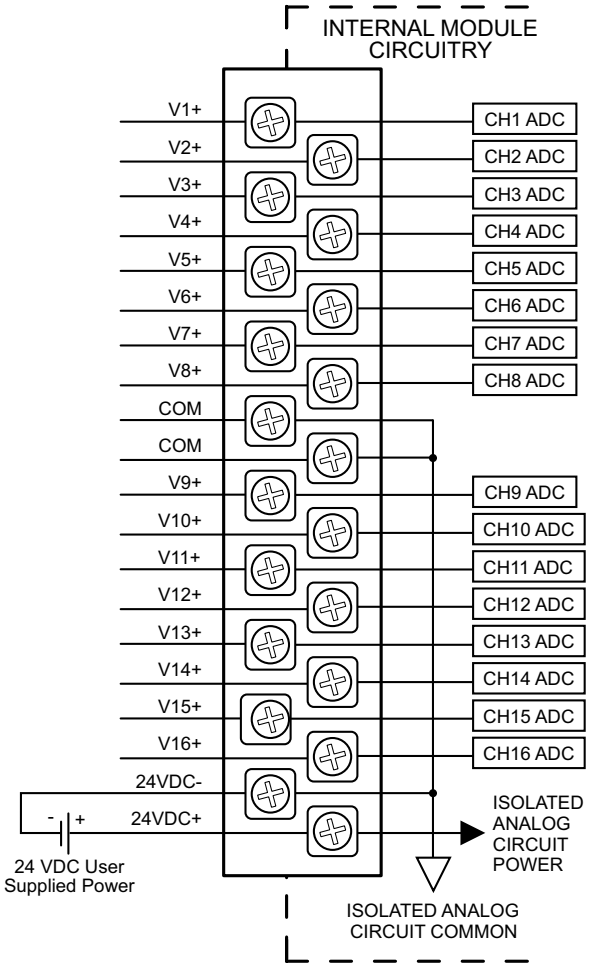
***Meets EMC and Safety requirements. See the Declaration of Conformity for details.**

WARNING: *EXPLOSION HAZARD – SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.*

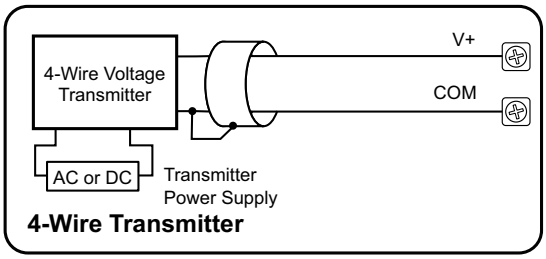
Analog Input Modules

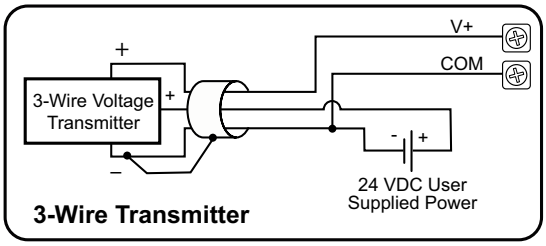
P3-16AD-2 (cont'd)

Wiring Diagrams



Voltage Input Circuits





Notes for maximum accuracy:
1. Jumper unused inputs to common.

Analog Input Modules

P3-08RTD $581.00

RTD Analog Input
The P3-08RTD input module provides eight differential channels for receiving RTD and resistance input signals.

Patent-pending LCD gives access to field signal values, as well as module and signal faults.

Terminal Block P3-RTB and Cover included. Not compatible with Z/PLink.

RTD Input Specifications	
Input Channels	8 Differential
Max. Common Mode Voltage	5VDC
Data Format	Floating Point
Common Mode Rejection	-90dB min. @ DC, -150dB min. @ 50/60Hz
Absolute Maximum Ratings	Fault protected input, ±50V
Internal Resolution	16-bit, ± 0.1°C or °F (up to 100Hz filter)
Input Ranges (RTD Types)	Pt100 -200°C/850°C (-328°F/1562°F) Pt1000 -200°C/595°C (-328°F/1103°F) JPt100 -100°C/450°C (-148°F/ 842°F) 10V Cu. -200°C/260°C (-328°F/ 500°F) 25V Cu. -200°C/260°C (-328°F/ 500°F) 120V Ni. -80°C/260°C (-112°F/ 500°F)
RTD Linearization	Automatic
Excitation Current (all ranges)	200µA
Accuracy vs. Temperature	±5PPM per °C (maximum)
Full Scale Calibration	±1°C
Offset Calibration Error	±1 count (negligible)
Linearity Error (end to end)	±0.5°C maximum, ±0.01°C typical, Monotonic with no missing codes
Maximum Inaccuracy	±1°C maximum (excluding RTD error) (including temperature drift)
Warm-up Time	2 minutes for ±0.2% repeatability
Sample Duration (Single channel update rate)	Dependent on Digital Filter Settings -- 488ms @ 10Hz, 88ms @ 50Hz, 75ms @ 60Hz, 56ms @ 100Hz, 48ms @ 250Hz
Filter Characteristics	Digital filter cutoff frequencies: 10Hz, 50Hz, 60Hz, 100Hz, or 250Hz
All Channel Update Rate	Single channel update rate times the number of enabled channels
Open Circuit Detection Time	Positive full scale reading within 2s
Conversion Method	Sigma-Delta
External DC Power Required	None

Resistance Input Specifications	
Internal Resolution	16-bit, .0015% of full scale range in ohms (up to 100Hz filter)
Resistance Input Ranges and CPU Resolution	0–10,000Ω, Resolution 1Ω 0–6,250Ω, Resolution 0.1 Ω 0–3,125Ω, Resolution 0.1 Ω 0–1,562.5 Ω, Resolution 0.1 Ω 0–781.25 Ω, Resolution 0.1 Ω 0–390.625 Ω, Resolution 0.01 Ω 0–195.3125 Ω, Resolution 0.01 Ω
Accuracy vs. Temperature	±25PPM per °C (maximum)
Full Scale Calibration	± 0.02% of full scale range
Offset Calibration Error	± 0.0015% of full scale range in ohms
Linearity Error (end to end)	± 0.0015% of full scale range maximum at 25°C, Monotonic with no missing codes
Maximum Inaccuracy	± 0.10% of full scale range

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 N·m) Self-jacking screws - 2.7–3.6 in·lb (0.3–0.4 N·m). Do not overtighten screws when installing terminal block.

Diagnostics	
Module Diagnostics Failure	1 bit per module
Module Not Ready	1 bit per module
Channel Burn-out (RTD only)	1 bit per channel
Under-range (RTD only)	1 bit per channel
Over-range	1 bit per channel

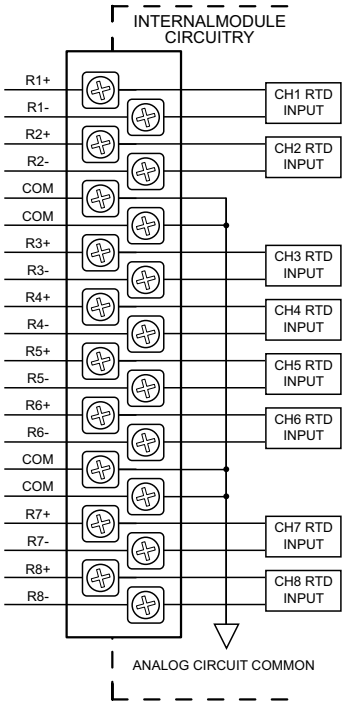
Analog Input Modules

P3-08RTD (cont'd)

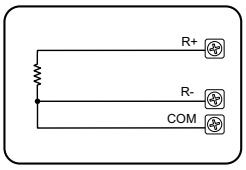
General Specifications	
Operating Temperature	0°C– 60°C (32°F–140°F),
Storage Temperature	-20ºC–70ºC (-4ºF–158ºF)
Humidity	5 to 95% (non-condensing)
Environmental Air	No corrosive gases permitted
Vibration	IEC60068-2-6 (Test Fc)
Shock	IEC60068-2-27 (Test Ea)
Heat Dissipation	0.33 W
Enclosure Type	Open equipment
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 (included). The P3-08RTD module is not compatible with the ***ZIP***Link wiring system.
Terminal Type	20-position removable terminal block (included)
Weight	107.8 g (3.79 oz)
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.

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

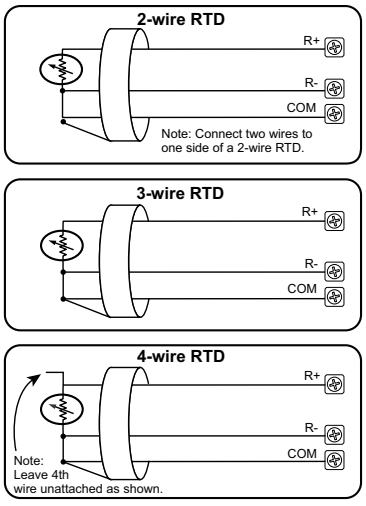
WARNING: *EXPLOSION HAZARD – SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.*



Resistance Input



RTD Input Circuits



Notes for maximum accuracy:

1. For 2-wire RTD, attach third wire to module common.
2. R+, R-, and COM wires to an RTD must be equal length and type. Refer to RTD manufacturer's recommendations.
3. Do not use cable shield as sensing wire.
4. When applicable, connect shield to RTD common only, otherwise connect to module common only. Do not connect shield to both ends.
5. Jumper unused inputs to common.

