DCPM HT

DC EMP SURGE PROTECTION

PRODUCT SPECIFICATIONS

For Part Number
HT-DI-DCPM-48D

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1. General Model Description

The DCPM HT DC Surge Protector is designed to provide EMP protection for equipment and facilities per Department of Homeland Security (DHS) and the Alliance for Telecommunications Industry Solutions (ATIS) guidelines, and have been tested for survivability to the peak threat levels of the harsh Early Time (E1) and Intermediate Time (E2) High-Altitude (HEMP) environments as defined in MIL-STD-188-125.

This surge protection device is also Listed as a Type 2 DC SPD under UL 1449 4th Edition, and is certified as a Class I SPD under IEC 61643-11.

The DCPM HT utilizes robust Metal Oxide Varistor (MOV) technology coupled with a thermal switch, to provide continuous protection to critical downstream equipment even in the unlikely event that the SPD were to fail.

The unit is provided in a field-serviceable base that supports either wall mount or DIN-rail mounting.

Form C contacts are provided to support system integration and remote annunciation.

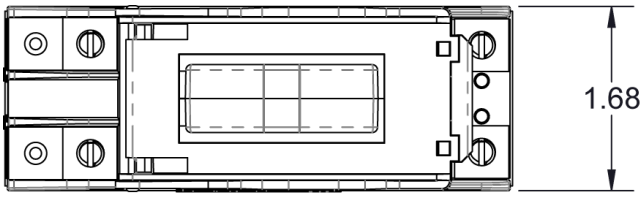
2. Features

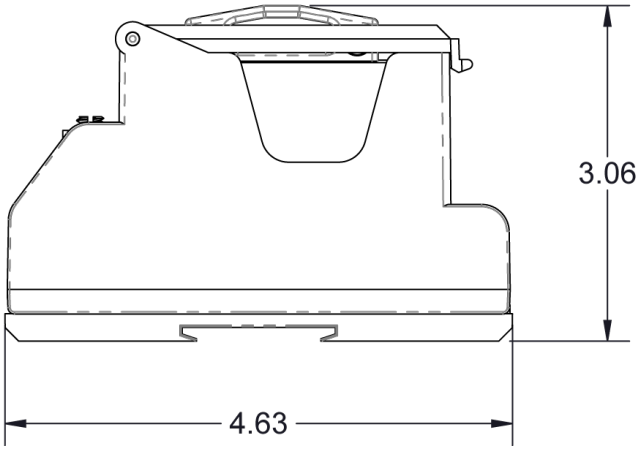
- Tested to MIL-STD-188-125 Early Time (E1) and Intermediate Time (E2) HEMP environments
- Listed to UL 1449 4th Edition and Certified to IEC 61643-11
- Robust MOV technology
- Continuous protection to downstream equipment
- DIN Rail mounting
- Form C remote alarm contacts

3. Specifications

DCPM HT	
Part Number	HT-DI-DCPM-48D
Product Name	DCPM HT 48D
Product Type	DC EMP Surge Protection
Technology	Fail Short / Metal Oxide Varistor
Application	12, 24, 28, 48 Vdc
Electrical	
Nominal Operating Voltage	48 Vdc
Nominal Current Rating	120 A
Wire Configuration	2 Wire (1 DC Pair)
Maximum Continuous Operating Voltage (MCOV)	75 Vdc
Surge	
Early Time HEMP (E1) 20/500ns per MIL-STD-188-125	5 kA
Intermediate Time HEMP (E2) 1.5/3-5000µs per MIL-STD-188-125	250 A
Voltage Protection Rating - VPR (8/20µs)	330 V
Maximum Discharge Current - Imax (8/20µs)	60 kA
Nominal Discharge Current - In (8/20µs)	20 kA
Short Circuit Current Rating - SCCR	25 kA
Standards	
HEMPTested™	per MIL-STD-188-125
EMP Protection Level	1, 2, 3
UL Compliance	UL 1449 4th Edition Type 2 (VZCA2)
RoHS	Compliant
Environmental	
Operating Temperature	-35°C to +80°C
Mean-Time Between Failure (MTBF)	34,807,207 hrs (GF 25°C Bellcore)
Mechanical	
Mounting Configuration	DIN Rail mount
Dimensions (H x W x D) inches	4.61 x 1.68 x 2.88
Dimensions (H x W x D) cm	11.72 x 4.27 x 7.31
Weight lbs (kg)	< 2 lbs (0.9 kg)
Surge Side Terminal	2 Lugs (Line, Neutral)
Protected Side Terminal	2 Lugs (Line, Neutral)
Maximum Wire Size	#14 to #1/0 AWG
Warranty	15 Years

4. Mechanical Outline





Appendix A: Dept. of Homeland Security EMP Protection Levels

Level 1: Low $s	Level 2: Hours	Level 3: Minutes	Level 4: Seconds
Use procedures & “low cost” best practices to mitigate EMP effects. Unplug power & data lines into spare/backup equipment. Turn off equipment that cannot be unplugged & that is not immediately needed for mission support. Store one week of food, water, & critical supplies for personnel. Wrap spare electronics with aluminum foil or put in Faraday containers. Have backup power that is not connected to the grid (generators, solar panels, etc.) with 1 week of on-site fuel (like propane/diesel). Use GETS, WPS, & TSP services; join SHARES if applicable (see Appendix C for more information).	In addition to Level 1, use EMP rated surge protection devices (SPDs) on power cords, antenna, & data cables & have EMP protected backup power. Use SPDs (1 nanosecond or better response time) to protect critical equipment. Use true online/double-conversion uninterruptible power supplies (UPS). Use fiber optic cables (with no metal); otherwise use shielded cables and ferrites/ SPDs. Shielded racks/rooms &/or facilities may be more cost-effective than hardening numerous cables. Use EMP protected HF radio voice/ email if need long haul nets. Suppress EMP fires.	In addition to Level 2, use civil EMP protection standards (like IEC SC 77C). Use EMP shielded racks/rooms and/ or facilities to protect critical computers, data centers, phone switches, industrial & substation controls & other electronics. Shielding should be 30-80 dB of protection thru 10 GHz. Use SPDs to protect equipment outside of shielded areas. Can use single-door EMP-safe entry ways. Use ITU & IEC EMP standards for design guidance and testing. Have 30 days of backup power with on-site fuel (or via assured service agreement with EMP resilient refuelers). Use EMP protected HF radio & satellite voice/data nets if need long-range links to support missions.	Use Military EMP Standards (MIL-STD-188-125-1 & MIL-HDBK-423), and 80+ dB hardening thru 10 GHz. Use EMP/RFW shielding in rooms, racks, and/or buildings to protect critical equipment. Use EMP SPDs to protect equipment outside of shielded areas. Use EMP protected double door entry ways. Have 30+ days of supplies & EMP protected backup power (to include on-site fuel) for critical systems. Don’t rely on commercial internet, telephone, satellite, or radio nets that are not EMP protected for communications. Use EMP protected fiber, satellite, & radio links & Appendix B services.

Four EMP Protection Levels for Equipment, Facilities and Data Center

Source: DHS Electromagnetic Pulse (EMP) Protection and Restoration Guidelines for Equipment and Facilities, Version 1.0, December 22nd, 2016