

The **ZeroDT DC-24** is a DIN rail mounted 24 Volt DC lightning/surge protector that can be connected to your DC distribution bus to defend all of your sensitive devices against over voltages.

The protection of the **ZeroDT DC-24** utilizes **state of the art semiconductor devices**, Silicon Avalanche Suppression Diodes (SASDs) to effectively protect against electrical transient surges that are generated both by lightning events and switching events. It supports long-term system reliability by safely shunting high amounts of transient energy while maintaining a very low clamping voltage. Unlike many competitive devices, the ZeroDT DC-24's SASD protection **does not degrade with repeated usage**.

With the flexibility to be used as parallel-connected, or shunt protector, and the ability to handle very large surge current magnitudes in each of its 3 protection modes, the unit provides the assurance that all of the equipment connected to your DC distribution bus is well protected. However, the protector can be used as series-connected protector for loads up to 15 Amps.



► ELECTRICAL SPECIFICATIONS

- **Response Time:** <5 nanoseconds.
- **Configuration:** Can be either connected in Parallel/Shunt or Series (maximum 15 Amps).
- **Surge Protection Modes:** DC + to DC -, DC + to Ground, DC - to Ground.
- **Nominal Operating Voltage:** 24 VDC or 24 VAC.
- **Maximum Continuous Operating Voltage (MCOV):** 39 VDC or 27.5 VAC.
- **Maximum Surge Current, I_{peak} (each mode):**
 - **8/20 μ s (IEEE/ANSI C62.41 Combination Wave), Line-to-Ground:** >5 kA, (typically >8 kA).
 - **10/1000 μ s (IEEE/ANSI C62.41 Long Wave), Line-to-Ground:** >350 Amps.
- **Internal Fuse:** supplied with 15 Amp (1/4" x 1 1/4" cylindrical) fuse, can be changed by user to other values, 15 Amp Max.

► MECHANICAL SPECIFICATIONS

- **Input / Output Connections:** Wago Spring Cage Clamp.
- **Conductor Size:** #24 to #8 AWG.
- **Module Dimensions:** 2.25" H x 2.25" W x 3.63" D (57 mm H x 57 mm W x 92 mm D).
- **Grounding/Earthing:** 1/4" x 20 stud on bottom, ring terminal provided.
- **DIN Rail Mount:** easily attached or removed from 35 mm DIN rail.

► ENVIRONMENTAL SPECIFICATIONS

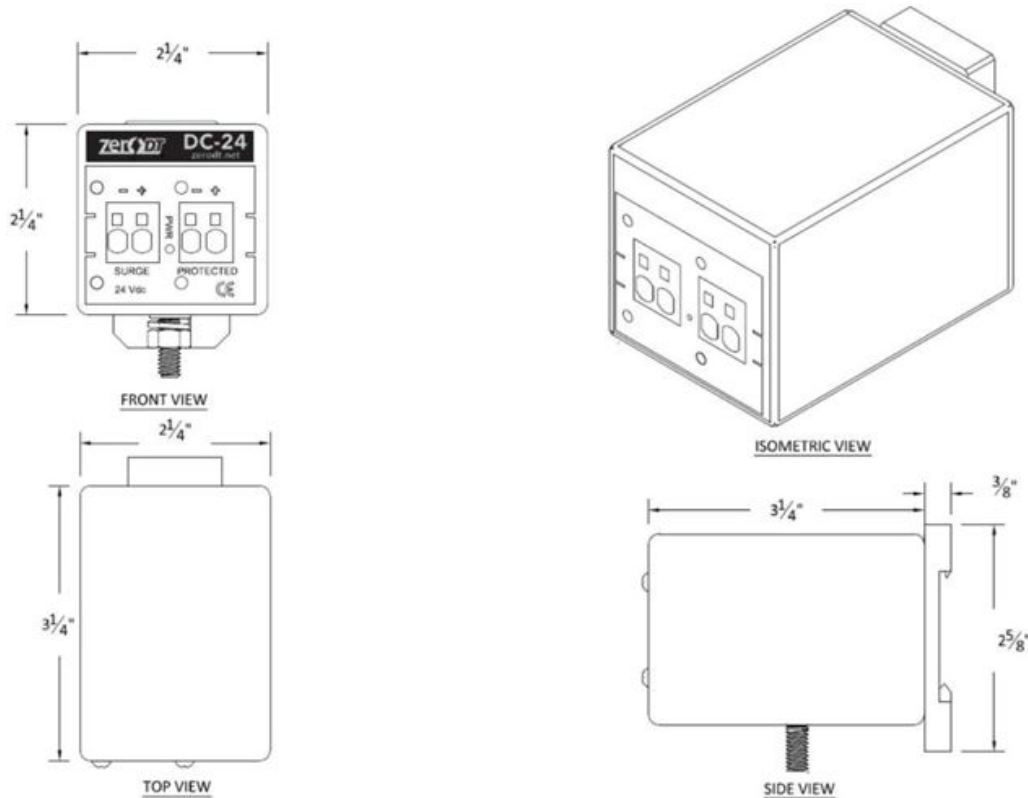
- **Operating / Storage Temperature:** -40°C to +65°C.
- **Humidity:** 0 to 95% non-condensing.

► CERTIFICATIONS

- **Module mounted in the enclosure meets the requirements of:**
 - Hazardous Locations - Class I, Division 2, Groups A, B, C, D T6
 - IEC 60950
 - ETL 60950-1



► **DIMENSIONAL DRAWINGS**



► **INSTALLATION PROCEDURE**

Suppressor must be Grounded for proper operation !

1. For maximum overvoltage protection, mount the ZeroDT DC-24 as close as possible to the equipment to be protected.
2. The ZeroDT DC-24 unit is to be installed in accordance with the applicable requirements of the National Electric Code and the local authorities having jurisdiction.
3. The unit **MUST BE PROPERLY BONDED TO A LOW RESISTANCE EARTH/GROUND FOR PROPER OVERVOLTAGE PROTECTION.** Install the Earth/Ground connection using the ring terminal provide (or similar) on the 1/4" x 20 stud on the bottom of the unit with the supplied fasteners.
4. To use the ZeroDT DC-24 as a Parallel/Shunt protector connect it to DC power distribution buss (Supply & Return) to the 'Surge' cage-clamp connector using #24 - #8 AWG conductors (stripped 1/2").
5. To use the ZeroDT DC-24 as a Series protector for loads up to 15 Amps:
 - a. For loads of <15 Amps, replace the internal 15A fuse (1/4" x 1 1/4") with a suitable value for the load and conductors.
 - b. Using appropriately sized wire for the load (stripped 1/2"), connect both supply and return from the 'Protected' cage-clamp connector to the device being protected.
 - c. Using appropriately sized wire for the load (stripped 1/2"), connect both supply and return from the surge source to the 'Surge' cage-clamp connector.
6. Verify proper operation with illumination of the PWR LED on the front panel.

This equipment is suitable for use in Class I, Div. 2, Gr. A, B, C, or D (T6) as well as in non-hazardous locations.