Analog Input Modules

P3-08THM $448.00

Thermocouple Analog Input
The P3-08THM Thermocouple Input Module provides eight differential channels for receiving thermocouple and voltage input signals.

Patent-pending LCD gives access to field signal values, as well as module and signal faults.

Terminal Block P3-RTB and Cover included. Not compatible with *ZIP*Link.

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 N·m) Self-jacking screws - 2.7–3.6 in·lb (0.3–0.4 N·m). Do not overtighten screws when installing terminal block.

*** Use shielded, twisted thermocouple wire that matches the thermocouple type.**

T/C Input Specifications	
Input channels	8 differential
Data Format	Floating point
Common Mode Range	± 1.25 V
Common Mode Rejection	100dB @ DC and 130dB @ 60Hz
Input Impedance	>5M ohms
Maximum Ratings	Fault-protected inputs to ±50VDC
Resolution	16-bit, ± 0.1°C or °F
Thermocouple Input Ranges	Type J -190° to 760°C (-310° to 1400°F); Type E -210° to 1000°C (-346° to 1832°F); Type K -150° to 1372°C (-238° to 2502°F); Type R 65° to 1768°C (149° to 3214°F); Type S 65° to 1768°C (149° to 3214°F); Type T -230° to 400°C (-382° to 752°F); Type B 529° to 1820°C (984° to 3308°F); Type N -70° to 1300°C (-94° to 2372°F); Type C 65° to 2320°C (149° to 4208°F);
Cold Junction Compensation	Automatic
Thermocouple Linearization	Automatic
Accuracy vs. Temperature	±50PPM / °C maximum
Linearity Error	±1°C maximum (±0.5 °C typical), Monotonic with no missing codes
Maximum Inaccuracy	±3°C Max (excluding thermocouple error) (including temperature drift)
Warm-up Time	30 Minutes for ±1°C Repeatability 2 minutes to reach voltage specifications
Sample Duration Time	270ms
All Channel Update Rate	2.16 s
Open Circuit Detection Time	10–15 secs, 20 secs max.
Conversion Method	Sigma-Delta
External DC Power	NONE

Voltage Input Specifications	
Linear mV Device Input Ranges	0–39.0625 mVDC, ±39.0625 mVDC, ±78.125 mVDC, 0-156.25 mVDC, ±156.25 mVDC, 0–1250 mVDC
Max Voltage Input Offset Error	0.05% @ 0° - 60°C, typical 0.04% @ 25°C
Max Voltage Input Gain Error	0.06% @ 25°C
Max Voltage Input Linearity Error	0.05% @ 0° - 60°C, typical 0.03% @ 25°C
Max Voltage Input Inaccuracy	0.2% @ 0° - 60°C, typical 0.06% @ 25°C

Configuration/Diagnostics	
Burn-out Detection Enable/Disable	1-bit per module
°C/°F (T/C only)	1 bit per module
Module Diagnostics Failure	1 bit per module
Burn-out (on if T/C input is open – no connection between TCn+ and TCn-)	1 bit per channel
Channel Under-range (T/C only)	1 bit per channel
Channel Over-range (T/C only)	1 bit per channel

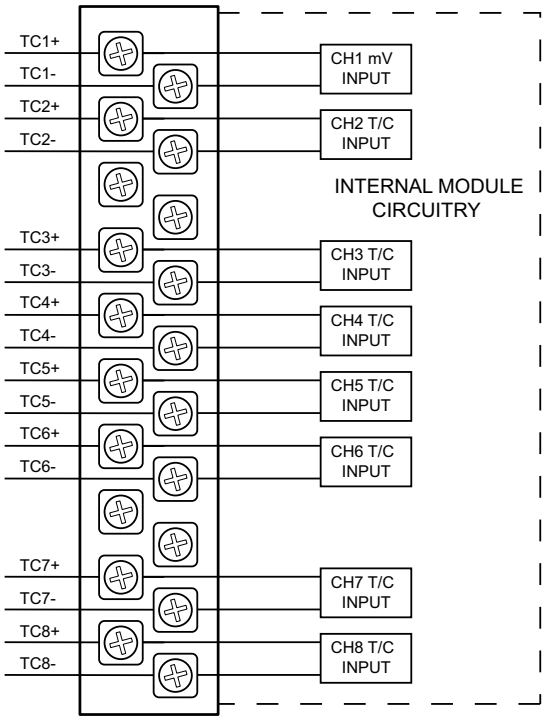
Analog Input Modules

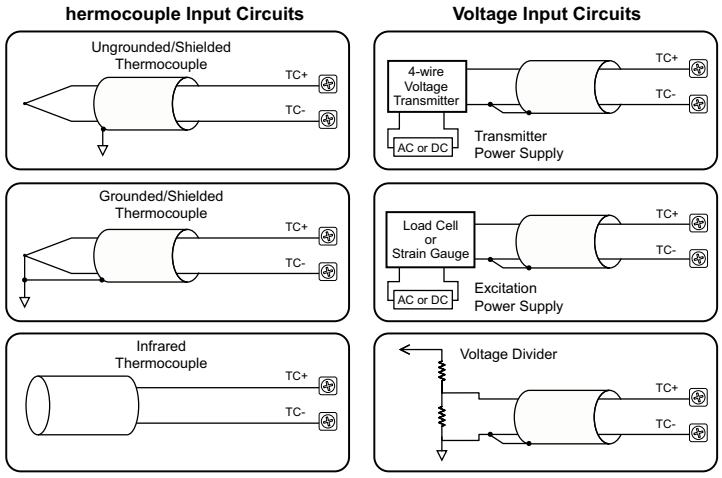
P3-08THM (cont'd)

General Specifications	
Operating Temperature	0°C– 60°C (32°F–140°F),
Storage Temperature	-20ºC–70ºC (-4ºF–158ºF)
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 1s
Insulation Resistance	>10MΩ @ 500VDC
Heat Dissipation	0.36 W
Enclosure Type	Open equipment
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 (included). The P3-08THM module is not compatible with the ***ZIP***Link wiring system.
Terminal Type	20-position removable terminal block (included)
Weight	150g (5.3 oz)
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.

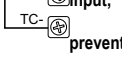
***Meets EMC and Safety requirements. See the Declaration of Conformity for details.**

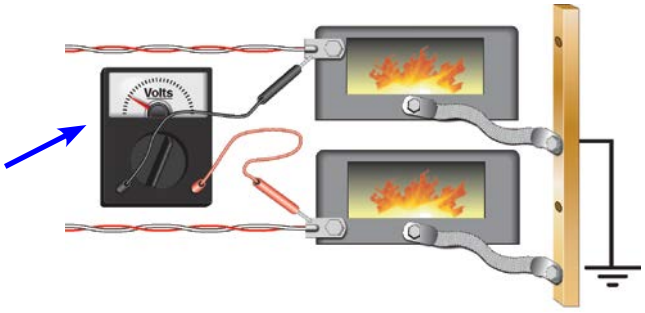
WARNING: *EXPLOSION HAZARD – SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.*





NOTES:

1. **Connect shield to thermocouple signal/ground only. Do not connect to both ends.**
2. **Install jumper wire on each unused**  **input, TC+ to TC-.**
3. **With grounded thermocouples, take precautions to prevent having a voltage potential between thermocouple tips. A voltage of 1.25 V or greater between tips will skew measurements.**
4. **Use shielded, twisted thermocouple extension wire that matches the thermocouple type. Use thermocouple-compatible junction blocks.**



Analog Output Modules

P3-04DA $449.00

Voltage/Current Analog Output
The P3-04DA Voltage/Current Analog Output Module provides four channels of ±10VDC or
4–20 mA sink/source selectable outputs.

Patent-pending LCD gives access to field signal values, as well as module and signal faults.

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

Output Specifications	
Output Channels	4
Module signal output range	±10V or 4–20 mA sink or source selectable each channel
Signal Resolution	16-bit
Resolution Value of LSB (least significant bit)	±10V = 305µV/ count 4–20mA = 0.244 µA/ count 1 LSB = 1 count
Data Range	0–65535 counts uni-polar and -32768 to +32767 counts bi-polar
Output Type	Voltage outputs sourcing/sinking at 10mA max, or Current outputs sink or source at 20mA max.
Output Value in Fault Mode	Voltage outputs 0V or 0mA current outputs
Load Impedance (Minimum External Power Supply)	>1000Ω (voltage outputs)(19.2–30 VDC) 0–755Ω Sinking, 0–600Ω Sourcing (19.2 VDC) 0–875Ω Sinking, 0–700Ω Sourcing (21.6 VDC) 0–1000Ω Sinking, 0–855Ω Sourcing (24.0 VDC) 0–1110Ω Sinking, 0–970Ω Sourcing (26.4 VDC) 0–1350Ω Sinking, 0–1150V Sourcing (30VDC)
Maximum Capacitive Load	0.01 µF maximum voltage outputs
Maximum Inductive Load	1mH maximum current outputs
Allowed Load Type	Grounded
Maximum Inaccuracy (% of range)	0.1% voltage, 0.1% current (including temperature drift)
Maximum Full Scale Calibration Error (not including offset error)	±0.025% of range maximum voltage outputs ±0.025% of range maximum current outputs
Accuracy vs. Temperature	±25PPM/°C max. f.s. calibration change (±0.0025% of range / °C)
Max Crosstalk	-80dB, 6 LSB
Linearity Error (End to End)	±16 LSB maximum (±0.025% of full scale) Monotonic with no missing codes
Output Stability and Repeatability	±10 LSB after 10 minute warm-up (typical)
Output Ripple	0.05% of Full Scale
Output Settling Time	0.3 ms max., 5µs min. (full scale change)
All Channel Update Rate	0.6 ms
Maximum Continuous Overload	Voltage Outputs current limited to 35mA typical. Current Outputs open circuit protected
Type of Output Protection	15VDC Peak Output Voltage Current outputs current limited to ≤20mA
Output Signal (power-up, -down)	0V voltage outputs, 0mA current outputs
External DC Power Required	94mA voltage operation 4 channels 126mA current operation 4 channels 24VDC -20% / + 25%

We recommend using prewired ***ZIP***Link cables and connection modules. See Wiring Solutions.

