

# LIGHTNING PROTECTION

## FEATURES & BENEFITS

### Broadband 1/4 Wave Stub

- 800 - 2200 MHz bandwidth
- Multi-strike protection
- Maintenance free

### Gas Discharge

- DC - 2500 MHz
- DC pass-through for GPS or tower-mount applications
- Serviceable chamber

### Hybrid

- DC - 2500 MHz
- Multi-strike protection
- DC pass-through

## APPLICATIONS

- Wireless Base Stations
- GPS Antenna Systems
- Shared Antennas



Lightning/Surge Protection

# Lightning Protection

## Broadband 1/4-Wave Stub Surge Protector/Lightning Arrestor

Amphenol RF solves the problem of needing individual bandwidth stub protectors for each progressive wavelength. Our Broadband 1/4-Wave Stub is for use from 800 to 2200 MHz in the *transmit* and *receive* paths. These protectors offer multi-strike protection within the given bandwidth. This product is currently supplied with 7/16 DIN male and female connectors, but other connector interfaces are available.

## Gas Discharge Surge Protector/Lightning Arrestor

Amphenol RF offers the ideal solution for applications where DC current must be allowed to pass through, such as with GPS applications and tower-mount amplifiers. Our Gas Discharge Protectors are rated from DC to 2200 MHz and have limited-strike capacity. This product is currently supplied with 7/16 DIN male and female connectors, but other connector interfaces are available.

## Hybrid Lightning Arrestor

This Arrestor from Amphenol RF combines the DC pass-through abilities of the Gas Discharge Protector with the multi-strike capability of the 1/4-Wave Stub. Our hybrid is the correct choice for shared tower/antenna applications.

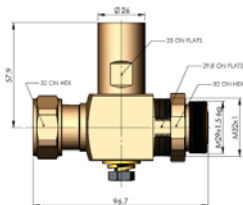
All of these Protectors can be supplied with grounding hardware.

## WiMax Surge Protector/Lightning Arrestor also available

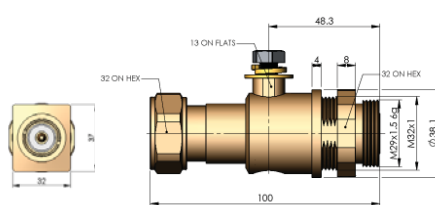
## Specifications

### Reference standard IEC60169-4

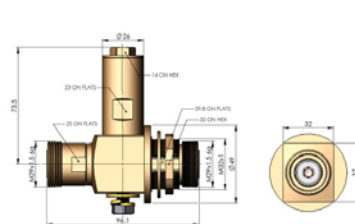
Electrical	1/4 Wave Stub	Gas Tube	Hybrid
Impedance	50 Ω	50 Ω	50 Ω
Frequency Range	800 - 2200 MHz	DC - 2500 MHz	DC - 2500 MHz
Insertion Loss (dB)	< 0.1	< 0.1	≤ 0.15
Return Loss (dB)	≥ 24 (824-894 MHz) ≥ 24 (1850-2200 MHz) ≥ 18 (rest of band)	≥ 26.44 (1000 MHz) ≥ 23 (1000 - 2000 MHz)	≥ 23.13
Avg. Continuous Power (Watts)	500	150	3
Surge Rating (8x20 microsecond wave form)	40kA	20kA	20kA
PIM (dBc) 3rd order (two 43 dbm signals)	≥ 150 dBc (3rd order) ≥ 173 dBc (5th order)		≥ 160 dBc
<b>Mechanical</b>			
Retention	≥ 5.88 N	≥ 5.88 N	≥ 5.88 N
Nut Torque	20 Nm	10 Nm	20 Nm
Mechanical Wear (hypo-)	500	500	500
Vibration	IEC68-2-6Fc	IEC68-2-6Fc	IEC68-2-6Fc
<b>Materials/Plating</b>			
Outer Conductor	low magnetism brass/copper tin-zinc > 2 μ m		
Inner Conductor	CuBe2/Ag > 5 μ m		
Nut	brass/nickel > 5 μ m ( <b>1/4 Stub and Gas Tube</b> ) brass/copper tin-zinc > 2 μ m ( <b>Hybrid</b> )		
Insulator	PTFE		
Gasket	silicon rubber ( <b>1/4 Wave Stub</b> ) brass/copper tin-zinc > 2 μ m ( <b>Gas Tube</b> )		
<b>Environmental</b>			
Temperature Range	-55°C - +155°C	-55°C - +155°C	-40°C ~+85°C
Weather Standard	IEC 68 55/155/21	IEC 68 55/155/56	IEC 68 40/085/21
Weatherproofing Standard	IP67	IP67	IP65



1/4 Wave Stub



Gas Tube



Hybrid