



# 24VDC and 120VAC Transorb Modules

Our transorb diode modules are 8-channel devices used to suppress counter-electromotive force (CEMF) generated by switching inductive loads such as solenoids, contactors, motor starters, interposing relays, etc., that may cause an unexpected PLC system shutdown.

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



ZL-TSD8-24



ZL-TSD8-120

## Specifications

| 24VDC and 120VAC<br>Transorb Modules | Part #                                                                                               | Pcs/<br>Pkg | Price/Pkg | Weight (lbs) | Part #                                                           | Pcs/<br>Pkg | Price/Pkg | Weight (lbs) |
|--------------------------------------|------------------------------------------------------------------------------------------------------|-------------|-----------|--------------|------------------------------------------------------------------|-------------|-----------|--------------|
|                                      | <u>ZL-TSD8-24</u>                                                                                    | 1           | \$43.00   | 0.19         | <u>ZL-TSD8-120</u>                                               | 1           | \$43.50   | 0.22         |
| Description **                       | 8-Channel Transient Voltage Suppressor Module, 24VDC                                                 |             |           |              | 8-Channel Transient Voltage Suppressor Module, 120VAC            |             |           |              |
| Number of Circuits                   | 8                                                                                                    |             |           |              |                                                                  |             |           |              |
| UL Voltage Rating                    | 24VDC Voltage Breakdown:<br>Min: 28.5 VDC<br>Normal: 30VDC<br>Max: 31.5 VDC                          |             |           |              | 120VAC Voltage Breakdown:<br>Min: 209<br>Normal: 220<br>Max: 231 |             |           |              |
| Peak Power Dissipation               | 1500W surge capability at 1ms                                                                        |             |           |              |                                                                  |             |           |              |
| Maximum Surge Current                | 2A                                                                                                   |             |           |              |                                                                  |             |           |              |
| Terminal Block Contacts              | Copper alloy, tin-lead plated                                                                        |             |           |              |                                                                  |             |           |              |
| 1-Wire Range (Rated Cross Section) * | 12–24 AWG Solid or Stranded Copper Conductor (2.5 mm²)                                               |             |           |              |                                                                  |             |           |              |
| 2-Wire Range (Rated Cross Section) * | 16–24 AWG Solid or Stranded Copper Conductor (2.5 mm²)                                               |             |           |              |                                                                  |             |           |              |
| Wire Strip Length                    | 0.24–0.27 in (6–7 mm)                                                                                |             |           |              |                                                                  |             |           |              |
| Screw Torque                         | 4.4 in-lbs (0.5 N-m)                                                                                 |             |           |              |                                                                  |             |           |              |
| Surrounding Temperature Range        | 32 to 140°F (0 to 60°C)                                                                              |             |           |              |                                                                  |             |           |              |
| Cable/Wire Clearance                 | 0.5 in (12.7 mm) Required                                                                            |             |           |              |                                                                  |             |           |              |
| Mounting Restrictions                | None                                                                                                 |             |           |              |                                                                  |             |           |              |
| Approvals                            | File # E200031 UL, cUL, Class 1, Division 2, Groups A,B,C,D Hazardous Locations, CE, EN 61131-2:2007 |             |           |              |                                                                  |             |           |              |

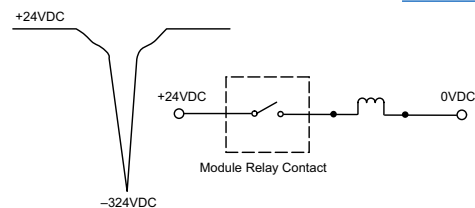
\* Use conductors rated for 60°/75°C.

\*\*Connecting cables are for internal wiring only.

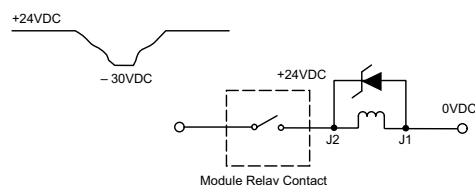
The waveform in the figure below shows the energy released when opening a contact switching a 24VDC solenoid.

Notice the large voltage spike.

ZL-TSD8-24



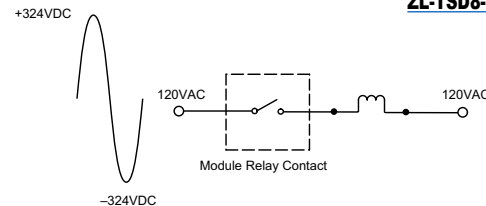
This figure shows the same circuit with a transorb (TVS) across the coil. Notice that the voltage spike is significantly reduced.



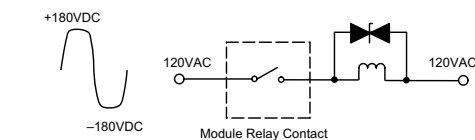
The waveform in the figure below shows the energy released when opening a contact switching a 120VAC solenoid.

Notice the large voltage spike.

ZL-TSD8-120



This figure shows the same circuit with a transorb (TVS) across the coil. Notice that the voltage spike is significantly reduced.

