# **DC Output Modules**

## P3-32TD1

\$208.00

#### Sinking Output

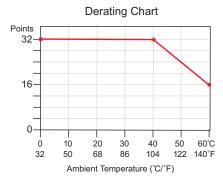
The P3-32TD1 DC Output Module provides thirty-two 6-27 VDC sinking outputs with four isolated commons.







No terminal block sold for this module; ZIPLink required.



Output Specifications				
Outputs per Module		32 (sinking)		
Operating Voltage Range	CE	6.25-24 VDC (-15% / + 20%)		
(Tolerance)	UL	6–27 VDC (-15% / +10%)		
Maximum Output Current @	Temp	0.3 A / point, 2.4 A / common @ 60°C		
Minimum Output Current		0.4 mA		
Maximum Leakage Current		0.3 mA @ 30VDC		
On Voltage Drop		0.3 VDC @ 0.3 A		
Maximum Inrush Current		0.5 A for 10 ms		
OFF to ON Response		m 0.2 ms		
ON to OFF Response		m 0.3 ms		
Connector Type		40-pin IDC		
Status Indicators		Logic Side (32 points)		
Commons		4 Isolated (8 points / common)		
External DC Power Required		24VDC ±10% @ 250mA		

0			
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	1500VAC applied for 1 minute		
Insulation Resistance	>10MΩ @ 500VDC		
Heat Dissipation	10.74 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	Use <b>ZIP</b> Link wiring system. See Wiring Solutions.		
Weight	110g (3.88 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.

Connector Specifications			
Connector Type IDC style header with latch, Omron XG4A-4034			
Number of Pins	40 point		
Pitch	0.1 in. (2.54 mm)		

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

See Wiring Solutions for part numbers of *ZIP*Link cables and connection modules required with this I/O module.



# **DC Output Modules**

**Single Power Source** 

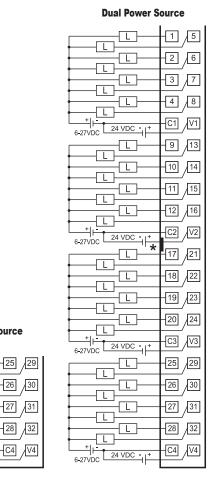
24 VDC +

C4

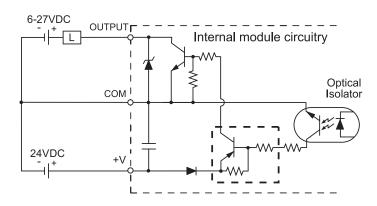
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# P3-32TD1 (cont'd)

Wiring Diagrams



\*Denotes key location of all associated ZIPLink cables.





# Wiring Solutions

## Wiring Solutions using the **ZIP**Link wiring system

**ZIP**Links 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?

**ZIP**Link 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 multidevice 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

**ZIP**Link 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®

Produ	Productivity3000 CPU Input Module ZIPLink Selector				
CP	U		ZIPLink		
Input Module	# of Terms	Component	Module Part No.	Cable Part No.	
P3-08NAS	20	Feedthrough		71 D2 CD1 20 *	
P3-08ND3S	20	Feedthrough	ZL-RTB20	ZL-P3-CBL20 *	
P3-16NA	20	Feedthrough	ZL-RTBZ0	ZL-P3-CBL20-1L - ZL-P3-CBL20-2L	
P3-16ND3	20	Feedthrough			
P3-10NU3		Sensor	ZL-LTB16-24-1		
P3-32ND3	40	Feedthrough	ZL-RTB40		
P3-32ND3	40	Sensor	ZL-LTB32-24-1	ZL-CBL40 ZL-CBL40-1	
P3-64ND31	40	Feedthrough	ZL-RTB40	ZL-CBL40-1 ZL-CBL40-2	
F 0-04ND01	40	Sensor	ZL-LTB32-24-1		

