

24V DC-Powered Relay Modules

DC-powered relay modules provide isolation, switch high current (10A) loads, and include diode protection to prevent voltage spikes at the relay coil from damaging connected 16-point PLC I/O modules. Relays are included with these modules.

Modules mount on 35mm DIN rail (part #<u>DN-R35S1</u>) or 15mm DIN rail (part #<u>DN-R15S1</u>).





ZL-RRL16-24-1

ZL-RRL16-24-2

Relay Module Prog Prog Prog Image: Second Se	Specifications								
Vire ZL-RR_116-24-1 I S216.00 1.45 ZL-RR_116-24-2 I S216.00 1.45 Description 16 Output Relay module, sinking, with LEDs, 24VDC coll 16 Output Relay module, sourcing, with LEDs, 24VDC coll 16 Output Relay module, sourcing, with LEDs, 24VDC coll 16 Output Relay module, sourcing, with LEDs, 24VDC coll 1000VAC for 1 minute 1000VAC for 1 minute </th <th></th> <th>Part #</th> <th></th> <th>Price/Pkg</th> <th>Weight (lbs)</th> <th>Part #</th> <th></th> <th>Price/Pkg</th> <th>Weight (lbs)</th>		Part #		Price/Pkg	Weight (lbs)	Part #		Price/Pkg	Weight (lbs)
Operating Frequency 20 cycles per minute electrical, 300 cycles per minute mechanical Isolation NC Contact 2500VAC for 1 minute Isolation NC Contact to NO Contact Same Relay 1000VAC for 1 minute Isolation Between Relays 000VAC for 1 minute Operating Temperature Range 32 to 140°F (0 to 60°C) Humidity Range 45 to 85% RH Terminal Block Contacts Cooper alloy, tin-lead plated Wire Strip Length 0.2.4 AVKG Solid or Stranded Conductor Wire Strip Length 0.2.4 AVKG Solid or Stranded Conductor Wire Strip Length 0.2.4 AVKG Solid or Stranded Conductor Connecting Cables Click on link: Wiring Selection Caudes (Sold Separately) Click on link: Wiring Selection Caudes Cannection Type Molex Micro-Fit 3.0, 24 pin connector, example receptack 43020-2400, Pins 43031 Series, Male Connecting Cables Click on link: Wiring Selection Caudes (Sold Separately) Click on link: Wiring Selection Caudes (Sold Separately) Click on link: Wiring Selection Caudes (Sold Separately) Series Cable:Wire Clearance 0.5 in (12.7 mm) required Mounting Restrictions **	Relay module	<u>ZL-RRL16-24-1</u>	1	\$216.00	1.45	<u>ZL-RRL16-24-2</u>	1	\$216.00	1.45
Isolation Coil to Contact 2500VAC for 1 minute Isolation NC Contact to NO Contact Same Relay 1000VAC for 1 minute Isolation Between Relays 000VAC for 1 minute Red LED Indicator State Relay ON = relay energized, OFF = relay de-energized ON = relay de-energized, OFF = relay energized Operating Temperature Range 32 to 140°F (0 to 60°C) Humidity Range 45 to 85% RH Terminal Block Contacts Copper alloy, th-lead plated Wire Range * 12–24 AWG Solid or Stranded Conductor Wire Strip Length 0.24–0.27 in (6–7 mm) Screw Torque 4.4 in this (0.5 N-m) Connecting Cables Click on link: Wiring Selection Guides, (Note Selection Guides, (Sold Separately) Click on link: Contection Cable Specifications Tables. Replacement Relays 2.L-RELAY-24XA, Oty. 4/pkg Cables/ Contact Type Horizontal mounting only, non-corrosive environment Approvals Flet E157382 UL, oUt. 508 Contact Coil Contact Type 1 Form C (SPDT) Maximum Power Inductive 2000VA General Use Coil Resistance Contact Type 1 Form C (SPDT) Rated Current pr Coil 13.2 VDC Contact Type <th>Description</th> <th colspan="4">16 Output Relay module, sinking, with LEDs, 24VDC coil 16 Output Relay module, sourcing, with LEDs, 24VDC co</th> <th>Ds, 24VDC coil</th>	Description	16 Output Relay module, sinking, with LEDs, 24VDC coil 16 Output Relay module, sourcing, with LEDs, 24VDC co				Ds, 24VDC coil			