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 N·m) Self-jacking screws - 2.7–3.6 in·lb (0.3–0.4 N·m). Do not overtighten screws when installing terminal block.

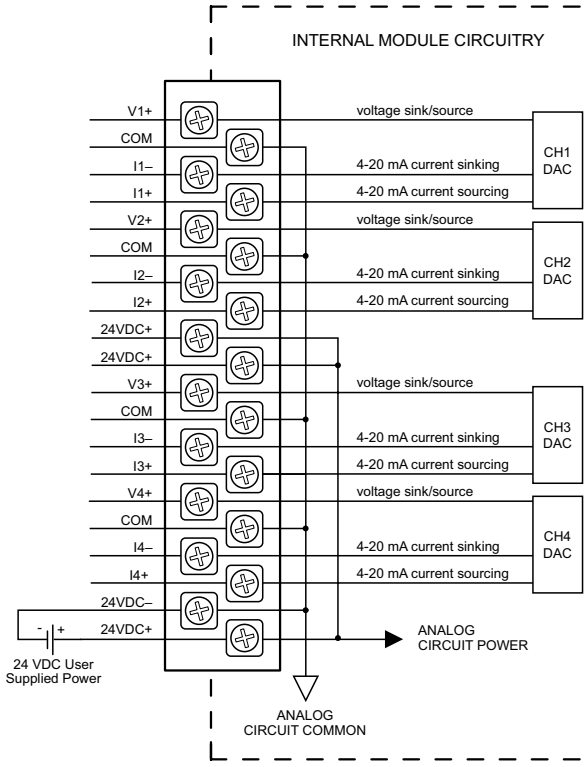
Analog Output Modules

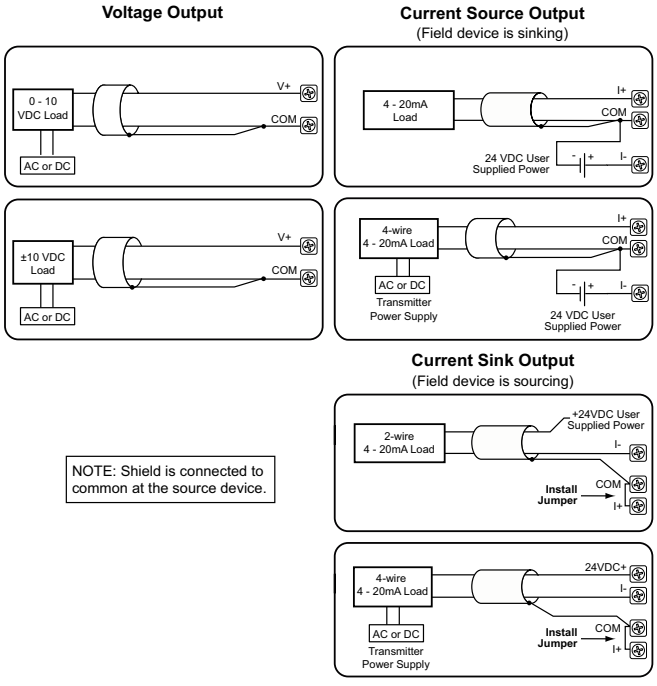
P3-04DA (cont'd)

General Specifications	
Operating Temperature	0°C– 60°C (32°F–140°F),
Storage Temperature	-20ºC–70ºC (-4ºF–158ºF)
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 1s
Insulation Resistance	>10MΩ @ 500VDC
Heat Dissipation	2.6 W voltage outputs 3.4 W current outputs
Enclosure Type	Open equipment
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 ***ZIP***Link wiring system or optional terminal block. See Wiring Solutions.
Terminal Type (not included)	20-position removable terminal block
Weight	105g (3.73 oz)
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.

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

WARNING: *EXPLOSION HAZARD – SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.*





NOTE: Shield is connected to common at the source device.

Analog Output Modules

P3-08DA-1 $779.00

Current Analog Output

The P3-08DA-1 Current Analog Output Module provides eight channels of 4 to 20mA sourcing outputs.

Patent-pending LCD gives access to field signal values, as well as module and signal faults.

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

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 N·m) Self-jacking screws - 2.7–3.6 in·lb (0.3–0.4 N·m). Do not overtighten screws when installing terminal block.

We recommend using prewired ***ZIP***Link cables and connection modules. See Wiring Solutions.

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

WARNING: *EXPLOSION HAZARD – SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.*

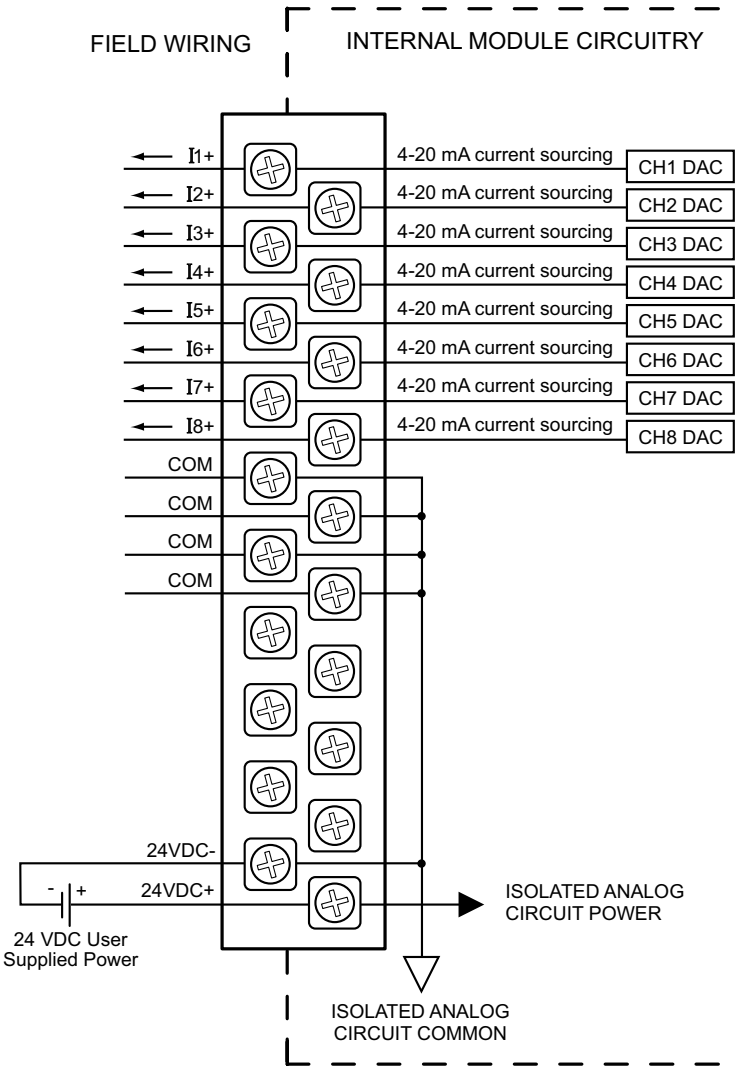
Output Specifications	
Output Channels (commons)	8
Module Signal Output Range	4–20mA
Output Signal Resolution	16-bit
Resolution Value of LSB (least significant bit)	4–20mA = 0.244 µA / count 1 LSB = 1 count
Data Range	0 to 65535 counts
Output Type (sourcing)	Current: 20mA max
Output Value in Fault Mode	Near 0mA
Load Impedance	0–570Ω (19.2 VDC) 0–690Ω (21.6 VDC) 0–810Ω (24.0 VDC) 0–930Ω (26.4 VDC) 0–1100Ω (30.0 VDC) Minimum Load 0Ω @ 0-45°C 125Ω @ 45-60°C
Maximum Inductive Load	1mH
Allowed Load Type	Grounded
Maximum Inaccuracy	0.1% of range (including temperature drift)
Maximum Full Scale Calibration Error (not including offset error)	±0.025% of range maximum
Maximum Offset Calibration Error	±0.025% of range maximum
Accuracy vs. Temperature	±25PPM/ °C maximum full-scale calibration change (± 0.0025% of range / °C)
Max Crosstalk	-96 dB, 1 LSB
Linearity Error (end to end)	±16 LSB maximum (±0.025% of full scale) monotonic with no missing codes
Output Stability and Repeatability	±10 count after 10 min. warm-up (typical)
Output Ripple	0.05% of full scale
Output Settling Time	0.3 ms max., 5µs min. (full scale change)
All channel Update Rate	0.6 ms
Maximum Continuous Overload	Outputs open circuit protected
Type of Output Protection	Electronically current limited to 20mA or less
Output Signal at Power-up and Power-down	4mA
External DC Power Required	24VDC (-20% / + 25%), 180mA

General Specifications	
Operating Temperature	0°C– 60°C (32°F–140°F),
Storage Temperature	-20°C–70°C (-4°F–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 1s
Insulation Resistance	>10MΩ @ 500VDC
Heat Dissipation	4.7 W
Enclosure Type	Open equipment
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 ***ZIP***Link wiring system or optional terminal block. See Wiring Solutions.
Terminal Type (not included)	20-position removable terminal block
Weight	105g (3.73 oz)
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.

