

Coaxial Lightning & EMP Protectors

DC to 2.5 GHz

Features

- Lightning or EMP protection
- Low VSWR
- Bidirectional protection
- 5kA through 20kA Devices
- Compact size
- Competitive Price and Fast Delivery
- Gas Tube & Quarter Wave Stub Technology
- Weatherproof

The MIDISCO

series of gas discharge and 1/4 wave coaxial protectors provide superior RF performance, small packages and competitive prices. The gas discharge units operate from DC to 2.5 GHz and are bi-directional. Unlike the gas discharge tube protectors which have a low-pass filter characteristic, the 1/4 wave design features a 1/4 wave stub between the center conductor and the shield, and has a band-pass response of typically 10% or 20% of nominal frequency (0.5 to 10 GHz). Most 1/4 wave units are application-specific and are not shown here. MIDISCO does have standard units for cellular (MQ7801-S, 805-915 MHz), satellite (MQ7802-S, 3.6-4.2 GHz), and PCS (MQ7803-S, 1.8-2.0 GHz) applications. **All data on this page is for the gas-discharge type units.** Consult factory for more information on both types of protectors, including additional connector options.

Transient Response

Nominal Protector Voltage	V dynamic (@5kV/ μ sec)	Max Current (8 \times 20 μ s) 10 pulses	Let through energy 50 ohm system ¹ (mJ)
Lightning Application²			
90	800	20 kA	0.70
145	600	20 kA	0.30
230	650	20 kA	0.25
350	800	20 kA	0.70
470	1200	20 kA	2.20
600	1500	20 kA	4.40
800	1900	10 kA	9.00
1000	2200	10 kA	14.00
EMP Application³			
200	800	5 kA	5.1
250	800	5 kA	5.1

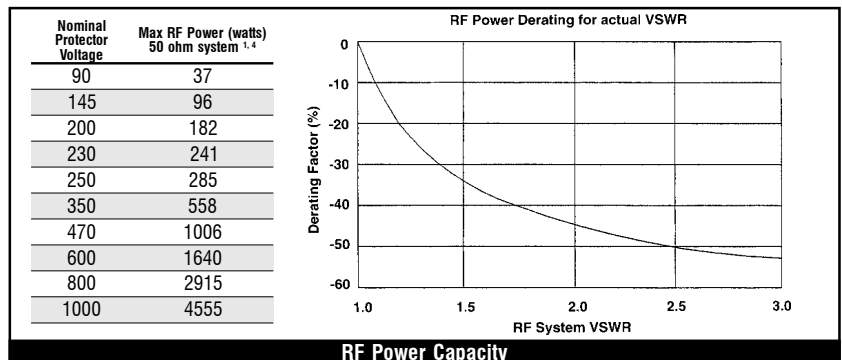
- 1) Data given for 50 ohm systems. For 75 ohm systems, multiply by 0.66. For 90 ohm systems, multiply by 0.55.
- 2) Lightning let through is based on the 6kV/3kA Bi-waveform per ANSI C62.41
- 3) Let through energy based on the MIL-STD 461 6kV 5 \times 200ns waveform.
- 4) RF power is also limited by the connector capability.

Pulse Lifetime

Pulse lifetime @ 500 amps peak 10 \times 1000 μ s pulse.

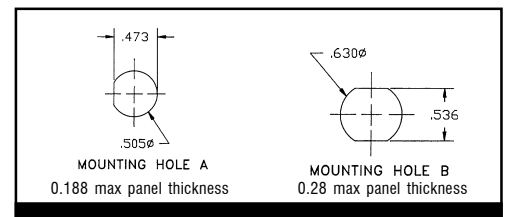
Discharge Pulses

Lightning application: >500 times
EMP application: >200 times



Electrical Performance (Typ.)

Frequency (MHz)	Insertion Loss (dB)	VSWR (50 ohm)
100	0.02	1.02
200	0.03	1.05
1000	0.08	1.10
1200	0.10	1.15
2000	0.17	1.20
2500	0.20	1.25



Ordering Information:

Protector Voltage (XX): Divide required protection voltage by 10 (use 09 for 90V, 15 for 145V, and 99 for 1000V)
Example: Model MDC7803-60 is an N male to N female protector with a protector voltage of 600 Volts.

<p>BNC Male to BNC Female</p> <p>M7801-XX</p>	<p>N Male to N Female</p> <p>M7803-XX</p>	<p>SMA Male to SMA Female</p> <p>M7810-XX</p>	<p>TNC Male to TNC Female</p> <p>M7806-XX</p>	<p>UHF Male to UHF Female</p> <p>M7808-XX</p>
<p>BNC Fem Bulkhead to BNC Fem Mounting Hole A</p> <p>M7802-XX</p>	<p>N Bulkhead Female to N Female Mounting Hole B</p> <p>M7804-XX</p>	<p>N Bulkhead Female to SMA Female Mounting Hole B</p> <p>M7805-XX</p>	<p>TNC Bulkhead Female to TNC Female Mounting Hole A</p> <p>M7807-XX</p>	<p>UHF Bulkhead Female to UHF Female Mounting Hole B</p> <p>M7809-XX</p>

[†] UHF connectors: frequency range DC-500 MHz