Isolation NC Contact is NO Contact Same Relay Isolation Between Relay Rel LED Indicator State Relay Operating Temperature Range Operating Temperature Range Copperating Contacts Copperating Contacts Copperating Contacts Connecting Cables (Sold Separately) Contact Type Contact Contact Contact Contact Copperating Contacts Contact Contact Copperating Contacts Contact Copperating Contacts Contact Copperating Contacts Contact Contact Contact Copperating Contacts Contact Copperating Contacts Contact Copperating Contacts Contact Contact Contact Copperating Contacts Contact Copperating Contacts Contact Copperating Contacts Contact Contact Contact Copperating Contacts Contact Copperating Contacts Contact Contact Contact Contact Contact Contact Contact Copperating Contact Copperating Contact Copperating Contact Contact Copperating Contact Copperating Contact Contact Contact Contact Copperating Contact Copperating Copperating Contact Copperating Copperating Contact Copperating Contact Copperating Copperating Contact Copperating Copperating Copperating Contact Copperating Coppered Copperating Copperating Copperating Copperati	Operating Frequency	20 cycles per minute electrical, 300 cycles per minute mechanical							
Contact Same Relay 1000/VAC for 1 minute Isolation Between Relays 0N = relay energized ON = relay energized ON = relay energized ON = relay de-energized ON = relay de-en	Isolation Coil to Contact	2500VAC for 1 minute							
Red LED Indicator State Relay ON = relay energized, OFF = relay de-energized ON = relay de-energized, OFF = relay energized Operating Temperature Range 32 to 140°F (0 to 60°C) 45 to 85% RH Terminal Block Contacts Copper alloy, tin-lead pilatd Wire Range * 12–24 AWG Solid or Stranded Conductor Wire Strip Length 0.24–0.27 in (6–7 mm) Screw Torque 4.4 in 158 (0.5 N m) Connector Type Molex Micro-Fit 3.0, 24 pin connector, example receptacle 43020-2400, Pins 43031 Series, Male Connecting Cables (Sold Separately) Click on link: Wring Selection Guides. Kold Separately) Click on link: Wring Selection Guides. Replacement Relays 24-RELAY-24X4, Ory. 4/pkg Cable/Wire Clearance 0.5 in (12.7 mm) required Mounting Restrictions Horizontal mounting only, non-corrosive environment Approvals File # E157382 UL, cUL 508 Contact Cori Contact Voltage (per point) * 250VAC/30VDC Astimum Power Inductive 2000VA General Use Contact Voltage 250VAC/30VDC Maximum Dower Inductive 2000VA, DC 300W Powere Consumption per Coil 0.4 W		1000VAC for 1 minute							
Operating Temperature Range 1 0<	Isolation Between Relays				1000VAC for	1 minute			
Humidity Range 45 to 85% RH Terminal Block Contacts Copper alloy, tin-lead plated Wire Range * 12-24 AWG Solid or Stranded Conductor Wire Strip Length 0.24-0.27 in (6-7 mm) Screw Torque 4.4 in-lbs (0.5 hm) Connector Type Molex Micro-Fit 3.0, 24 pin connector, example receptacle 43020-2400, Pins 43031 Series, Male Connecting Cables (Sold Separately) Click on link: Wring Selection, Guides. (Sold Separately) Replacement Relays ZL-RELAY-24XA, Qty, 4/pkg Cable/Wire Clearance 0.5 in (12.7 mm) required Mounting Restrictions Horizontal mounting only, non-corrosive environment Approvals File # E157382 UL, cUL 508 Contact Contact Coil Contact Coil Contact Iype 1 Form C (SPDT) Maximum Power Inductive 2000VA General Use Coll Calle Quire Resistive AC 2000VA, DC 300W Power Consumption per Coil 0.4 W Maximum Power Inductive 2000VA General Use Contact Voltage 250VAC, 10VDC Retay SVDC Power Consumption per Coil 0.4 W<	Red LED Indicator State Relay	ON = relay energized, OFF = relay de-energized ON = relay de-energized, OFF = relay energi				energized			
