



# 24V DC-Powered Fused Relay Modules

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

Module mounts on 35mm DIN rail (part #DN-R35S1) or 15mm DIN rail (part #DN-R15S1)



**ZL-RRL16HDF-24-2**

| Specifications                            |                                                                                                                          |          |                 |              |
|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------|-----------------|--------------|
| 24V DC-Powered Fused Relay Module         | Part #                                                                                                                   | Pcs/Pkg  | Price/Pkg       | Weight (lbs) |
|                                           | <b>ZL-RRL16HDF-24-2</b>                                                                                                  | <b>1</b> | <b>\$251.00</b> | <b>1.06</b>  |
| <b>Description</b>                        | 16 Fused Output Relay module, sourcing, with LEDs, 24VDC coil                                                            |          |                 |              |
| <b>Mechanical Life</b>                    | 1,000,000 Operations no load condition                                                                                   |          |                 |              |
| <b>Electrical Life</b>                    | 50,000 Operations at rated resistive load (Normally Open)<br>30,000 Operations at rated resistive load (Normally Closed) |          |                 |              |
| <b>Operating Frequency</b>                | 6 cycles per minute electrical, 180 cycles per minute mechanical                                                         |          |                 |              |
| <b>Isolation Coil to Contact</b>          | 2500VAC for 1 minute                                                                                                     |          |                 |              |
| <b>Isolation NC Contact to NO Contact</b> | 1000VAC for 1 minute                                                                                                     |          |                 |              |
| <b>Isolation Between Relays</b>           | 1000VAC for 1 minute                                                                                                     |          |                 |              |
| <b>Red LED Indicator State Relay</b>      | ON = relay energized, OFF = relay de-energized                                                                           |          |                 |              |
| <b>Operating Temperature Range</b>        | 32 to 140°F (0 to 60°C)                                                                                                  |          |                 |              |
| <b>Humidity Range</b>                     | 45 to 85% RH                                                                                                             |          |                 |              |
| <b>Vibration Resistance</b>               | 10 to 55 Hz dual amplitude width 1.5 mm                                                                                  |          |                 |              |
| <b>Shock Resistance</b>                   | 1000m/s <sup>2</sup> endurance, 100m/s <sup>2</sup> operation                                                            |          |                 |              |
| <b>Terminal Block Contacts</b>            | Copper alloy, tin-lead plated                                                                                            |          |                 |              |
| <b>Wire Range 1</b>                       | 12–24 AWG Solid or Stranded Conductor                                                                                    |          |                 |              |
| <b>Wire Strip Length</b>                  | 0.24–0.27 in (6–7 mm)                                                                                                    |          |                 |              |
| <b>Screw Torque</b>                       | 4.4 in-lbs (0.5 N·m)                                                                                                     |          |                 |              |
| <b>Connector Type</b>                     | Molex Micro-Fit 3.0, 24-pin connector, example receptacle 43020-2400, Pins 43031 Series, Male                            |          |                 |              |
| <b>Fuses (Sold Separately)</b>            | Sixteen 8.35 x 3.95 x 7.55 mm or 8.4 x 8.3 mm                                                                            |          |                 |              |
| <b>Recommended Fuses</b>                  | Littelfuse, Subminiature TR5 Series or Equivalent                                                                        |          |                 |              |
| <b>Cable/Wire Clearance</b>               | 0.5 in (12.7 mm)                                                                                                         |          |                 |              |
| <b>Approvals</b>                          | File # E139594 UL, cUL 508, CE, EN61131-2:2007                                                                           |          |                 |              |

| Replacement Fuses* (Sold Separately) |                                                   |         |           |
|--------------------------------------|---------------------------------------------------|---------|-----------|
| Part Number                          | Current Rating                                    | Pcs/Pkg | Price/Pkg |
| <b>ZL-FUSE-H4</b>                    | 4A                                                | 4       | \$8.25    |
| <b>ZL-FUSE-H5</b>                    | 5A                                                | 4       | \$8.25    |
| <b>ZL-FUSE-H63</b>                   | 6.3 A                                             | 4       | \$8.25    |
| <b>Dimensions</b>                    | 8.35 x 3.95 x 7.55 mm or 8.4 x 8.3 mm             |         |           |
| <b>Alternate Fuse</b>                | Littelfuse, Subminiature TR5 Series or Equivalent |         |           |

\* Sixteen fuses required.



