

RFEA-1

Lightning Arrestor for frequencies up to 3GHz, N Male to Female connectors



Fully compatible with technologies, products and services by



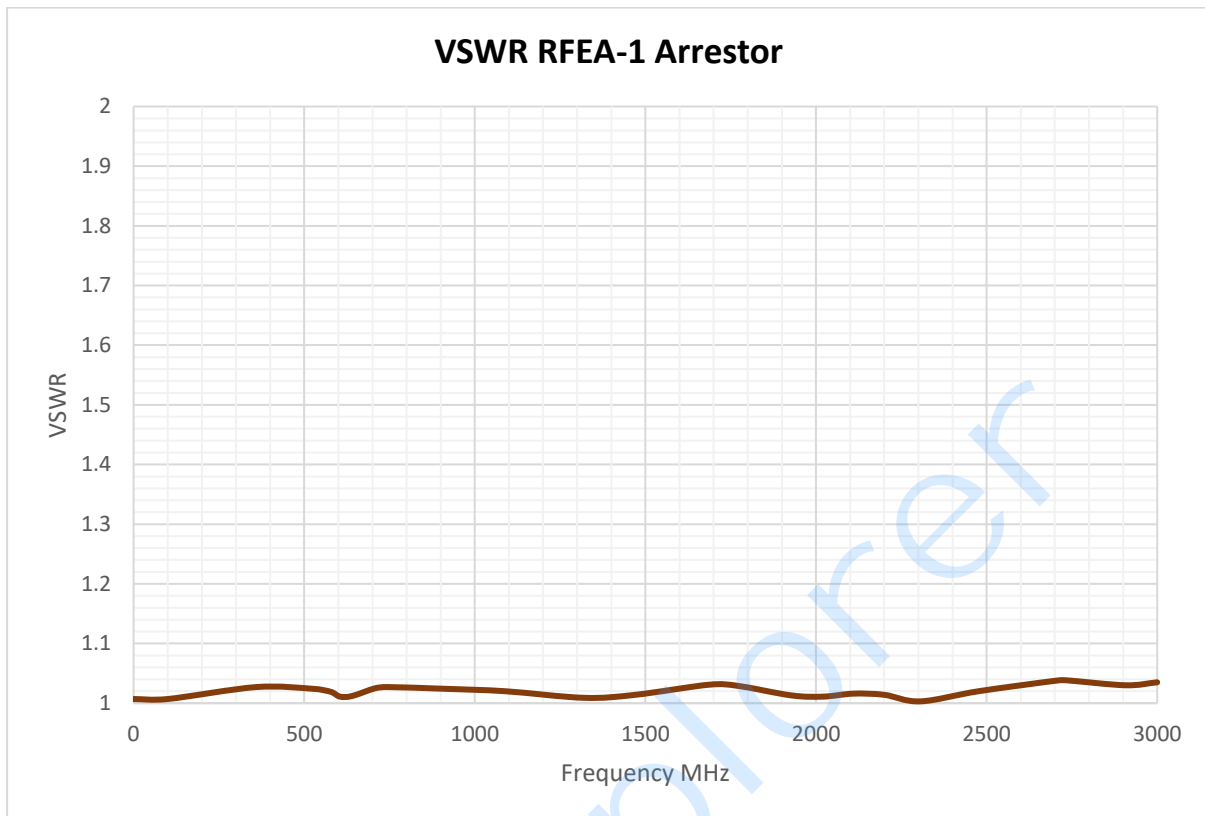
Features

- ✓ Robust construction for outdoor usage
- ✓ Easy to install, includes ground terminal
- ✓ Very low insertion loss