Terminal Block Contacts Copper alloy, tin-lead plated Wire Range * 12-24 AWG Solid or Stranded Conductor Wire Strip Length 0.24-0.27 in (6-7 mm) Screw Torque 4.4 in-lbs (0.5 N m) Connector Type Molex Micro-Fit 3.0, 24 pin connector, example receptacle 43020-2400, Pins 43031 Series, Male Connector Type Molex Micro-Fit 3.0, 24 pin connector, example receptacle 43020-2400, Pins 43031 Series, Male Connector Type Molex Micro-Fit 3.0, 24 pin connector, example receptacle 43020-2400, Pins 43031 Series, Male Connecting Cables (Sold Separately) Click on link: Wring Selectin Guides. (Sold Separately) Replacement Relays ZL-RELAY-24X4, Oly, 4/pkg Cable/Wire Clearance 0.5 in (12.7 mm) required Mounting Restrictions Horizontal mounting only, non-corrosive environment Approvals File # E157382 UL, cUL 508 Relay Specifications ** Contact Contact Type 1 Form C (SPDT) Maximum Power Inductive 2000VA General Use Contact Type 1 Form C (SPDT) Maximum Power Resistive AC 2000VA, DC 300W Maximum Power Inductive 2000VA General Use Contact Type 1 form A @ 50DC <th>Operating Temperature Range</th> <th colspan="4">32 to 140°F (0 to 60°C)</th> <th></th>	Operating Temperature Range	32 to 140°F (0 to 60°C)							
Wire Range * 12–24 AWG Solid or Stranded Conductor Wire Strip Length 0.24–0.27 in (6–7 mm) Screw Torque 4.4 in-lbs (0.5 N-m) Connector Type Molex Micro-Fit 3.0, 24 pin connector, example receptacle 43020-2400, Pins 43031 Series, Male Connecting Cables (Sold Separately) Click on link: Wring Selection Guides. Click on link: Connection Cable Specifications Tables. Replacement Relays ZL-RELAY-24X4, Qty. 4/pkg Cable/Wire Clearance 0.5 in (12.7 mm) required Mounting Restrictions Horizontal mounting only, non-corrosive environment Approvals File # E157382 UL, cUL 508 Relay Specifications ** Contact Coil Current Rating 30VDC @ 10A, 250VAC @ 8A, General Use Input Voltage Rating 24VDC (-20%/+30%) Contact Type 1 Form C (SPDT) Maximum Continuous Coil Voltage 31.2 VDC Contact Type 1 Form C (SPDT) Maximum Power Inductive 200VA General Use Coil Besistance 14400 (±10%) Maximum Power Inductive 200VA General Use Coil Resistance 14400 (±10%) 0.4 W Maximum Power Resistive AC 2000VA, DC 300W Power Consumption per Coil	Humidity Range	45 to 85% RH							
Wire Strip Length 0.24–0.27 in (6–7 mm) Screw Torque 4.4 in tbs (0.5 N·m) Connector Type Molex Micro-Fit 3.0, 24 pin connector, example receptacle 43020-2400, Pins 43031 Series, Male Connecting Cables (Sold Separately) Click on link: Wring Selection Guides. Click on link: Wring Selection Guides. Click on link: Connection Cable Specifications Tables. Replacement Relays ZL-RELAY-24X4, Qty. 4/pkg Cable/Wire Clearance 0.5 in (1.27 mm) required Mounting Restrictions Horizontal mounting only, non-corrosive environment Approvals File # E157382 UL, cUL 508 Contact Contact Contact Contact Contact Topp 1 Form C (SPDT) Maximum Continuous Coil Voltage 31.2 VDC Contact Type 1 Form C (SPDT) Maximum Continuous Coil Voltage 31.2 VDC Maximum Power Inductive 200VA, DC 300W Power Consumption per Coil 0.4 W Maximum Power Resistive AC 2000VA, DC 300W Power Consumption per Coil 0.4 W Maximum Power Resistive AC 2000VA, DC 300W Power Consumption per Coil 0.4 W	Terminal Block Contacts	Copper alloy, tin-lead plated							