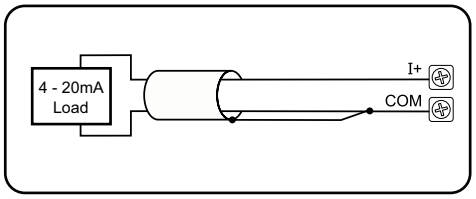
***Meets EMC and Safety requirements. See the Declaration of Conformity for details.**

Analog Output Modules

P3-08DA-1 (cont'd)



Current Source Output Circuit



Note: Shield is connected to common at the source device.

Analog Output Modules

P3-08DA-2 $725.00

Voltage Analog Output
The P3-08DA-2 Voltage Analog Output Module provides eight channels of ±10 VDC sinking/sourcing outputs.

Patent-pending LCD gives access to field signal values, as well as module and signal faults.

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

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 N·m) Self-jacking screws - 2.7–3.6 in·lb (0.3–0.4 N·m). Do not overtighten screws when installing terminal block.

We recommend using prewired ***ZIP***Link cables and connection modules. See Wiring Solutions.

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

Output Specifications	
Output Channels	8
Module Signal Output Range	±10VDC
Output Signal Resolution	16-bit
Resolution Value of LSB (least significant bit)	±10V = 305µv/count 1 LSB = 1 count
Data range	-32768 to +32767
Output Type (sourcing/sinking)	Voltage (10mA max current)
Output Value in Fault Mode	0V
Load Impedance	≤1000Ω
Maximum Capacitive Load	0.01 µF maximum
Allowed Load Type	Grounded
Maximum Inaccuracy	0.1% of range (including temperature drift)
Maximum Full Scale Calibration Error (not including offset error)	±0.025% of range maximum
Maximum Offset Calibration Error	±0.025% of range maximum
Accuracy vs. Temperature	±25PPM/ °C maximum full scale calibration change (± 0.0025% of range / °C)
Max Crosstalk	-96dB, 1 LSB
Linearity Error (End to End)	±16 LSB maximum (±0.025% of full scale) Monotonic with no missing codes
Output Stability and Repeatability	±10 LSB after 10 min. warm-up (typical)
Output Ripple	0.05% of full-scale
Output Settling Time	0.3 ms max., 5µs min. (full scale change)
All Channel Update Rate (typical)	0.6 ms
Maximum Continuous Overload	Outputs current limited to 40mA typical Continuous overloads on multiple outputs can damage the module.
Type of Output Protection	0.1 µf Transient Suppressor
Output Signal (power-up, -down)	0V
External DC Power Required	24VDC (-20% / + 25%), 120mA

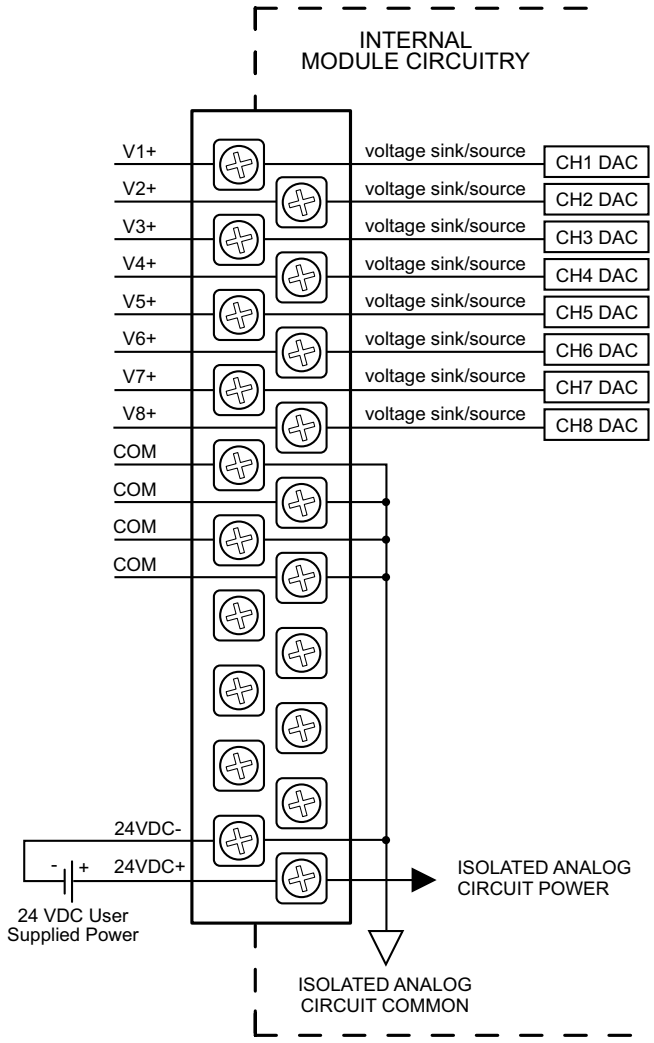
General Specifications	
Operating Temperature	0°C– 60°C (32°F–140°F),
Storage Temperature	-20°C–70°C (-4°F–158°F)
Humidity	5 to 95% (non-condensing)
Environmental Air	No corrosive gases permitted
Vibration	IEC60068-2-6 (Test Fc)
Shock	IEC60068-2-27 (Test Ea)
Field to Logic Side Isolation	1800VAC applied for 1s
Insulation Resistance	>10MΩ @ 500VDC
Heat Dissipation	3.3 W
Enclosure Type	Open equipment
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 ***ZIP***Link wiring system or optional terminal block. See Wiring Solutions.
Terminal Type (not included)	20-position removable terminal block
Weight	105g (3.73 oz)
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.

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

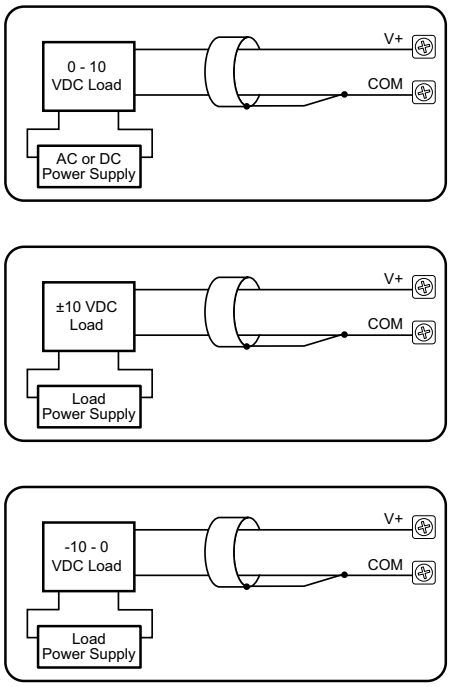
WARNING: *EXPLOSION HAZARD – SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.*

Analog Output Modules

P3-08DA-2 (cont'd)



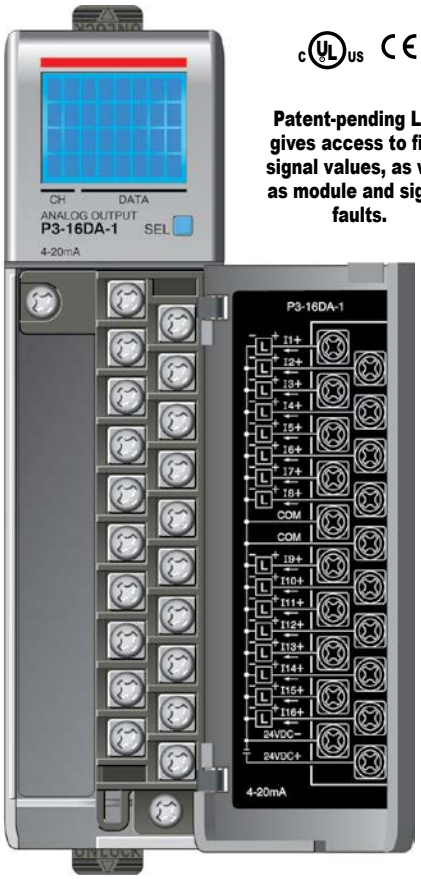
Voltage Output Circuits



Analog Output Modules

P3-16DA-1 $929.00

Current Analog Output
The P3-16DA-1 Current Analog Output Module provides sixteen channels of 4–20 mA sourcing outputs.



Patent-pending LCD gives access to field signal values, as well as module and signal faults.

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

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 N·m) Self-jacking screws - 2.7–3.6 in·lb (0.3–0.4 N·m). Do not overtighten screws when installing terminal block.

We recommend using prewired ***ZIP***Link cables and connection modules. See Wiring Solutions.

