Wiring I/O Modules

There are two available methods for wiring most I/O modules: The **ZIP**Link wiring system or hand wiring to the optional removable I/O module terminal blocks.

Note: The high-density 32-point and 64-point I/O module design requires the use of the **ZIP**Link wiring system. Thermocouple and RTD modules are not compatible with the **ZIP**Link system and are shipped with the optional terminal blocks included.

ZIPLinks Wiring Systems

For wiring I/O modules, we strongly recommend using pre-wired **ZIP**Links wiring systems, which eliminate the need for hand wiring modules to terminal blocks.

See the selection matrix guide on the following pages.

ZIPLink Module

ZIPLink Pre-Wired Terminal Block Cable
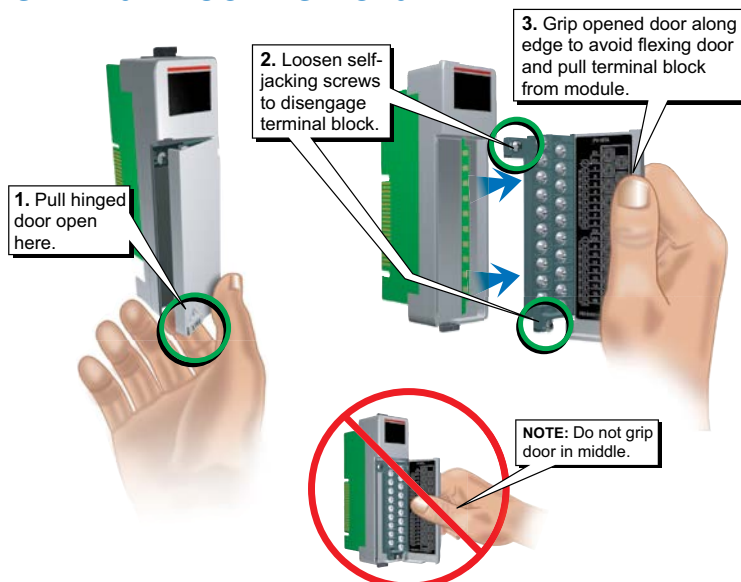
ZIPLink Pigtail Cable

Removable Terminal Blocks

For most I/O modules you can also purchase a removable terminal block (part no. P3-RTB).

Note: P3-RTB supplied with thermocouple and RTD modules. P3-RTB not compatible with 32-point and 64-point I/O modules.

Removable Terminal Block P3-RTB

Terminal Block Removal

1. Pull hinged door open here.

2. Loosen self-jacking screws to disengage terminal block.

3. Grip opened door along edge to avoid flexing door and pull terminal block from module.

NOTE: Do not grip door in middle.

Productivity3000© Controllers

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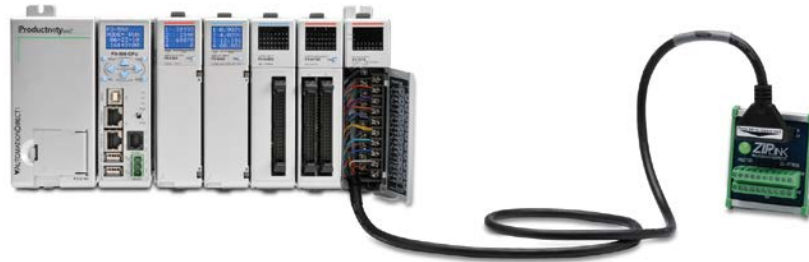
Using the PLC I/O Modules to *ZIP*Link Connector Modules selector tables located in this section,

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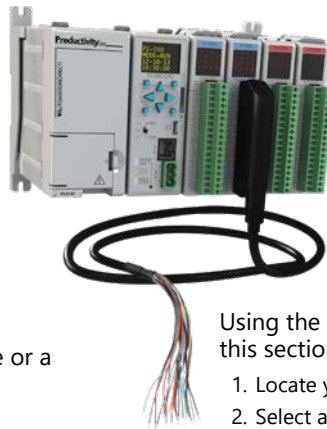
Using the I/O Modules to 3rd Party Devices selector tables located in this section,

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 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 ZIPLink 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		
P3-16ND3	20	Feedthrough		ZL-P3-CBL20-1L ZL-P3-CBL20-2L
		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 ZIPLink 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 ZIPLink 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: ZIPLink Connector Modules specifications follow the Compatibility Matrix tables. ZIPLink Cables specifications are at the end of this ZIPLink section.

Productivity3000 CPU Output Module ZIPLink 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		
P3-16TA	20	Feedthrough		
		Fuse		
P3-16TD1	20	Feedthrough		ZL-P3-CBL20 ZL-P3-CBL20-1 ZL-P3-CBL20-2
		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.