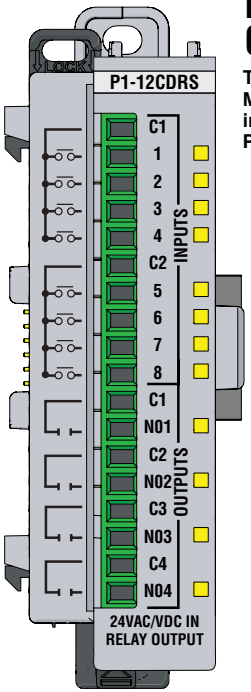
Input Specifications	
Inputs per Module	8 (sink/source)
Rated Voltage	24VAC/VDC
Operating Voltage Range	20.4–27.6 VAC/VDC
Peak Voltage Range	27.6 VAC/30VDC
AC Frequency	47–63 Hz
Input Current	8mA @ 24VAC/VDC[1]
Maximum Input Current	10mA @ 27.6 VAC, 30VDC
Input Impedance	3kΩ
Minimum ON Current	2.5 mA
Maximum OFF Current	0.5 mA
ON Voltage Level	>9.5 VDC, >8VAC
OFF Voltage Level	<4.5 VDC, <4VAC
OFF to ON Response	AC: 10ms DC: 6ms
ON to OFF Response	AC: 20ms DC: 10ms
Status Indicators	Logic Side (8 points)
Commons	2 (4 points/common)

Output Specifications	
Outputs per Module	4
Rated Voltage	6–30 VDC, 6–120 VAC
Operating Voltage Range	5–30 VDC, 5–144 VAC
Output Type	Relay, Form A (SPST)
AC Frequency	47–63 Hz
Maximum Output Current	5A / point[1] 2A / point if used with ***ZIP***Link Cable
Minimum Load Current	5mA @ 5VDC
Maximum Inrush Current	5A for 10ms
OFF to ON, ON to OFF Response	≤ 10 ms
Status Indicators	Logic Side (4 points)
Commons	4 (1 points/common)
Protection Circuit	Not built into module – Install protection elements such as an external fuse - 8A.

1. See P1000 User Manual for Temperature Derating Chart for Inputs and Outputs.



P1-12CDRS Discrete Input / Relay Output

The P1-12CDRS Discrete Input / Relay Output Module provides eight sinking/sourcing inputs and four relay outputs for use with the Productivity1000 system.

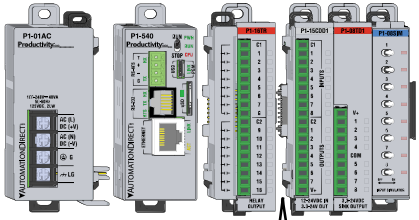
Typical Relay Life	
Voltage & Type of Load	Operations at 1A Load Current
30VDC Resistive	100,000
30VDC Solenoid	100,000
120VAC Resistive	100,000
120VAC Solenoid	100,000

Terminal Block sold separately, (see wiring options on page 5).

Module Installation

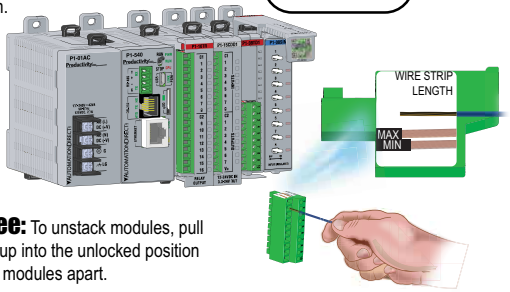
WARNING: Do not add or remove modules with field power applied.

Step One: With latch in "locked" position, align connectors on the side of each module and stack by pressing together. Click indicates lock is engaged.

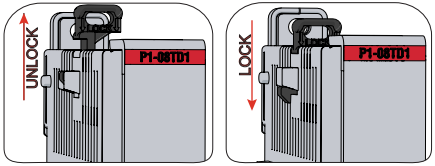


Check all latches are secure after modules are connected.

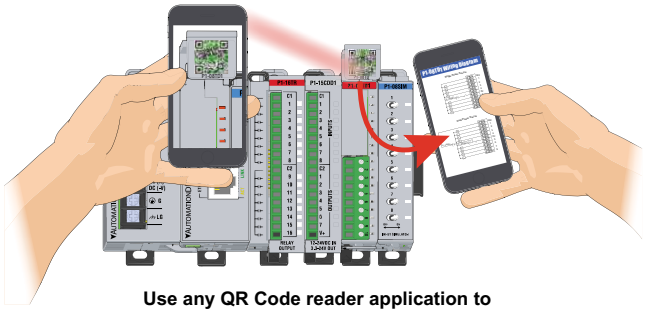
Step Two: Attach field wiring using the removable terminal block or *ZIP*Link wiring system.



Step Three: To unstack modules, pull locking latch up into the unlocked position and then pull modules apart.