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

WARNING: *EXPLOSION HAZARD – SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.*

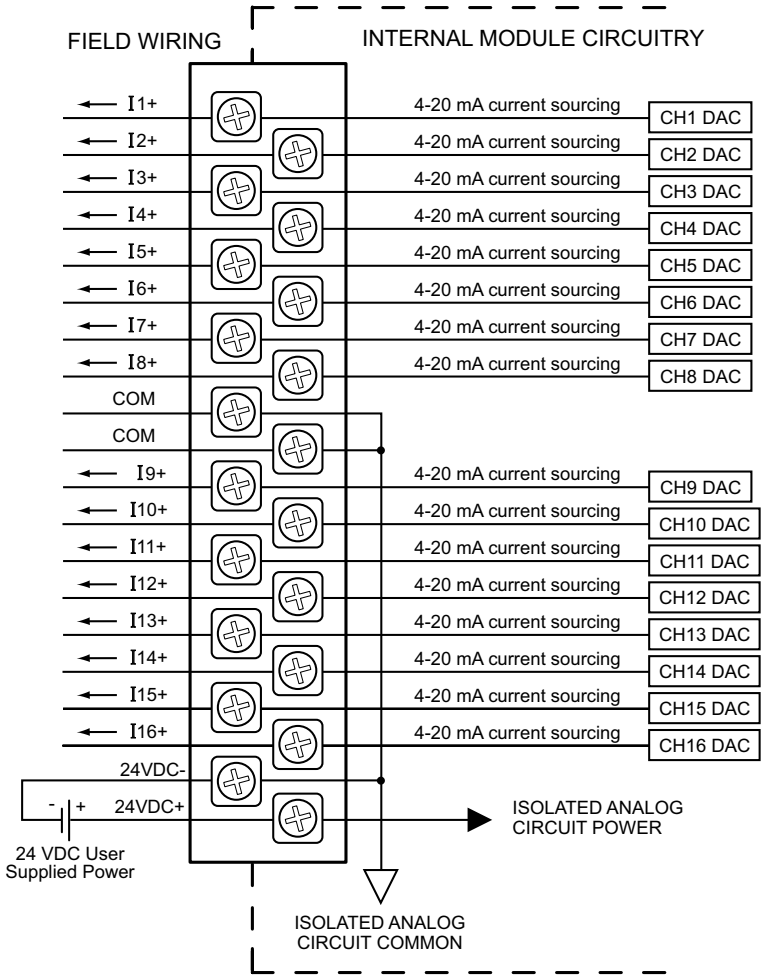
Output Specifications	
Output Channels	16 (non-isolated)
Module Signal Output Range	4–20mA
Output Signal Resolution	16-bit
Resolution Value of LSB (least significant bit)	4–20mA = 0.244 µA/count 1 LSB = 1 count
Data Range	0 to 65535 counts
Output Value in Fault Mode	Less than 4mA
Load Impedance (Minimum External Power Supply)	0–570Ω (19.2 VDC) 0–690Ω (21.6 VDC) 0–810Ω (24.0 VDC) 0–930Ω (26.4 VDC) 0–1100Ω (30.0 VDC) Minimum Load 0Ω 0–45°C, 125Ω 45–60°C, ambient
Maximum Inductive Load	1 mH
Allowed Load Type	Grounded
Maximum Inaccuracy	0.1% of range (including temperature drift)
Maximum Full Scale Calibration Error (not including offset error)	±0.025% of range maximum
Maximum Offset Calibration Error	±0.025% of range maximum
Accuracy vs. Temperature	±25PPM/ °C maximum full scale calibration change (± 0.0025% of range / °C)
Max Crosstalk	-96dB, 1 LSB
Linearity Error (end to end)	±16 LSB maximum (±0.025% of full scale) monotonic with no missing codes
Output Stability and Repeatability	±10 LSB after 10 min. warm-up (typical)
Output Ripple	0.05% of full scale
Output Settling Time	0.3 ms max., 5µs min. (full scale change)
All Channel Update Rate	0.6 ms
Maximum Continuous Overload	Outputs open circuit protected
Type of Output Protection	Electronically current limited to 20mA or less
Output Signal at Power-up and Power-down	4mA
External DC Power Required	24VDC (-20% / + 25%), 356mA

General Specifications	
Operating Temperature	0°C– 60°C (32°F–140°F),
Storage Temperature	-20°C–70°C (-4°F–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 1s
Insulation Resistance	>10MΩ @ 500VDC
Heat Dissipation	9.0 W
Enclosure Type	Open equipment
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 ***ZIP***Link wiring system or optional terminal block. See Wiring Solutions.
Terminal Type (not included)	20-position removable terminal block
Weight	105g (3.73 oz)
Agency Approvals	UL508 and UL1604 (Certified for Canada and USA) CE (EN61131-2:2003) This equipment is suitable for use in Class I, Division 2/Zone 2, Groups A, B, C, and D or non-hazardous locations only.

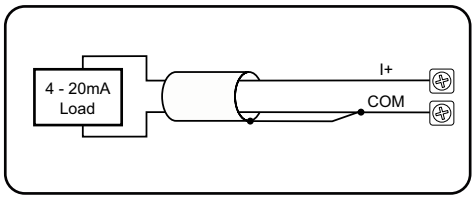
***Meets EMC and Safety requirements. See the Declaration of Conformity for details.**

Analog Output Modules

P3-16DA-1 (cont'd)



Current Source Output Circuit



NOTE: Shield is connected to common at the source device.

Analog Output Modules

P3-16DA-2 $911.00

Voltage Analog Output
The P3-16DA-2 Voltage Analog Output Module provides sixteen channels of ±10VDC outputs.

Patent-pending LCD gives access to field signal values, as well as module and signal faults.

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

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 N·m) Self-jacking screws - 2.7–3.6 in·lb (0.3–0.4 N·m). Do not overtighten screws when installing terminal block.

We recommend using prewired ***ZIP***Link cables and connection modules. See Wiring Solutions.

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

WARNING: *EXPLOSION HAZARD – SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.*

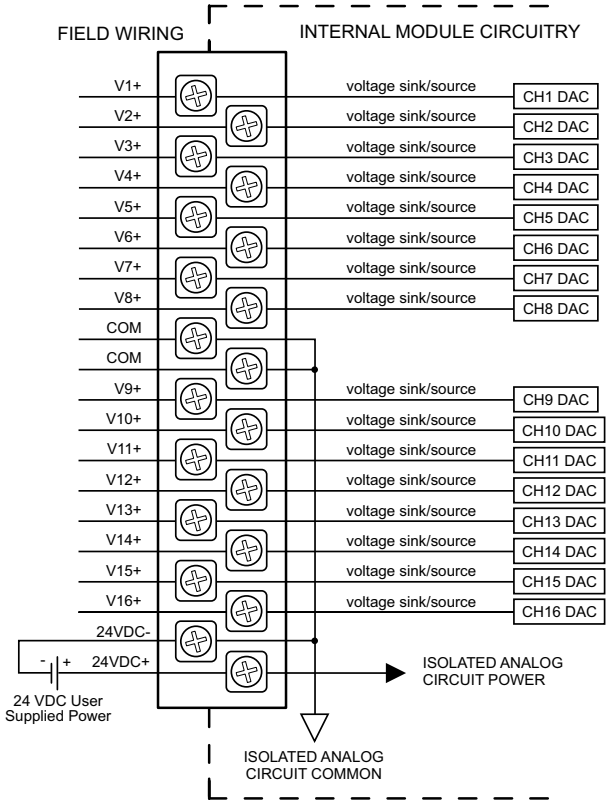
Output Specifications	
Output Channels	16
Module Signal Output Range	±10VDC
Output Signal Resolution	16-bit
Resolution Value of LSB (least significant bit)	±10V = 305µV/count 1 LSB = 1 count
Data Range	-32768 to +32767
Output type (sourcing/sinking)	Voltage (10mA max current)
Output Value in Fault Mode	0V
Output Impedance	0.2 Ω typical
Load Impedance	≤1000Ω
Maximum Capacitive Load	0.01 µF maximum
Allowed Load Type	Grounded
Maximum Inaccuracy	0.1% of range (including temperature drift)
Maximum Full Scale Calibration Error (not including offset error)	±0.025% of range maximum
Maximum Offset Calibration Error	±0.025% of range maximum
Accuracy vs. Temperature	±25PPM/ °C maximum f.s. calibration change (± 0.0025% of range / °C)
Max Crosstalk	-96dB, 1 LSB
Linearity Error (end to end)	±16 LSB maximum (±0.025% of full scale) Monotonic with no missing codes
Output Stability and Repeatability	±10 LSB after 10 min. warm-up (typical)
Output Ripple	0.05% of full scale
Output Settling Time	0.3 ms max, 5µs min. (full scale change)
All Channel Update Rate	0.6 ms
Maximum Continuous Overload	Outputs current limited to 40mA typical Continuous overloads on multiple outputs can damage the module.
Type of Output Protection	0.1 µF Transient Suppressor
External DC Power Required	24VDC (-20% / + 25%), 252mA

General Specifications	
Operating Temperature	0°C– 60°C (32°F–140°F),
Storage Temperature	-20ºC–70ºC (-4ºF–158ºF)
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 1s
Insulation Resistance	>10MΩ @ 500VDC
Heat Dissipation	6.4 W
Enclosure Type	Open equipment
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 ***ZIP***Link wiring system or optional terminal block. See Wiring Solutions.
Terminal Type (not included)	20-position removable terminal block
Weight	105g (3.73 oz)
Agency Approvals	UL508 and UL1604 (Certified for Canada and USA) CE (EN61131-2*) This equipment is suitable for use in Class I, Division 2/Zone 2, Groups A, B, C, and D or non-hazardous locations only.