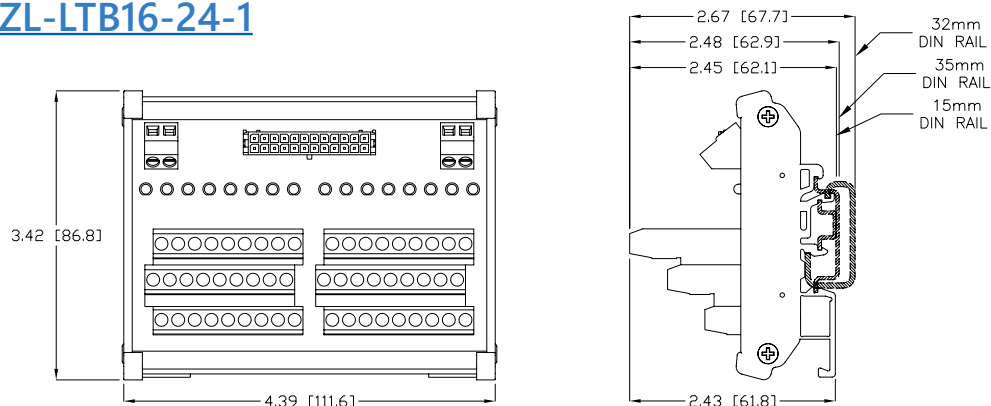


**Note:** See wiring details and dimensional drawings on our Web site at: <http://www.automationdirect.com/static/manuals/ziplinks/ziplinks.html>.

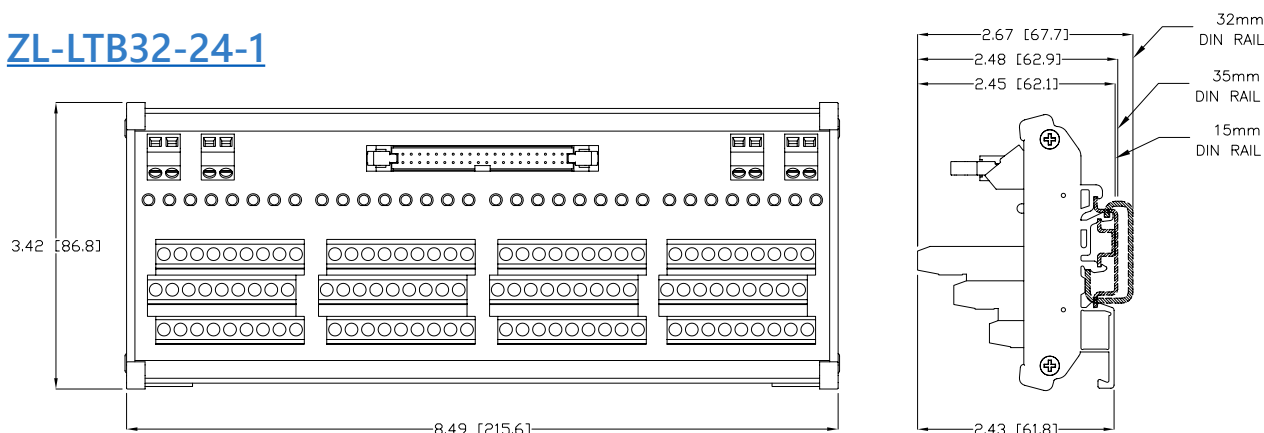


# Module Dimensions

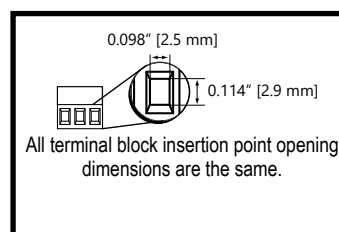
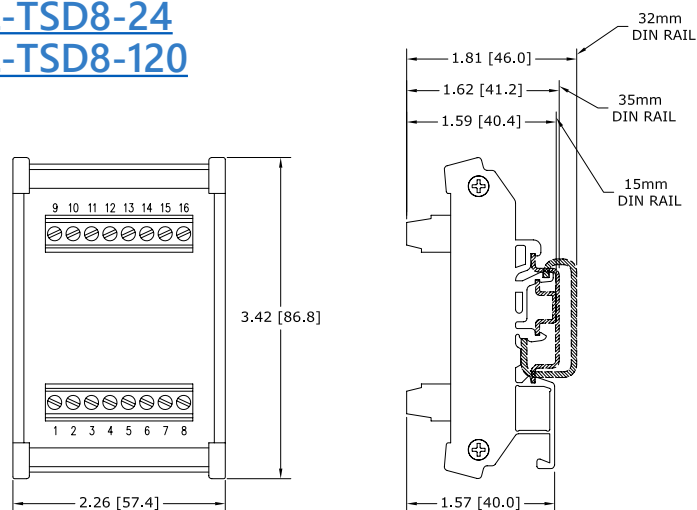
## ZL-LTB16-24-1



## ZL-LTB32-24-1



## ZL-TSD8-24 ZL-TSD8-120



Note: Dimensions shown in Inches [mm]