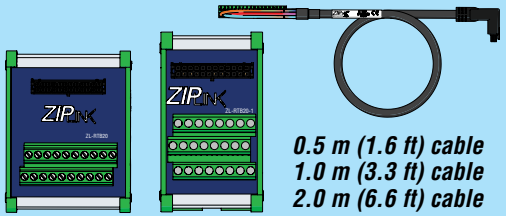
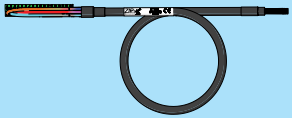
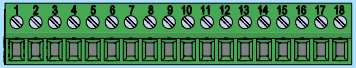
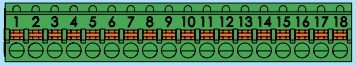


QR Code



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

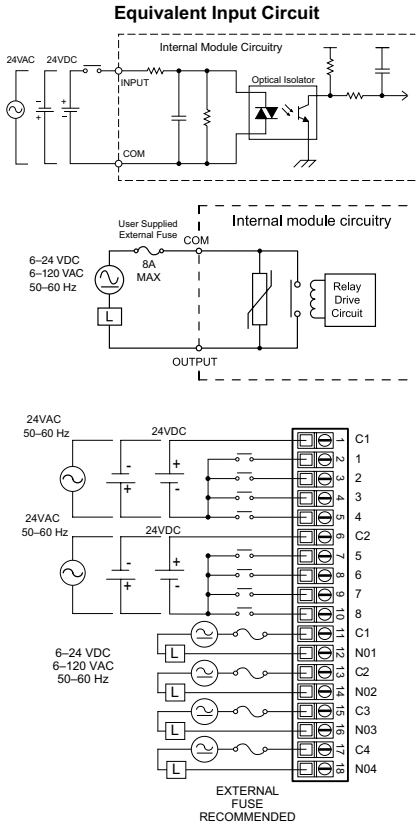
Wiring Options

1 ***ZIP*Link Feed Through *Modules and Cables*[1]**  ***0.5 m (1.6 ft) cable*** ***1.0 m (3.3 ft) cable*** ***2.0 m (6.6 ft) cable***	ZL-RTB20 ZL-RTB20-1 ZL-P1-CBL18 ZL-P1-CBL18-1 ZL-P1-CBL18-2
2 ***Terminal Block with pigtail cable***  ***1.0 m (3.3 ft) cable*** ***2.0 m (6.6 ft) cable***	 ZL-P1-CBL18-1P ZL-P1-CBL18-2P
3 ***Screw Terminal Block only*** 	P2-RTB (Quantity 1)
4 ***Spring Clamp Terminal Block only*** 	P2-RTB-1 (Quantity 1)
5 ***Accessories*[2]** 	ZL-RTB-COM TW-SD-SL-1 TW-SD-MSL-1

1.Cable + ***ZIP***Link Module = Complete System

2. ZL-RTB-COM provides a common connection point for power or ground

Schematic



General Specifications	
Operating Temperature	0° to 60°C (32° to 140°F)
Storage Temperature	-20° to 70°C (-4° to 158°F)
Humidity	5 to 95% (non-condensing)
Altitude	2,000 meters max
Pollution Degree	2
Environmental Air	No corrosive gases permitted
Vibration	IEC60068-2-6 (Test Fc)
Shock	IEC60068-2-27 (Test Ea)
Overvoltage Category	II
Field to Logic Side Isolation	Relays to Backplane 2.7 kVAC for 5s or 800VAC for 1 Min. Discrete Input to Backplane 1.25 kVAC for 5s or 300VAC for 1 Min.
Field to Field Isolation	Discrete Input 8 to Relay C1 1.35 kVAC for 5s or 400VAC for 1 Min. Relay to Relay 1.35 kVAC for 5s or 400VAC for 1 Min.
Insulation Resistance	>10MΩ @ 500VDC
Heat Dissipation	13500mW
Enclosure Type	Open Equipment
Module Location	Any I/O position in a Productivity1000 System.
Field Wiring	Use ***ZIP***Link Wiring System or removable terminal block (sold separately). See "Wiring Options" on page 3.
Connector Type (sold separately)	18-Position Removable Terminal Block
Weight	88g (3.1 oz)
Agency Approvals	UL 61010-1 and UL 61010-2-201 File E139594, Canada & USA[1] CE (EN 61131-2 EMC, EN 61010-1 and EN 61010-2-201 Safety)*

*See CE Declaration of Conformance for details.

1. See P1000 User Manual for Insulation Requirements for IEC/UL 61010-1 and 61010-2-201 (section 6.5 and 6.7)

WARNING: To minimize the risk of potential safety problems, you should follow all applicable local and national codes that regulate the installation and operation of your equipment. These codes vary from area to area and it is your responsibility to determine which codes should be followed, and to verify that the equipment, installation, and operation are in compliance with the latest revision of these codes.

Equipment damage or serious injury to personnel can result from the failure to follow all applicable codes and standards. We do not guarantee the products described in this publication are suitable for your particular application, nor do we assume any responsibility for your product design, installation, or operation.

If you have any questions concerning the installation or operation of this equipment, or if you need additional information, please call Technical Support at 770-844-4200.

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Terminal Block Specifications		
Part Number	***P2-RTB***	***P2-RTB-1***
Positions	18 Screw Terminals	18 Spring Clamp Terminals
Wire Range	30–16 AWG (0.051–1.31 mm²) Solid / Stranded Conductor 3/64 in (1.2 mm) Insulation Max. 1/4 in (6–7 mm) Strip Length	28–16 AWG (0.081–1.31 mm²) Solid / Stranded Conductor 3/64 in (1.2 mm) Insulation Max. 19/64 in (7–8 mm) Strip Length
Conductors	"USE COPPER CONDUCTORS, 75°C" or equivalent.	
Screw Driver	0.1 in (2.5 mm) Maximum*	
Screw Size	M2	N/A
Screw Torque	2.5 lb·in (0.28 N·m)	N/A

*Recommended Screw Driver TW-SD-MSL-1

Document Name	Edition/Revision	Date
P1-12CDRS-DS	1st Edition	8/27/2025