Productivity3000 CPU Analog In Module ZIPLink Selector				
CP	U		ZIPLink	
Analog Module	# of Terms	Component	Module	Cable
P3-04ADS	20	Feedthrough		
P3-08AD	20	Feedthrough	ZI DTD20	ZL-P3-CBL20
P3-16AD-1	20	Feedthrough	ZL-RTB20	ZL-P3-CBL20-1L
P3-16AD-2	20	Feedthrough		
<u>P3-08RTD</u> <sup>2</sup>	Matched Only	See Note 2		
<u>P3-08THM</u> <sup>2</sup>	T/C Wire Only	See Note 2		
<u>P3-04DA</u>	20	Feedthrough		
P3-08DA-1	20	Feedthrough		
P3-08DA-2	20	Feedthrough		
P3-16DA-1	20	Feedthrough	ZL-RTB20	ZL-P3-CBL20-1L ZL-P3-CBL20-2L
P3-16DA-2	20	Feedthrough		ZL-F J-OBLZU-ZL
P3-8AD4DA-1	20	Feedthrough		
P3-8AD4DA-2	20	Feedthrough		

Productivity3000 CPU Specialty Module ZIPLink Selector					
CI	CPU ZIPLink				
Input Module	# of Terms	Component Module Part No. Cable Part No.			
P3-HSI				ZL-CBL40-S	
P3-HSO	40	Feedthrough	ZL-RTB40	ZL-CBL40-1S ZL-CBL40-2S	



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 ZIPLink Selector				
CF	CPU ZIPLink			
Output Module	# of Terms	Component Module Part No.		Cable Part No.
P3-08TAS	20	Feedthrough		ZL-P3-CBL20 *
P3-08TD1S	20	Feedthrough		ZL-P3-CBL20-1L
P3-08TD2S	20	Feedthrough		ZL-P3-CBL20-2L
P3-08TRS	20	Feedthrough	ZL-RTB20	
P3-16TA	20	Feedthrough		
F 3-101A	20	Fuse		
		Feedthrough		
P3-16TD1	20	Fuse	ZL-RFU20 <sup>4</sup>	
		Relay (sinking)	ZL-RRL16-24-1	ZL-P3-CBL20
	20	Feedthrough	ZL-RTB20	ZL-P3-CBL20-1
P3-16TD2		Fuse	ZL-RFU20 <sup>4</sup>	ZL-P3-CBL20-2
		Relay (sourcing)	ZL-RRL16-24-2	
P3-16TR	20	Feedthrough	ZL-RTB20	
7 0-101N	20	Fuse	ZL-RFU20 <sup>4</sup>	
P3-08TRS-1 <sup>3</sup>	20	Feedthrough	ZL-RTB20	
<u> </u>	20	Fuse	ZL-RFU20 <sup>4</sup>	
P3-32TD1	40	Feedthrough	ZL-RTB40	
10-02101	40	Fuse	ZL-RFU40 <sup>4</sup>	
P3-32TD2	40	Feedthrough	ZL-RTB40	
10-02102	40	Fuse	ZL-RFU40 <sup>4</sup>	ZL-CBL40 ZL-CBL40-1
P3-64TD1 <sup>1</sup>	40	Feedthrough	ZL-RTB40	ZL-CBL40-1 ZL-CBL40-2
10-04101	70	Fuse	ZL-RFU40 <sup>4</sup>	
P3-64TD2 <sup>1</sup>	40	Feedthrough	ZL-RTB40	
<u> </u>	40	Fuse	ZL-RFU40 <sup>4</sup>	

- \* Select the cable length by replacing the \* with: Blank = 0.5m, -1 = 1.0m,
- 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 <u>P3-FILL</u>).

## **Discrete Input Modules**

Productivity3000 Discrete Input Modules				
Part Number	Part 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	

<sup>\*</sup>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	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 of Channels Description Price					
P3-HSI	2	High-Speed Pulse Input	\$563.00		
P3-HS0* 2 High-Speed Output		\$587.00			
P3-SCM	4 ports	Serial Communications Module	\$475.00		

<sup>\*</sup>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.

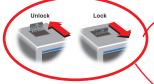
### **Module Installation Procedure**



WARNING: DO NOT APPLY FIELD POWER UNTIL THE FOLLOWING STEPS ARE COMPLETED. SEE HOT-SWAPPING PROCEDURE FOR EXCEPTIONS.

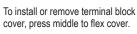
**Step One:** Align circuit card with slot and press firmly to seat module into connector.

**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.







**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.