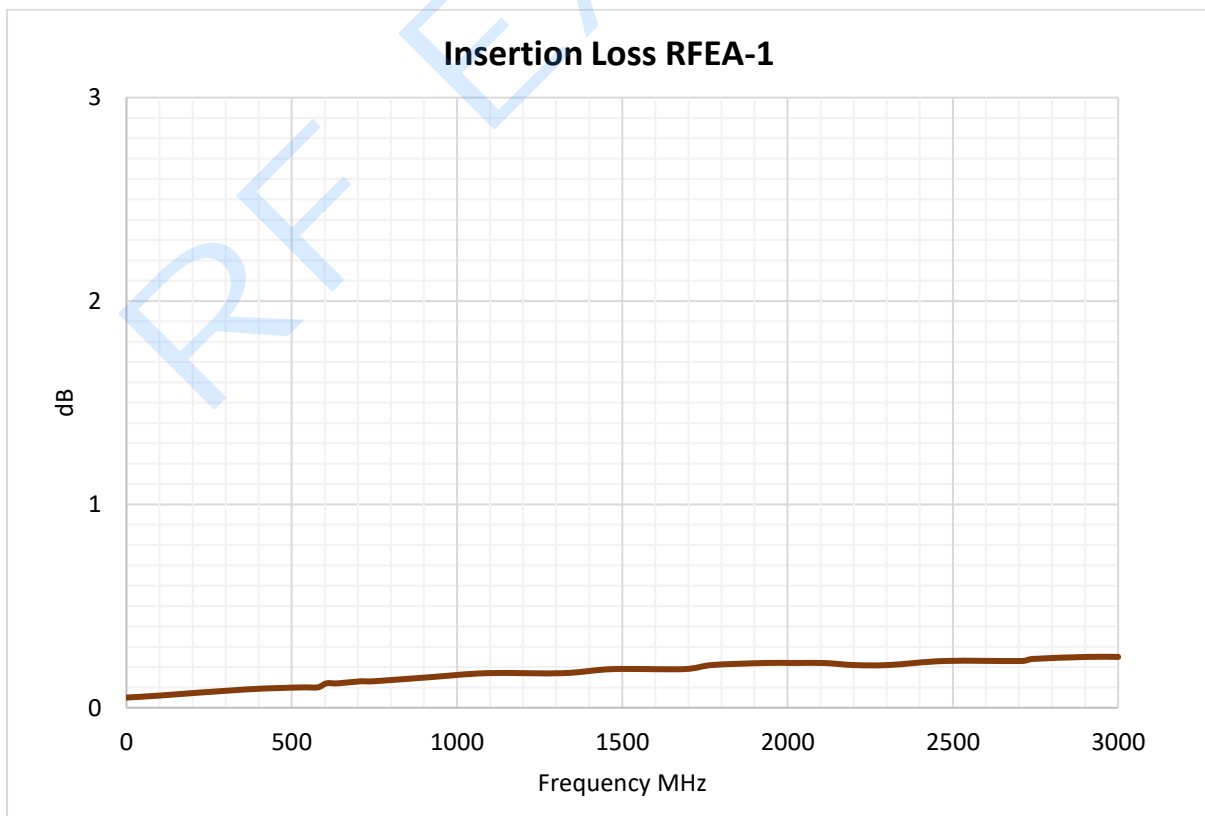
Specification

Frequency Range	0-3000MHz
Impedance	50
VSWR	≤1.2
Insertion Loss	≤0.3dB
Connectors	Type N Male/Jack Type N Female/Plug
Nominal DC spark over voltage (100V/uS)	230V
Nominal discharge current In (8/20uS)	10KA
Maximum discharge current I_{max} (8/20uS)	20KA
Impulse discharge current (10/1000uS, 300 times)	100A
Body Material	Brass with Ni plating
Insulator Material	PTFE
Center Conductor	Brass with Au plating
Mating Cycles	≥ 500
Physical length	65 mm
Protection	IP67
Interface	IEC 61169-16
Temperature operation	-65°C to +165°C / -85°F to +329°F