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Mounting Restrictions Horizontal mounting only, non-corrosive environment Approvals File # E157382 UL, cUL 508 Relay Specifications ** Contact Coil Contact Coil Contact Type 104A, 250VAC @ 8A, General Use Input Voltage Rating 24VDC (-20%/+30%) Contact Type 1 Form C (SPDT) Maximum Continuous Coil Voltage 31.2 VDC Contact Voltage (per point) * 250VAC/30VDC Rated Current per Coil 16.7 mA (±10%) @ 24VDC Maximum Power Inductive 2000VA General Use Coil Resistance 1440Ω (±10%) Maximum Switching Voltage 250VAC, 110VDC Total Coil Supply Current Max. 293mA (all relays on) Minimum Load 10mA @ 5VDC Pick Up Current Max. per Coil 15mA Contact Material AgNi (Silver Nickel Alloy) Pick-Up Voltage Max. 19.2 VDC Vibration Resistance 10 to 55 Hz dual amplitude width 1.5 mm Off to On/On to Off Response Time 12ms / 8ms	Replacement Relays	ZL-RELAY-24X4, Qty. 4/pkg							
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Maximum Power Inductive 2000VA General Use Coil Resistance 1440Ω (±10%) Maximum Power Resistive AC 2000VA, DC 300W Power Consumption per Coil 0.4 W Maximum Switching Voltage 250VAC, 110VDC Total Coil Supply Current Max. 293mA (all relays on) Minimum Load 10mA @ 5VDC Pick Up Current Max. per Coil 15mA Contact Resistance 100mΩ Max @ 1A, 6VDC Drop-Out Voltage Min. 1.2 VDC Contact Material AgNi (Silver Nickel Alloy) Pick-Up Voltage Max. 19.2 VDC Vibration Resistance 10 to 55 Hz dual amplitude width 1.5 mm Off to On/On to Off Response Time 12ms / 8ms	Contact Type	1 Form C (SPDT)		Maximum Continuous Coil Voltage		•	31.2 VDC		
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Maximum Switching Voltage 250VAC, 110VDC Total Coil Supply Current Max. 293mA (all relays on) Minimum Load 10mA @ 5VDC Pick Up Current Max. per Coil 15mA Contact Resistance 100mΩ Max @ 1A, 6VDC Drop-Out Voltage Min. 1.2 VDC Contact Material AgNi (Silver Nickel Alloy) Pick-Up Voltage Max. 19.2 VDC Vibration Resistance 10 to 55 Hz dual amplitude width 1.5 mm Off to On/On to Off Response Time 12ms / 8ms	Maximum Power Inductive	2000VA General Use		Coil Resistance			1440Ω (±10%)		
Minimum Load 10mA @ 5VDC Pick Up Current Max. per Coil 15mA Contact Resistance 100mΩ Max @ 1A, 6VDC Drop-Out Voltage Min. 1.2 VDC Contact Material AgNi (Silver Nickel Alloy) Pick-Up Voltage Max. 19.2 VDC Vibration Resistance 10 to 55 Hz dual amplitude width 1.5 mm Off to On/On to Off Response Time 12ms / 8ms	Maximum Power Resistive	AC 2000VA, DC 300W		Power Consumption per Coil			0.4 W		
Contact Resistance 100mΩ Max @ 1A, 6VDC Drop-Out Voltage Min. 1.2 VDC Contact Material AgNi (Silver Nickel Alloy) Pick-Up Voltage Max. 19.2 VDC Vibration Resistance 10 to 55 Hz dual amplitude width 1.5 mm Off to On/On to Off Response Time 12ms / 8ms	Maximum Switching Voltage	250VAC, 110VDC		Total Coil Supply Current Max.			293mA (all relays on)		
Contact Material AgNi (Silver Nickel Alloy) Pick-Up Voltage Max. 19.2 VDC Vibration Resistance 10 to 55 Hz dual amplitude width 1.5 mm Off to On/On to Off Response Time 12ms / 8ms	Minimum Load	10mA @ 5VDC		Pick Up Current Max. per Coil 15n		mA			
Vibration Resistance 10 to 55 Hz dual amplitude width 1.5 mm Off to On/On to Off Response Time 12ms / 8ms	Contact Resistance	100mΩ Max @ 1A, 6VDC		Drop-	Out Voltage Min.		1.2 VDC		
Off to On/On to Off Response Time 12ms / 8ms	Contact Material	AgNi (Silver Nickel Alloy)			Pick-	Up Voltage Max.		19.2	VDC
Shock Resistances 1000m/s ² endurance 100m/s ² operation	Vibration Resistance	10 to 55 Hz dual am	plitude v	vidth 1.5 mm	Off to On/On to Off Response Time			/ 8mc	
	Shock Resistances	1000m/s ² endurance	e, 100m/	s ² operation					

Mechanical: 10,000,000 Operations at no load condition; Electrical: 100,000 Operations at rated resistive load

* Use conductors rated for 60°/75°C for relay outputs.

Service Life

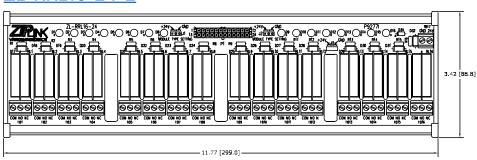
** Relay modules are reverse polarity protected and will not operate if reverse voltage is connected.

Note: See wiring details and dimensional drawings on our Web site at: http://www.automationdirect.com/static/manuals/ziplinks/ziplinks.html.



Module Dimensions

ZL-RRL16-24-1 ZL-RRL16-24-2

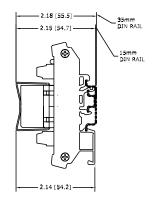


2.18 [55.5]

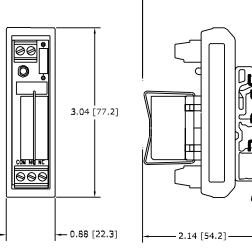
2.15 [54.7] -

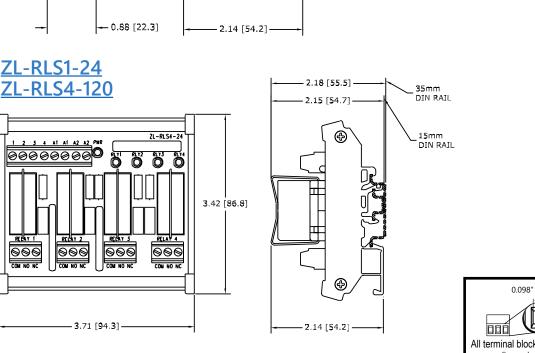
35mm DIN RAIL

15mm DIN RAIL

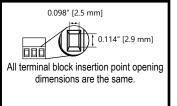


<u>ZL-RLS1-24</u> ZL-RLS1-120





Note: Dimensions shown in Inches [mm]







Replacement Relays

Replacement relays are offered with a 24VDC coil or 120VAC coil and are for use with the **ZIP**Link relay modules.

Sold in packages of 4.



