SP6 Series Lightning Arrestors
Instruction Sheet

230V Fast Discharge Lighting Arrestor
DC to 6000Mhz Operation
Insertion Loss 0.2dB Typ
50 Ohm, VSWR 1.5:1

These are high quality gas discharge lightning arrestors. In order for them to be effective in protecting equipment, proper grounding must be strictly adhered to.

Because of the variations in installation methods and grounding, it is impossible to warranty any damage to equipment caused by lightning.

1. The SP6 Lightning Arrestors are designed to protect equipment from surges caused by lightning strikes on towers or in close proximity to antennas. Lightning strikes are typically pulsed DC but there is also an RF component at about 2.2MHz. The first pulse averages 18kA. Subsequent pulses are usually about half that. An average lightning strike consists of 3-4 pulses.
2. Proper grounding of the antenna systems and tower are imperative to prevent equipment damage. Antenna and equipment should be connected to a single point ground. The best ground is a 3Ft or longer copper rod driven into the soil. Alternate grounds are (in order of decreasing effectiveness):
    - Building Steel or rebar
    - Cold Water Pipe
    - Metal Building Skin
    - Electrical System Ground
3. Pole and tower grounding should utilize copper braid or strapping for maximum energy dispersion.
4. Coax cable should be grounded at the antenna and where the cable leaves the tower or mounting pole. If the antenna mounting pole is properly grounded, then the antenna and coax are grounded via the antenna mounting bracket system. The coax should also be grounded as low as possible where the cable leaves the tower or mounting pole. Grounding kits are readily available to ground the coax to a tower base or pole base.
5. The SP6 comes in a 230V discharge model. The discharge voltage is the threshold voltage at which the surge suppressor starts to dump energy to ground.
6. The SP6 Lightning Arrestor should be located as close to the radio equipment as possible.
7. Ground the SP6 Lightning Arrestor by using an AWG #8 wire and crimping or soldering to the wire lug included on the SP6. You can also use a larger wire (#6) and wrapping around the grounding screw, then tightening the screw. The other side of the wire should be connected to a solid earth ground. A solid earth ground can be a properly grounded tower or mounting pole. The connection point for the ground wire from the SP6 should always be closer to the single point earth ground used than the radio equipment grounding location. Another grounding method is to mount the SP6 to an enclosure, then the bulkhead N connector becomes the ground path.
8. Waterproof all connections using a good waterproofing tape such as a self annealing rubber tape. Use an outer coating of high quality vinyl electrical tape. Spiral wrap so overlaps act as shingles to shed the water.
9. If mounted in-line, support the lightning arrestor by tightly tie wrapping to the tower or pole using UV resistant (black) tie wraps.