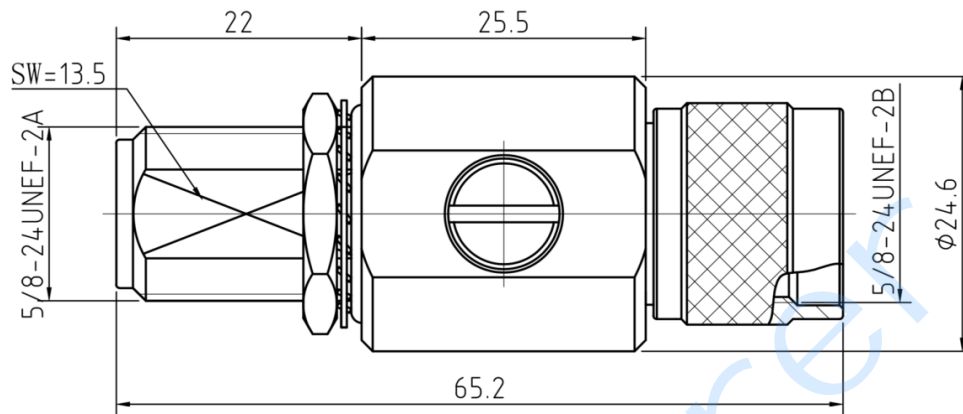
VSWR



Insertion Loss



Mechanical Specifications

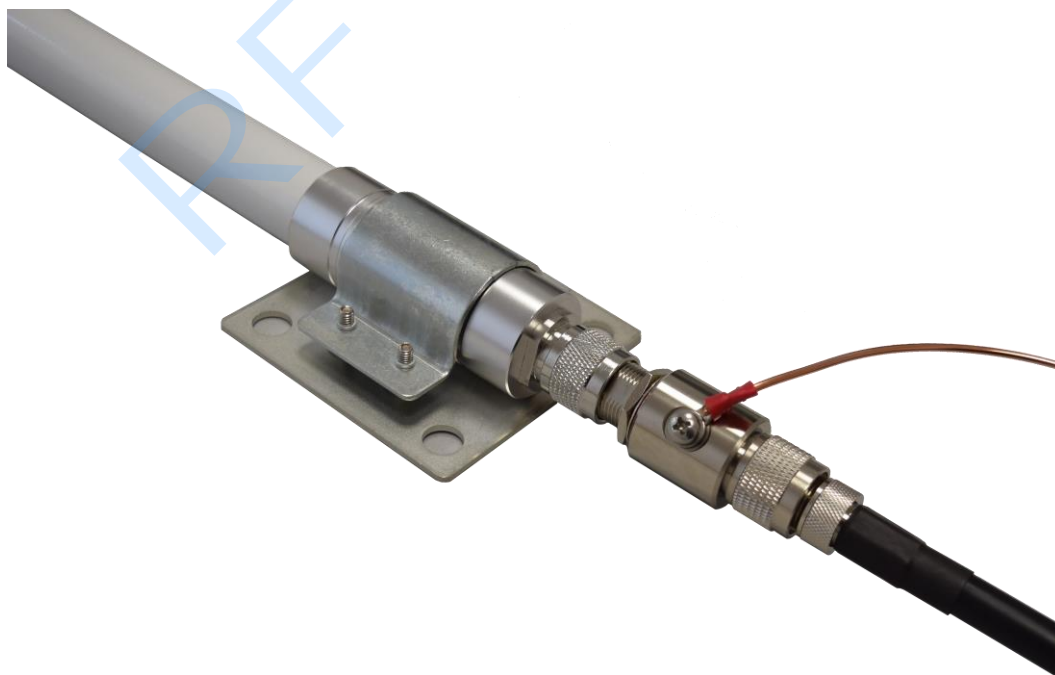


Installation

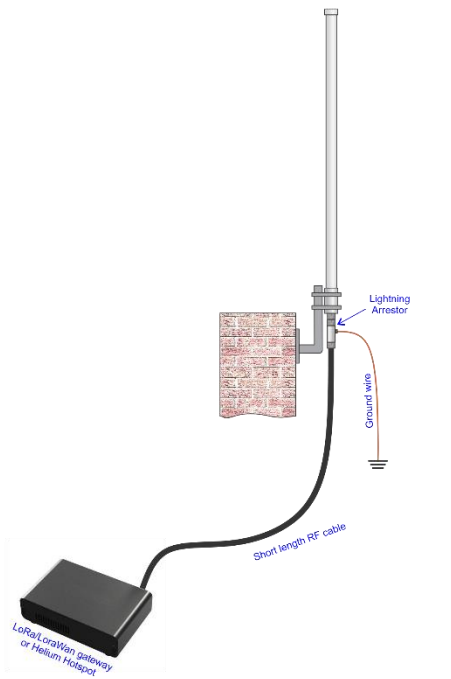
Three setup scenarios are suggested for RF Explorer Lightning Arrestor, depending on how the antenna is exposed to external conditions.