ZL-RELAY-24X4 \$21.50



ZL-RELAY-120X4 \$29.00

	24VDC F	lelay Specifications		
Contact		Coil		
Queront Doting	30VDC @ 10A 250VAC @ 8A	Input Voltage Range	24VDC (-20%/+30%)	
Current Rating	General Use	Maximum Continuous Coil Voltage	31.2 VDC	
Contact Type	1 Form C (SPDT)	Rated Current per Coil	16.7 mA (±10%) @ 24VDC	
Contact Voltage (per point)	250VAC/30VDC	Coil Resistance	1440Ω (±10%)	
Maximum Power Inductive	2000VA General Use	Power Consumption per Coil	0.4 W	
Maximum Power Resistive	AC 2000VA, DC 300W	Pick Up Current Max. per Coil	15mA	
Maximum Switching Voltage	250VAC, 110VDC	Drop-Out Voltage Min.	1.2 VDC	
Minimum Load	10mA @ 5VDC	Pick-Up Voltage Max.	19.2 VDC	
Contact Resistance	100mΩ Max @ 1A, 6VDC	Off to On/On to Off Response Time	12ms/8ms	
Contact Material	AgNi (Silver Nickel Alloy)	Weight (lbs)	0.11	
	120VAC	Relay Specifications		
Contact		Coil		
Current Rating	30VDC @ 10A		115VAC (-20%/+30%),	
	250VAC @ 8A General Use	Input Voltage Range	50–60Hz	
		Input Voltage Hange Maximum Continuous Coil Voltage		
Contact Type	General Use		50–60Hz	
Contact Type Contact Voltage (per point)	General Use 1 Form C (SPDT)	Maximum Continuous Coil Voltage	50–60Hz 150VAC 7.65 mA (±10%) @ 115VAC 50Hz 6.30 mA (±10%) @ 115VAC	
Contact Type Contact Voltage (per point) Maximum Power Inductive Maximum Power Resistive	General Use 1 Form C (SPDT) 250VAC/30VDC	Maximum Continuous Coil Voltage Rated Current per Coil	50–60Hz 150VAC 7.65 mA (±10%) @ 115VAC 50Hz 6.30 mA (±10%) @ 115VAC 60Hz	
Contact Type Contact Voltage (per point) Maximum Power Inductive Maximum Power Resistive	General Use 1 Form C (SPDT) 250VAC/30VDC 2000VA General Use	Maximum Continuous Coil Voltage Rated Current per Coil Coil Resistance	50–60Hz 150VAC 7.65 mA (±10%) @ 115VAC 50Hz 6.30 mA (±10%) @ 115VAC 60Hz 8100Ω (±10%) 0.88 W @ 50Hz	
Contact Type Contact Voltage (per point) Maximum Power Inductive	General Use 1 Form C (SPDT) 250VAC/30VDC 2000VA General Use AC 2000VA, DC 300W	Maximum Continuous Coil Voltage Rated Current per Coil Coil Resistance Power Consumption per Coil	50–60Hz 150VAC 7.65 mA (±10%) @ 115VAC 50Hz 6.30 mA (±10%) @ 115VAC 60Hz 8100Ω (±10%) 0.88 W @ 50Hz 0.73 W @ 60Hz	
Contact Type Contact Voltage (per point) Maximum Power Inductive Maximum Power Resistive Maximum Switching Voltage	General Use 1 Form C (SPDT) 250VAC/30VDC 2000VA General Use AC 2000VA, DC 300W 250VAC, 110VDC	Maximum Continuous Coil Voltage Rated Current per Coil Coil Resistance Power Consumption per Coil Drop-Out Voltage Min.	50–60Hz 150VAC 7.65 mA (±10%) @ 115VAC 50Hz 6.30 mA (±10%) @ 115VAC 60Hz 8100Ω (±10%) 0.88 W @ 50Hz 0.73 W @ 60Hz 34.5 VAC	

Installation Accessories

Accessories				
	Part #	Pcs/Pkg	Price/Pkg	
DIN Rail	DN-R35S1	10	\$39.00	
Angled Support Bracket	DN-ASB1	50	\$107.00	
End Bracket	<u>DN-EB35</u>	50	\$67.00	





Replacement Relays

Replacement 24VDC relays are offered for use with the **ZIP**Link relay modules <u>ZL-RRL16F-24-1</u>/-2. Sold in packages of 4.



ZL-RELAY-F24X4 \$24.00

ZL-RELAY-F24x4 24VDC Relay Specifications					
Contact		Coil			
Current Poting	30VDC @ 8A	Input Voltage Range	24VDC (-20%/+30%)		
Current Rating	250VAC @ 8A General Use	Maximum Continuous Coil Voltage	31.2 VDC		
Contact Type	1 Form C (SPDT)	Rated Current per Coil	16.7 mA (±10%) @ 24VDC		
Contact Voltage (per point)	250VAC / 30VDC	Coil Resistance	1440Ω (±10%)		
Maximum Power Inductive 2000VA General Use		Power Consumption per Coil	0.4 W		
Maximum Power Resistive	AC 2000VA, DC 240W	Pick Up Current Max. per Coil	15mA		
Maximum Switching Voltage	250VAC, 300VDC	Drop-Out Voltage Min.	1.2 VDC		
Minimum Load	10mA @ 5VDC	Pick-Up Voltage Max.	19.2 VDC		
Contact Resistance 100mΩ Max @ 1A, 6VDC		Off to On/On to Off Response Time	12ms/8ms		
Contact Material	AgNi (Silver Nickel Alloy)	Weight (lbs)	0.11		