

COAXIAL LIGHTNING SURGE PROTECTOR

SP1000 (TYPE:M-J/M-J)

SP3000 (TYPE:N-J/N-J)

SP3000P (TYPE:N-J/N-P)



Instruction Manual

To use the unit properly, read the instructions thoroughly before installing the unit. Keep the instructions at hand to refer to it if necessary.

Caution

1. To avoid shock, do not touch the unit and a coaxial cable being connected to the unit after the thunder lightning starts.
2. To avoid damaging radio equipment from thunder lightning, disconnect a coaxial cable from the equipment and keep it away as possible from your reach, preferably outside, if the equipment is switched off for a long time.
3. To install the unit, be sure to provide stable foot step to avoid falling down or slipping off from a ladder,
4. To avoid injuring other people, do not drop the unit, parts, or tools.
5. To avoid falling, slipping, or injuring, do not install or inspect the unit under bad weather condition.
6. To avoid causing fire, shock, or injuring, do not connect ground the unit to a gas pipe or water pipe.

Note

1. Do not share the ground line with other utility ground lines such as power line. It is recommended to separate the unit's ground line from ones in other systems to avoid malfunctioning the unit.
2. Though the unit is designed to work well to protect radio equipment from high surge voltage caused by the static electrocutions or thunder lightning, it cannot protect the equipment from high current and voltage caused by a thunder strike itself. To protect the equipment from the strike, install proper thunder conductor separately.

Features

1. To achieve maximum safety, the unit employs builtin pressured gas tube surge arrester element to discharge and ground the surge current when it exceeds predetermined discharge voltage.

2. The unit starts discharging at predetermined voltage and stops discharging repeatedly as necessary. It is practically no need to replace the unit. And, if the unit is broken by chance, it is easily accessible to replace the unit without calling a service.
3. Coaxial structure of the unit allows the unit to have good RF performance, broad bandwidth, low insertion loss, and low VSWR.

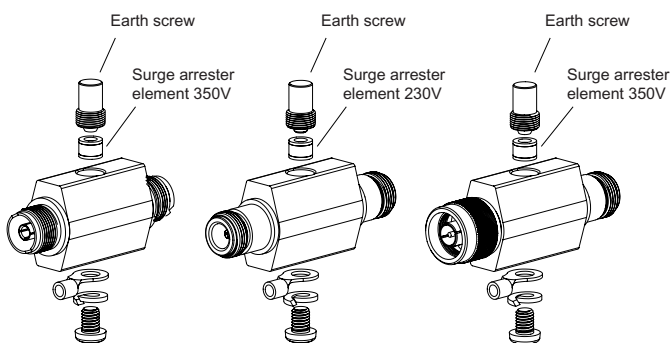
Installation

1. It is recommended to install the unit at the place where has easy access to the grounding point such as the place where a coaxial cable is fed into the building. (Fig 1)
2. Crimp or solder a copper wire, with 2.5 to 3.2mm diameter, to a grounding lug and connect the other end to buried earth ground. It is recommended to make the grounding line as short as possible.

☆To make good surge grounding

take the following precautions in mind and refer to those books specialized in grounding, or consult with specialist.

- Make grounding resistance as low as possible.
- To make ground contact are as large as possible, use electrode such as copper plate as large as possible.
- When the antenna is installed on a tower high above the ground, ground the base section of the tower with thick wire (more than 30mm copper wire or more than 50mm cross sectional area aluminum wire). Then install the unit at right below the antenna and connect the unit's earth section to the tower to use the tower as effective grounding line.



SP1000

SP3000

SP3000P

Model Name	SP1000	SP3000	SP3000P
Frequency range	DC-100MHz	DC-300MHz	
Impedance	50 Ω		
VSWR	Less than 1.2		
Insertion loss	Less than 0.3dB		
Max. power rating	400WPEP	200WPEP	400WPEP
DC breakdown voltage (100V/S)	350V±20%	230V±20%	350V±20%
Max. impulse breakdown voltage (1000/μS)	800V	650V	800V
Nominal impulse discharge current (8/20 μS 10 times)	10kA		
Impulse life (10/ 1000 μS) 100A(times)	300 times		
DC holdover voltage	150V		
Insulation resistance	Over 10,000M Ω		
Connector	M-J/M-J	N-J/N-J	N-J/N-P
Outer dimensions(mm)	66Wx41Hx20D	78Wx41Hx20D	77Wx41Hx21D
Weight(Approx.)	80g	110g	110g