In all cases the Arrestor must be grounded correctly to divert current efficiently to the ground. Incorrect grounding may limit the protection significantly. Use AWG 10-12 (3-5mm diameter) wire for ground connection, and make solid link to the main ground of the house or building you are installing the antenna.

An example of correct antenna assembly below with ground connecting all mounting pad, antenna support and arrestor, all hooked together to a wire set to installation ground.



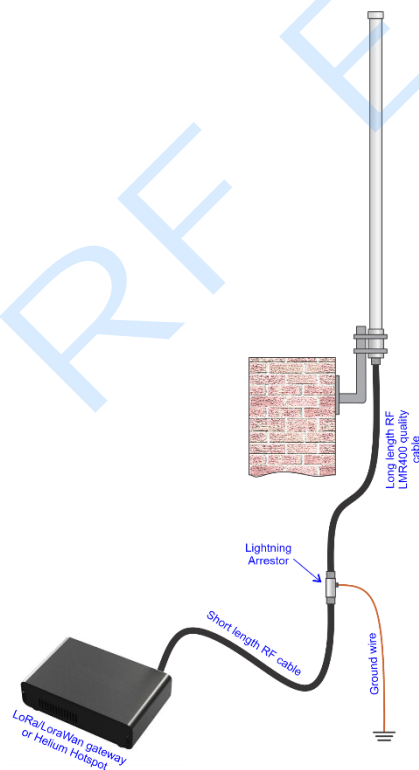
1. Installation for short cable length and short mast close to the gateway:



This is the simplest case and best option if the gateway is not far from the antenna, typically the RF cable length outdoors should be 2 meters or less, although cable length indoors may be larger.

In this case the lightning arrester can be attached directly to the antenna and properly grounded.

2. Installation for medium/long RF cable and short mast:



This setup where gateway is far from the antenna requires longer outdoor cable. Typically the RF cable length outdoors being more than 2-3 meters is considered enough to configure the way depicted in the figure.

In this case attaching the Lightning Arrester directly to the antenna is not best practice, because energy captured by the cable is not grounded and protected correctly.

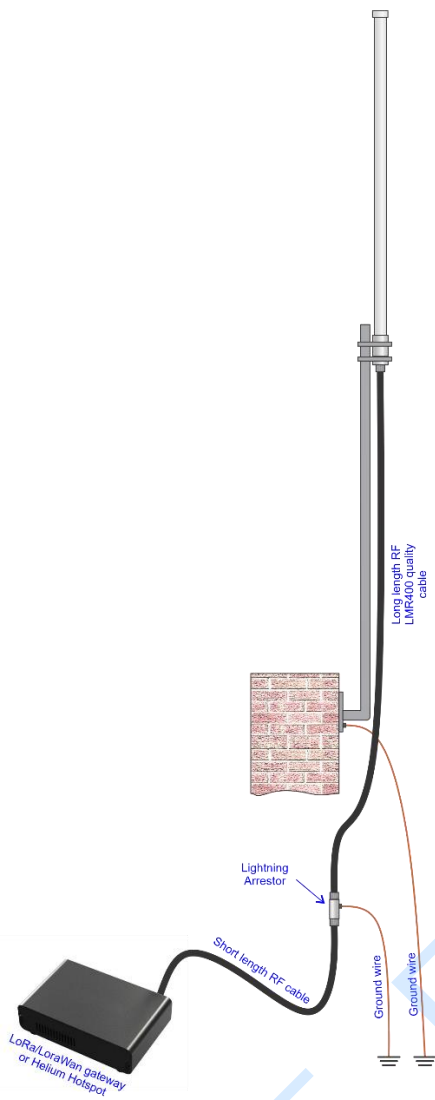
The lightning arrester should be close to the gateway, absorbing energy and diverting it to ground.

3. Installation for medium/large RF cable and long mast:

This case with a large mast requires much longer outdoor cable if the gateway is far from the antenna, typically the RF cable length outdoors being 5 meters or more, in this case attaching the Lightning Arrestor to the antenna is not best practice, because energy captured by the cable is not grounded and protected correctly.

In addition, this setup requires a ground for the mast itself, either using a specific mast ground clamp or using the mast assembly screws to secure the ground cable from the mast.

The lightning arrestor should be close to the gateway, absorbing energy and diverting it to ground.



Example of correct cable assembly:

