

- Technical Data Sheet: RF Series Coaxial Protectors
 - High impulse rating
 - Wide operating frequency / Low insertion and return loss
 - Easy installation



LPI® RF Series Coaxial Surge Protection: RF Series

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• Product Description

LPI® RF series coaxial surge protectors are designed to protect radio transmitters, receivers, high frequency LANs and all high frequency cable systems against transient over voltages due to direct, indirect lightning strikes and earth potential rise caused by lightning.

The LPI RF range of coaxial protector consists of a fast acting gas filled arrester enclosed in an in-line mounting with coaxial connectors on either end, The device is configured to minimise circuit capacitance and present a 50 ohms characteristic impedance to assure performance up to 3 GHz.

Standard models provide protection for receivers and transmitters up to 50W RF power level. Models for higher power levels are readily available.

• Technical Data

Model	DC Clamp Voltage	Max. Impulse Clamp Voltage (1kV/ μ sec)	Connector Type
RF-90 BNC	72 – 108 V	< 550 V	BNC Type M to F
RF-90 TNC	72 – 108 V	< 550 V	TNC Type M to F
RF-90 N	72 – 108 V	< 550 V	N Type M to F
RF-90 NB	72 – 108 V	< 550 V	N Type F to F (Bulkhead)
RF-350 BNC	280 – 420 V	< 600V	BNC Type M to F
RF-350 TNC	280 – 420 V	< 600V	TNC Type M to F
RF-350 N	280 – 420 V	< 600V	N Type M to F
RF-350 NB	280 – 420 V	< 600V	N Type F to F (Bulkhead)
RF-600 N	480 – 720 V	< 1100 V	N Type M to F
RF-600 NB	480 – 720 V	< 1100 V	N Type F to F (Bulkhead)

Max. Single impulse discharge current: > 25 kA 8/20 μ s
 Max. Multiple impulse discharge current: > 20 kA 8/20 μ s
 Nominal AC discharge current: 20A, 50Hz, 1 sec
 Impulse life: > 400 times @ 10/1000 μ s
 Characteristic impedance: 50 ohms
 Insulation resistance: 100 Mega ohms
 Max. Capacitance: 1.5 pF
 Insertion loss: < 0.02 dB @ 3 GHz
 Operating temperature: 65° C (max)

Note: To select the appropriate protection voltage use the following procedure:

1. Determine the transmitter power in Watts (P).
2. Determine the antenna VSWR, if unsure use 1.5 as the worst case
3. Calculate $V_{peak} = VSWR \times 1.4 \times \sqrt{50 \times P}$
4. Choose the model with DC clamping voltage above the calculated V_{peak}

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- **Installation**

Transient over voltage appearing between the inner conductor of the coaxial cable and its screen could directly damage receiver and line driver chips of communications equipment connected via coaxial cables.

LPI RF range of coaxial protection contains fast response gas filled arrestors to provide low let-through voltage for fast rise time transients. The use of low capacitance gas filled arrestors ensures operation at high frequencies with low insertion loss.

Connect the protector in the RF line as close as to the equipment to be protected as practical. The essential aim of these protectors is to provide electrical clamping between the inner and outer conductors of coaxial cables. Normal precautions such as earthing coaxial cable sheaths at building points of entry are still vitally important.

The N bulkhead models are specifically designed for mounting at cable entry points. The bulkhead mount allows a secured earth connection to the cable entry plate and provides a convenient cable termination point. This is the preferred method of installation.



- **"LPI Endorsed Product"** – The symbol of assurance of quality and performance.
- LPI has a policy of continuing product development. Therefore, the above specifications are subject to change without notice.

LPI® - Innovative Lightning and Surge Protection Solutions



Direct Strike Protection



Surge & Transient Protection for Power, Data, Communications and RF lines



Grounding Products & Solutions

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