

AirGuard RGT Series

RF surge protection for coax applications



- **Replaceable GDT cartridges**
- **Bi-directional protection**
- **Low intermodulation**
- **DC to 4.0GHz**
- **Weatherproof**
- **Multiple strike capability**



The RGT Series of surge protection devices prevents surges and transient overvoltages conducted through coax cables. These surge protectors employ gas tube capsules that are easily replaceable ensuring a lifetime of protection.

When replacing the gas tube, simply unscrew the capsule holder while installed. It is recommended that the capsules be replaced when the site undergoes routine maintenance, assuring you of continued uninterrupted protection of your site.

Typical applications for the RGT Series include the protection of radio telemetry systems, mobile communications base stations and where high induced voltages may be present.

Receivers and transmitters are particularly vulnerable to damage from the effects of lightning. Their remote locations (height above ground) and physical construction make them vulnerable to lightning activity.

The use of semiconductors and integrated circuits in transmitters and receivers has rendered them particularly prone to damage from these disturbances.

Excellent performance levels are achieved using high energy gas discharge tubes to offer high surge current capability in a rugged, economic, compact enclosure to produce superior surge suppression.

The use of gas tube technology in surge protection applications is a mature and well proven technology. When used in RF coax applications, this technology provides broadband, low cost solutions while still maintaining high surge current capacity.

The AirGuard Series provides a wide range of connector types including BNC, TNC, N-type, 7/16, and UHF to suit all application requirements. In addition, bulk-

head mounting options are provided where insertion into a panel is preferable. The GT and RGT Series are available with a wide choice of voltages: 90V, 145V, 230V, 350V, 470V 600V, 800V or 1,000V.

Complete facility/site protection can be achieved by using Atlantic Scientific's wide range of AC and DC power surge protection devices to prevent surges entering equipment via the power supply. The ZoneMaster range of protectors combine a high level of protection and when used in conjunction with the ZoneBarrier data modules, provide the highest level of protection available.

RF Coax Protection

Specification

(all figures typical at 77°F unless otherwise stated)

Maximum discharge current

20kA (8/20μs)

Maximum power rating (VSWR)

1.25:1

Frequency Range

DC to 4.0GHz

Peak Pulse Current (8/20μs)

40kA

Impedance

50 or 75 Ω

(depending on connector type)

Model	Connectors	Frequency Range (GHz)	VSWR	Insertion Loss (dB)	Peak Pulse Current (8μs x 20μs)	Impedance (Ω)
51060*	N Bulkhead(f) to 7/16(m)	DC - 2.5	1.25:1	.1	40kA	50
51062*	7/16 Bulkhead(f) to 7/16(m)	DC - 4.0	1.25:1	.1	40kA	50
51063*	7/16 Bulkhead(f) to 7/16(f)	DC - 2.5	1.25:1	.1	40kA	50
51064*	N Bulkhead(f) to N(f)	DC - 2.5	1.25:1	.1	40kA	50
51065*	BNC Bulkhead(f) to BNC(f)	DC - 2.5	1.25:1	.1	40kA	50
51066*	TNC Bulkhead(f) to TNC(f)	DC - 2.5	1.25:1	.2	40kA	50
51067*	TNC(m) to TNC(f)	DC - 2.5	1.25:1	.2	40kA	50

*Add alpha suffix to identify gas-tube voltage: A = 90V, B = 145V, C = 230V, D = 350V, E = 470V, F = 600V, G = 800V, H = 1,000V

Gas-Tube Voltage (Voltage should be defined by maximum RF power)

Parameter	Gas-Tube Voltage							
Voltage Code	A	B	C	D	E	F	G	H
Gas-Tube Voltage Rating	90	145	230	350	470	600	800	1000
Maximum RF Watts <i>See notes 1, 2, 3</i>	37	96	241	558	1006	1640	2915	4555
kA Transient Current <i>for 8 x 20μs pulse</i>	40	40	40	40	40	40	30	20
V dynamic at 5k V/μs	600	600	650	800	1200	1500	1900	2200
Let-through Energy in mJ <i>See notes 1 & 4</i>	0.3	0.3	0.35	0.7	2.2	4.4	9.0	14

Note 1: Data given for 50Ω systems. For 75Ω systems multiply by 0.67, for 90Ω systems multiply by 0.55.

Note 2: For combined carrier applications the sum of all peak RF voltages plus any injection voltages should not exceed 60% of the Gas-Tube voltage rating. Peak RF volts = $1.4 \times (\text{RF power} \times \text{Ohms})^{0.5}$.

Note 3: RF power is limited by the connector capability also.

Note 4: Let-through Energy based on the 6kV/3kA per ANSI C62.41.

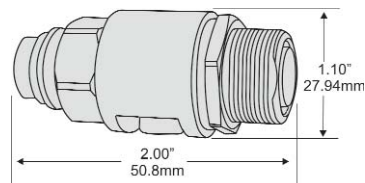


Figure 1 Dimensions (dimensions vary depending on type of connector)

Brackets

Model	Connectors	Diameter
51074	7/16 DIN	1.146" (2.91cm)
51075	N	0.630" (1.6cm)
51077	BNC/TNC	0.505" (1.28cm)

Note: In accordance with our policy of continuous improvement, we reserve the right to change the product's specification without notice.

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A member of the MTL Instruments Group plc

N, 7/16, BNC and TNC Connector Brackets