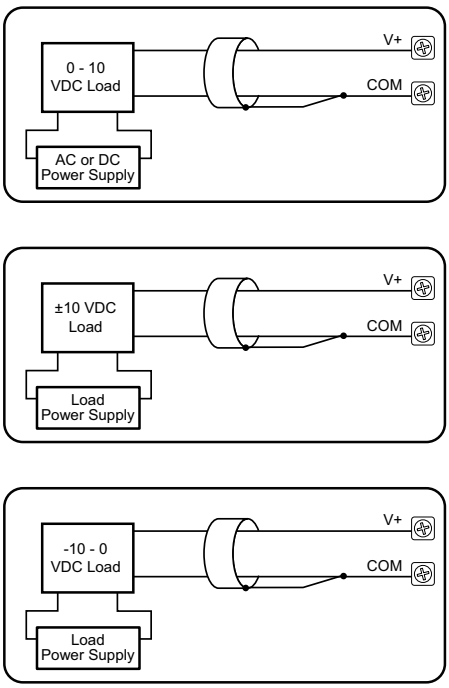
***Meets EMC and Safety requirements. See the Declaration of Conformity for details.**

Analog Output Modules

P3-16DA-2 (cont'd)



Voltage Output Circuits



Analog Input/Output Modules

P3-8AD4DA-1 $598.00

Current Analog Input/Output

The P3-8AD4DA-1 Current Analog Input/ Output Module provides eight channels of current sinking 0–20 mA inputs and four channels of current sourcing 4–20 mA outputs.

Patent-pending LCD gives access to field signal values, as well as module and signal faults.

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

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 N·m) Self-jacking screws - 2.7–3.6 in·lb (0.3–0.4 N·m). Do not overtighten screws when installing terminal block.

We recommend using prewired ***ZIP***Link cables and connection modules. See Wiring Solutions.

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

Input Specifications	
Input channels	8 (1 common)
Module Signal Input Range	0–20mA
Signal Resolution	12–16-bit, depending on input resolution
Input Resolution & Update Rate See Note 1	Fine: 7.1 ms, 0.305 µA, 16-bit Medium: 1.78 ms, 1.22 µA, 14-bit Coarse: 444µs, 4.88 µA, 12-bit
Data Range	0–65535 counts
Input Type	Single Ended (one common)
Maximum Continuous Overload	±31mA
Input Impedance	250Ω ±0.1% ¼W
Hardware Filter Characteristics	Low pass 1st order, -3dB @ 48Hz
All Channel Update Rate See Note 2	Fine: 56.8 ms Medium: 14.24 ms Coarse: 3.55 ms
All Channel Update Rate	56.8 ms
Open Circuit Detection Time	Zero reading within 1s
Conversion Method	Successive approximation
Accuracy vs. Temperature	±15PPM / °C maximum
Maximum Inaccuracy	0.1% of range
Linearity Error (end to end)	0.015% of range maximum Monotonic with no missing codes
Input Stability and Repeatability	±0.015% of range (after 10 min. warm up)
Full Scale Calibration Error (not including offset)	±0.05% of range maximum
Offset Calibration Error	±.0.05% of range maximum
Maximum Crosstalk	-96dB ±1 - 0.015% of full scale maximum
Recommended Fuse (external)	Edison S500-32-R, 0.032 A fuse
External DC Power Required	24VDC (-20% / + 25%), 183mA maximum

Note 1: The Input Resolution of Fine returns 16-bit resolution. Medium and Coarse are 14 and 12-bit respectively. The 12 and 14-bit input values are scaled to 0-65535.
Note 2: Valid when all channels are set for the same Input Resolution.

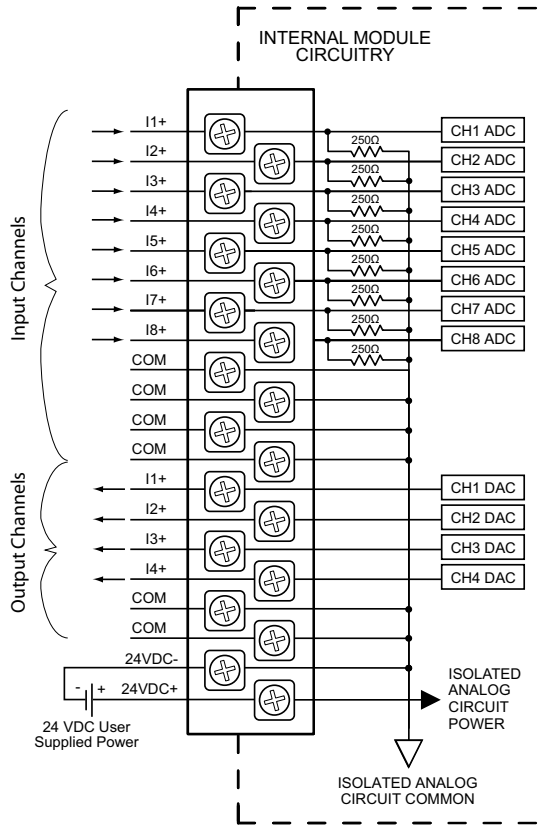
Output Specifications		
Outputs per module	4 (1 common)	
Module signal output range	4–20mA	
Output Signal resolution	16-bit	
Resolution Value of LSB (least significant bit)	0.244 µA/count 1 LSB = 1 count	
Data Range	0–65535 counts	
Output Type	Current sourcing, 20mA max	
Output Value in Fault Mode	≤4mA	
Load Impedance (Minimum Ext. Power Supply)	0–480Ω (19.2 VDC) 0–600Ω (21.6 VDC) 0–715Ω (24.0 VDC)	0–840Ω (26.4 VDC) 0–1010Ω (30.0 VDC)
Maximum Inductive Load	1mH	
Allowed Load Type	Grounded	
Maximum Inaccuracy	±0.1% of range	
Maximum Full Scale Calibration Error (not including offset error)	±0.065% of full scale	
Maximum Offset Calibration Error	±0.065% of full scale	
Accuracy vs. Temperature	±15PPM/ °C maximum full scale calibration change (± 0.025% of range / °C)	
Maximum Crosstalk	-96dB	
Linearity Error (end to end)	±0.015% of range maximum Monotonic with no missing codes	
Output Stability and Repeatability	±0.015% after 10 min. warm-up typical	
Output Ripple	0.01% of Full Scale at 50/60 Hz	
Output Settling Time	Rising Time 200µs; Falling Time 135µs; (full scale change)	
All Channel Update Rate	3.55 ms	
Maximum Continuous Overload	Outputs open circuit protected	
Type of Output Protection	Electronically current limited to 20mA or less	
Output Signal (power-up, -down)	m 4mA	

Analog Input/Output Modules

P3-8AD4DA-1 (cont'd)

General Specifications	
Operating Temperature	0°C– 60°C (32°F–140°F),
Storage Temperature	-20ºC–70ºC (-4ºF–158ºF)
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 1s
Insulation Resistance	>10MΩ @ 500VDC
Heat Dissipation	3.8 W
Enclosure Type	Open equipment
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 ***ZIP***Link wiring system or optional terminal block. See Wiring Solutions.
Terminal Type (not included)	20-position removable terminal block
Weight	106.9 g (3.76 oz)
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.

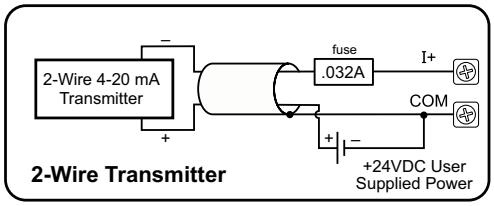
***Meets EMC and Safety requirements. See the Declaration of Conformity for details.**



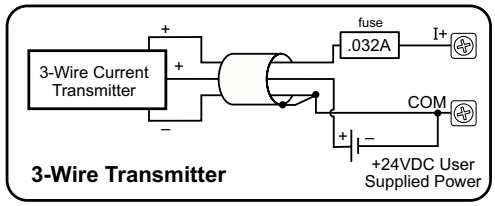
Note: This module includes input and output channels. Before connecting field wiring, verify that you are connecting to the appropriate terminals.

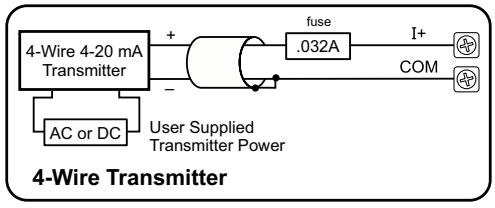
WARNING: *EXPLOSION HAZARD – SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.*

Current Input Circuits



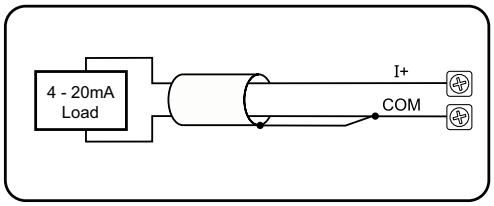
An Edison S500-32-R 0.032A fast-acting fuse is recommended for all current loops.





Note: Do not connect both ends of shield.

Current Output Circuits



Note: Shield is connected to common at the source device.

Analog Input/Output Modules

P3-8AD4DA-2 $617.00

Voltage Analog Input/Output

The P3-8AD4DA-2 Voltage Analog Input/ Output Module provides eight channels of 0-5 VDC and 0-10 VDC inputs and four channels of 0-5 VDC and 0-10 VDC outputs.

Patent-pending LCD gives access to field signal values, as well as module and signal faults.

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

Input Specifications	
Input channels	8 inputs (1 common)
Input ranges	0–5V, 0–10V
Signal resolution	12–16-bit, depending on input resolution
0-5 V Input Resolution & Update Rate See Note 1	Fine: 7.1 ms, 76µV, 16-bit Medium: 1.78 ms, 305µV, 14-bit Coarse: 444µs, 1.22 mV, 12-bit
0-10 V Input Resolution & Update Rate See Note 1	Fine: 7.1 ms, 152µV, 16-bit Medium: 1.78 ms, 610µV, 14-bit Coarse: 444µs, 2.44 mV, 12-bit
Data Range	0–65535 counts
Maximum continuous overload	±100V, voltage input
Input impedance	1MΩ (± 10%) voltage input
Hardware Filter Characteristics	Low pass 1st order, -3dB @ 80Hz
All Channel Update Rate See Note 2	Fine: 56.8 ms Medium: 14.24 ms Coarse: 3.55 ms
Conversion Method	Successive Approximation
Accuracy vs. Temperature	±15PPM / °C maximum
Maximum Inaccuracy	0.1% of range
Linearity Error (end to end)	±0.015% of range maximum Monotonic with no missing codes
Input Stability and Repeatability	± 0.025% of range (after 10 min. warm up)
Full Scale Calibr. Error (minus offset)	±0.05% of range maximum
Offset Calibration Error	±0.05% of range maximum
Max Crosstalk	-96dB
External DC Power Required	24VDC (-20% / + 25%), 90mA maximum

Note 1: The Input Resolution of Fine returns 16-bit resolution. Medium and Coarse are 14 and 12-bit respectively. The 12 and 14-bit input values are scaled to 0-65535.
Note 2: Valid when all channels are set for the same Input Resolution.

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 N·m) Self-jacking screws - 2.7–3.6 in·lb (0.3–0.4 N·m). Do not overtighten screws when installing terminal block.

We recommend using prewired ***ZIP***Link cables and connection modules. See Wiring Solutions.

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

Output Specifications	
Output channels	4 (1 common)
Output ranges	0–10V, 0–5V
Output Signal resolution	16-bit
Resolution Value of LSB (least significant bit)	0–5V = 76µV/count 0–10V = 152µV/count 1 LSB = 1 count
Data Range	0–65535 counts
Output Type	Voltage sourcing/sinking at 10mA max.
Output Value in Fault Mode	0V
Load Impedance	≤1125Ω
Maximum capacitive load	0.01 µF maximum
Allowed Load Type	Grounded
Maximum Inaccuracy	0.1% of range
Maximum Full Scale Calibration Error (not including offset error)	±0.065% of range maximum
Maximum Offset Calibration Error	±0.065% of range maximum
Accuracy vs. Temperature	±25PPM/ °C maximum full scale calibration change (± 0.0025% of range / °C)
Max Crosstalk	-96dB
Linearity Error (end to end)	0.015% of full scale Monotonic with no missing codes
Output Stability and Repeatability	±0.015% after 10 min. warm-up typical
Output Ripple	0.01% of Full Scale at 50/60 Hz
Output Settling Time	0.5 ms max, 5µs min. (full scale change)
All Channel Update Rate	5ms
Maximum Continuous Overload	Outputs current limited to 15mA typical
Type of Output Protection	15VDC peak output voltage
Output Signal (power-up, -down)	0V

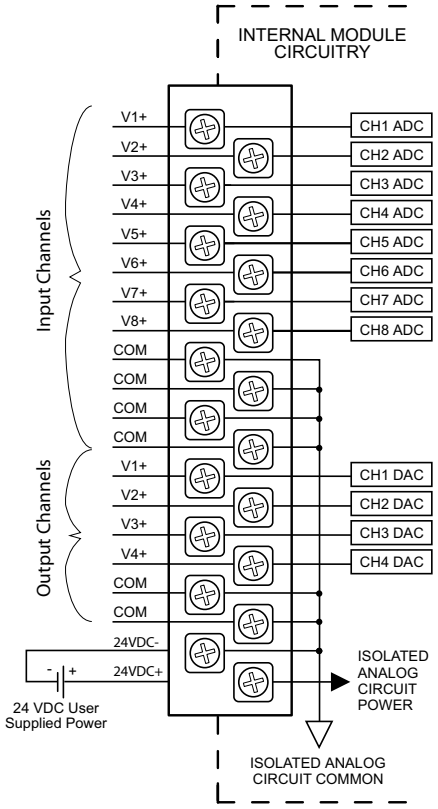
Analog Input/Output Modules

P3-8AD4DA-2 (cont'd)

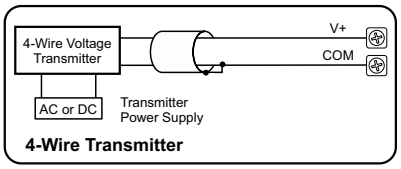
General Specifications	
Operating Temperature	0°C– 60°C (32°F–140°F),
Storage Temperature	-20ºC–70ºC (-4ºF–158ºF)
Humidity	5 to 95% (non-condensing)
Environmental Air	No corrosive gases permitted
Vibration	IEC60068-2-6 (Test Fc)
Shock	IEC60068-2-27 (Test Ea)
Field to Logic Side Isolation	1800VAC applied for 1s
Insulation Resistance	>10MΩ @ 500 VDC
Heat Dissipation	2.5 W
Enclosure Type	Open equipment
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 ***ZIP***Link wiring system or optional terminal block. See Wiring Solutions.
Terminal Type (not included)	20-position removable terminal block
Weight	105g (3.73 oz)
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.

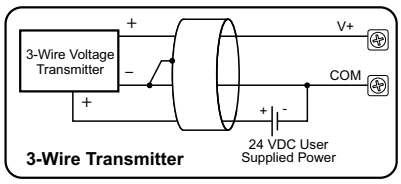
***Meets EMC and Safety requirements. See the Declaration of Conformity for details.**

WARNING: *EXPLOSION HAZARD – SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.*

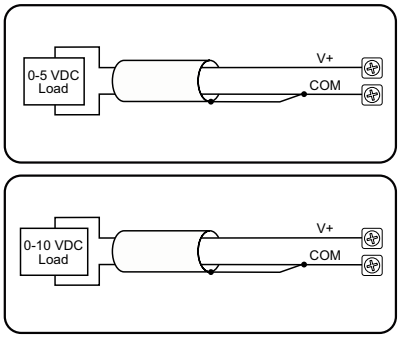


Voltage Input Circuits





Voltage Output Circuits



Note: This module includes input and output channels. Before connecting field wiring, verify that you are connecting to the appropriate terminals.

Wiring Solutions

Wiring Solutions using the *ZIP*Link wiring system

ZIPLinks eliminate the normally tedious process of wiring between devices by utilizing prewired cables and DIN rail mount connector modules. It's as simple as plugging in a cable connector at either end or terminating wires at only one end. Prewired cables keep installation clean and efficient, using half the space at a fraction of the cost of standard terminal blocks. There are several wiring solutions available when using the ***ZIP***Link System ranging from PLC I/O-to-***ZIP***Link Connector Modules that are ready for field termination, options for connecting to third party devices, GS, DuraPulse and SureServo Drives, and specialty relay, transorb and communications modules. Pre-printed I/O-specific adhesive label strips for quick marking of ***ZIP***Link modules are provided with ***ZIP***Link cables. See the following solutions to help determine the best ***ZIP***Link system for your application.

Solution 1: Productivity Series I/O Modules to ZIPLink Connector Modules

When looking for quick and easy I/O-to-field termination, a ***ZIP***Link connector module used in conjunction with a prewired ***ZIP***Link cable, consisting of an I/O terminal block at one end and a multi-pin connector at the other end, is the best solution.

Using the PLC I/O Modules to ***ZIP***Link Connector Modules selector tables located in this section,

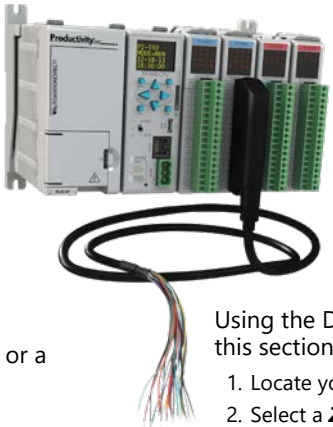
1. Locate your I/O module/PLC.
2. Select a ***ZIP***Link Module.
3. Select a corresponding ***ZIP***Link Cable.

Solution 2: Productivity Series I/O Modules to ZIPLink Connector Modules

When wanting to connect I/O to another device within close proximity of the I/O modules, no extra terminal blocks are necessary when using the ***ZIP***Link Pigtail Cables. ***ZIP***Link Pigtail Cables are prewired to an I/O terminal block with color-coded pigtail with soldered-tip wires on the other end.

Using the I/O Modules to 3rd Party Devices selector tables located in this section,

1. Locate your PLC I/O module.
2. Select a ***ZIP***Link Pigtail Cable that is compatible with your 3rd party device.



Solution 3: GS Series and DuraPulse Drives Communication Cables

Need to communicate via Modbus RTU to a drive or a network of drives?

ZIPLink cables are available in a wide range of configurations for connecting to PLCs and SureServo, SureStep, Stellar Soft Starter and AC drives. Add a ***ZIP***Link communications module to quickly and easily set up a multi-device network.

Using the Drives Communication selector tables located in this section,

1. Locate your Drive and type of communications.
2. Select a ***ZIP***Link cable and other associated hardware.

Wiring Solutions

Solution 4: Serial Communications Cables

ZIPLink offers communications cables for use with DirectLOGIC, CLICK, and Productivity3000 CPUs, that can also be used with other communications devices. Connections include a 6-pin RJ12 or 9-pin, 15-pin and 25-pin D-sub connectors which can be used in conjunction with the RJ12 or D-Sub Feedthrough modules.