**ZL-FUSE-HXX**

| Relay Specifications 2               |                                                                            |                                   |                          |
|--------------------------------------|----------------------------------------------------------------------------|-----------------------------------|--------------------------|
| Contact                              |                                                                            | Coil                              |                          |
| <b>Current Rating</b>                | <b>30VDC @ 5A, 250VAC @ 5A, General Use</b>                                | <b>Input Voltage Rating</b>       | <b>24VDC (-20%/+30%)</b> |
| <b>Contact Type</b>                  | 1 Form C (SPDT)                                                            | Maximum Continuous Coil Voltage   | 31.2 VDC                 |
| <b>Contact Voltage (per point) *</b> | 250VAC/30VDC                                                               | Rated Current per Coil            | 7.1 mA (±10%) @ 24VDC    |
| <b>Maximum Power Inductive</b>       | 1250VA General Use                                                         | Coil Resistance                   | 3388Ω (±10%)             |
| <b>Maximum Power Resistive</b>       | AC 1250VA, DC 150W                                                         | Power Consumption per Coil        | 0.17 W                   |
| <b>Maximum Switching Voltage</b>     | 250VAC, 30VDC                                                              | Total Coil Supply Current Max.    | 275mA (Total 16 relays)  |
| <b>Minimum Load</b>                  | 10mA @ 5VDC                                                                | Pick Up Current Max. per Coil     | 15mA                     |
| <b>Contact Resistance</b>            | 100mΩ Max @ 1A, 6VDC                                                       | Drop-Out Voltage Min.             | 1.2 VDC                  |
| <b>Contact Capacity</b>              | D300, 0.8 A/ 240VAC Pilot Duty<br>FLA 2A @ 277VAC/125VAC<br>1/8HP @ 250VAC | Pick-Up Voltage Max.              | 19.2 VDC                 |
| <b>Contact Material</b>              | AgNi (Silver Nickel Alloy)                                                 | Off to On/On to Off Response Time | 8ms/4ms                  |

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

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

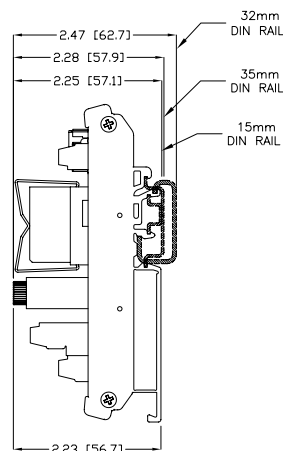
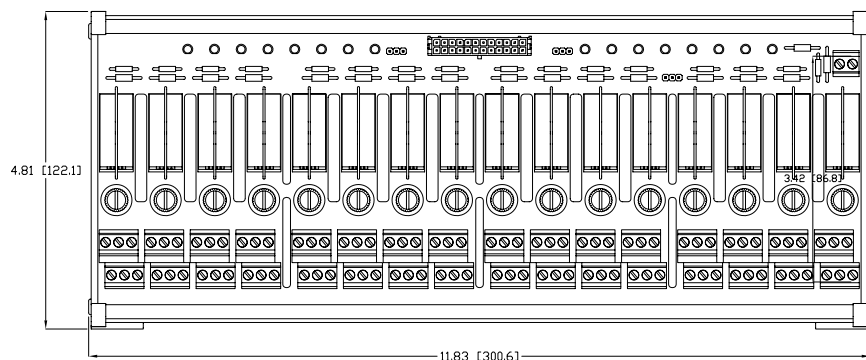


**Note:** See wiring details and dimensional drawings on our Web site at: <http://www.automationdirect.com/static/manuals/ziplinks/ziplinks.html>.

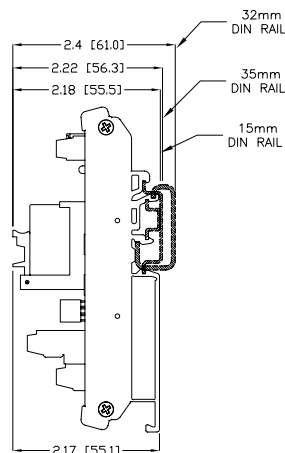
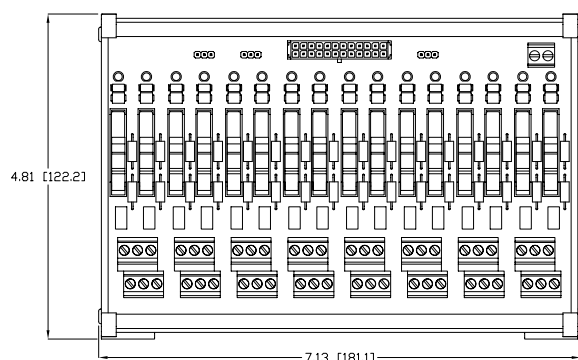


# Module Dimensions

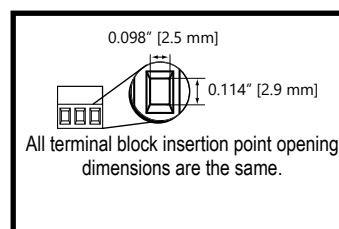
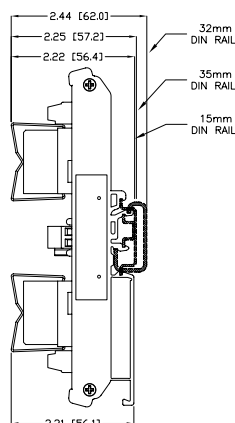
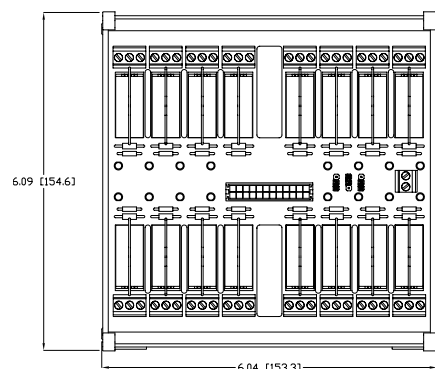
## ZL-RRL16F-24-1 ZL-RRL16F-24-2



## ZL-RRL16HDF-24-1 ZL-RRL16HDF-24-2



## ZL-RRL16W-24-1 ZL-RRL16W-24-2



Note: Dimensions shown in Inches [mm]