Using the Serial Communications Cables selector table located in this section,

1. Locate your connector type
2. Select a cable.

Solution 5: Specialty ZIPLink Modules

For additional application solutions, ***ZIP***Link modules are available in a variety of configurations including stand-alone relays, 24VDC and 120VAC transorb modules, D-sub and RJ12 feedthrough modules, communication port adapter and distribution modules, and SureServo 50-pin I/O interface connection.

Using the ***ZIP***Link Specialty Modules selector table located in this section,

1. Locate the type of application.
2. Select a ***ZIP***Link module.

Solution 6: ZIPLink Connector Modules to 3rd Party Devices

If you need a way to connect your device to terminal blocks without all that wiring time, then our pigtail cables with color-coded soldered-tip wires are a good solution. Used in conjunction with any compatible ***ZIP***Link Connector Modules, a pigtail cable keeps wiring clean and easy and reduces troubleshooting time.

Using the Universal Connector Modules and Pigtail Cables table located in this section,

1. Select module type.
2. Select the number of pins.
3. Select cable.

CPU I/O Modules to ZIPLink Connector Modules - Productivity3000®

Productivity3000 CPU Input Module *ZIP*Link Selector

CPU		ZIPLink		
Input Module	# of Terms	Component	Module Part No.	Cable Part No.
P3-08NAS	20	Feedthrough	ZL-RTB20	ZL-P3-CBL20 *
P3-08ND3S	20	Feedthrough		
P3-16NA	20	Feedthrough		ZL-P3-CBL20-1L ZL-P3-CBL20-2L
P3-16ND3	20	Feedthrough		
		Sensor	ZL-LTB16-24-1	
P3-32ND3	40	Feedthrough	ZL-RTB40	ZL-CBL40 ZL-CBL40-1 ZL-CBL40-2
		Sensor	ZL-LTB32-24-1	
P3-64ND31	40	Feedthrough	ZL-RTB40	
		Sensor	ZL-LTB32-24-1	

Productivity3000 CPU Analog In Module *ZIP*Link Selector

CPU		ZIPLink		
Analog Module	# of Terms	Component	Module	Cable
P3-04ADS	20	Feedthrough	ZL-RTB20	ZL-P3-CBL20-1L ZL-P3-CBL20-2L
P3-08AD	20	Feedthrough		
P3-16AD-1	20	Feedthrough		
P3-16AD-2	20	Feedthrough		
P3-08RTD[2]	Matched Only	See Note 2		
P3-08THM[2]	T/C Wire Only	See Note 2		
P3-04DA	20	Feedthrough	ZL-RTB20	ZL-P3-CBL20-1L ZL-P3-CBL20-2L
P3-08DA-1	20	Feedthrough		
P3-08DA-2	20	Feedthrough		
P3-16DA-1	20	Feedthrough		
P3-16DA-2	20	Feedthrough		
P3-8AD4DA-1	20	Feedthrough		
P3-8AD4DA-2	20	Feedthrough		

Productivity3000 CPU Specialty Module *ZIP*Link Selector

CPU		ZIPLink		
Input Module	# of Terms	Component	Module Part No.	Cable Part No.
P3-HSI	40	Feedthrough	ZL-RTB40	ZL-CBL40-S ZL-CBL40-1S ZL-CBL40-2S
P3-HSO				

Note: ***ZIP***Link Connector Modules specifications follow the Compatibility Matrix tables. ***ZIP***Link Cables specifications are at the end of this ***ZIP***Link section.

Productivity3000 CPU Output Module *ZIP*Link Selector

CPU		ZIPLink		
Output Module	# of Terms	Component	Module Part No.	Cable Part No.
P3-08TAS	20	Feedthrough	ZL-RTB20	ZL-P3-CBL20 *
P3-08TD1S	20	Feedthrough		ZL-P3-CBL20-1L ZL-P3-CBL20-2L
P3-08TD2S	20	Feedthrough		
P3-08TRS	20	Feedthrough		ZL-P3-CBL20 ZL-P3-CBL20-1 ZL-P3-CBL20-2
P3-16TA	20	Feedthrough		
		Fuse		
P3-16TD1	20	Feedthrough		
		Fuse	ZL-RFU20[4]	
		Relay (sinking)	ZL-RRL16-24-1	
P3-16TD2	20	Feedthrough	ZL-RTB20	
		Fuse	ZL-RFU20[4]	
		Relay (sourcing)	ZL-RRL16-24-2	
P3-16TR	20	Feedthrough	ZL-RTB20	
		Fuse	ZL-RFU20[4]	
P3-08TRS-1[3]	20	Feedthrough	ZL-RTB20	
		Fuse	ZL-RFU20[4]	
P3-32TD1	40	Feedthrough	ZL-RTB40	ZL-CBL40 ZL-CBL40-1 ZL-CBL40-2
		Fuse	ZL-RFU40[4]	
P3-32TD2	40	Feedthrough	ZL-RTB40	
		Fuse	ZL-RFU40[4]	
P3-64TD1[1]	40	Feedthrough	ZL-RTB40	
		Fuse	ZL-RFU40[4]	
P3-64TD2[1]	40	Feedthrough	ZL-RTB40	
		Fuse	ZL-RFU40[4]	

** Select the cable length by replacing the * with: Blank = 0.5m, -1 = 1.0m, or -2 = 2.0m.*

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

2 These modules are not supported by the ZIPLink wiring system.

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

4 Note: Fuses (5 x 20 mm) are not included. See Edison Electronic Fuse section for (5 x 20 mm) fuse. S500 and GMA electronic circuit protection for fast-acting maximum protection. S506 and GMC electronic circuit protection for time-delay performance. Ideal for inductive circuits.
To ensure proper operation, do not exceed the voltage and current rating of ZIPLink module. ZL-RFU20 = 2A per circuit; ZL-RFU40 = 400 mA per circuit.

I/O Modules

A variety of discrete, analog and specialty 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	$197.00
P3-08ND3S	8	Isolated Sinking/Sourcing DC Input	$99.00
P3-16ND3	16	Sinking/Sourcing DC Input	$152.00
P3-32ND3	32	Sinking/Sourcing DC Input	$208.00
P3-64ND3	64	Sinking/Sourcing DC Input	$260.00
P3-08NAS	8	Isolated AC Input	$126.00
P3-16NA	16	AC Input	$159.00

*ZIPLink required.

Analog I/O Modules

Productivity3000 Analog Input Modules			
Part Number	**Number of Channels**	**Description**	**Price**
P3-04ADS	4	Isolated Analog Input	$724.00
P3-08AD	8	Analog Input	$393.00
P3-16AD-1	16	Analog Input (Current)	$535.00
P3-16AD-2	16	Analog Input (Voltage)	$524.00
P3-08RTD	8	Analog RTD Input	$581.00
P3-08THM	8	Analog Thermocouple Input	$736.00

Productivity3000 Analog Output Modules			
Part Number	**Number of Channels**	**Description**	**Price**
P3-04DA	4	Analog Output	$449.00
P3-08DA-1	8	Analog Output (Current)	$779.00
P3-08DA-2	8	Analog Output (Voltage)	$725.00
P3-16DA-1	16	Analog Output (Current)	$929.00
P3-16DA-2	16	Analog Output (Voltage)	$911.00

Productivity3000 Analog Input/Output Modules			
Part Number	**Number of Channels**	**Description**	**Price**
P3-8AD4DA-1	8/4	Analog Input/Output (Current)	$598.00
P3-8AD4DA-2	8/4	Analog Input/Output (Voltage)	$617.00

Specialty Modules

Productivity3000 Specialty Modules			
Part Number	**Number of Channels**	**Description**	**Price**
P3-HSI	2	High-Speed Pulse Input	$563.00
P3-HSO*	2	High-Speed Output	$587.00
P3-SCM	4 ports	Serial Communications Module	$475.00

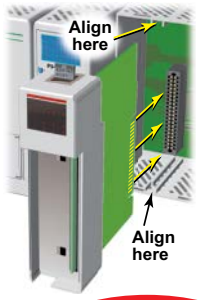
*ZIPLink required.

Discrete Output Modules

Productivity3000 Discrete Output Modules			
Part Number	**Number of Outputs**	**Description**	**Price**
P3-08TD1S	8	Isolated Sinking Output	$135.00
P3-08TD2S	8	Isolated Sourcing Output	$141.00
P3-16TD1	16	Sinking Output	$162.00
P3-16TD2	16	Sourcing Output	$167.00
P3-32TD1*	32	Sinking Output	$208.00
P3-32TD2*	32	Sourcing Output	$208.00
P3-64TD1*	*64	Sinking Output	$280.00
P3-64TD2*	*64	Sourcing Output	$265.00
P3-08TAS	8	Isolated AC Output	$177.00
P3-16TA	16	AC Output	$210.00
P3-08TRS	8	Isolated Relay Output	$159.00
P3-08TRS-1	8	Isolated Relay Output	$194.00
P3-16TR	16	Relay Output	$177.00

*ZIPLink required.

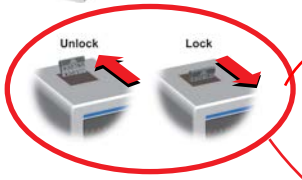
Module Installation Procedure



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 ***ZIP***Link 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.*