LPS

LIGHTNING PROTECTION GROUNDING ROD

Moonraker LPS Rods provide a low impedance path for lightning strikes to ground. They are equally suitable for protecting a large rooftop area of a building or for shipboard use when strategically placed around the upper perimeter of the area to be protected.

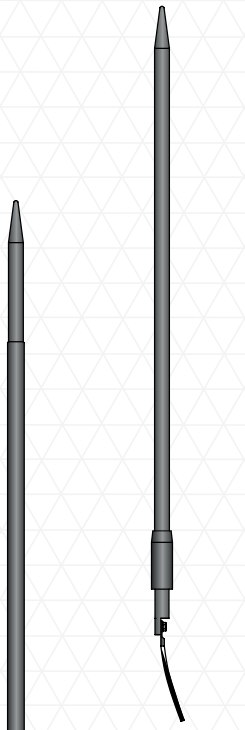
Lightning tends to take the path of least impedance (resistance and inductance). The LPS keeps this impedance to a minimum using tempered marine grade aluminium tube which provides a large low loss surface area minimising the skin effect. Combined with this lowering of inductance from skin effect is the inherent low resistance of aluminium to provide an overall low impedance path. This type of construction keeps the overall weight low, important in modern ship design. The LPS also features a stainless steel tip sharpened to increase the intercept capability of the lightning leader in the charged field below a thunderstorm.

Mounting is via a cast aluminium alloy base flange and support tube integrally connected to the LPS Rod. A stainless steel stud provides direct electrical connection to the earth system or to the metal deck or superstructure of a ship. The base and the rod are fully protected by a high durability epoxy based coating resistant to chemical attack, abrasion and the effects of ozone and ultra-violet radiation.

For ease of transport, the LPS rods longer then 4m are supplied in two slip together sections, complete with special jointing shroud and conducting grease sealing kit. The LPS is also available in laydown mounting option.

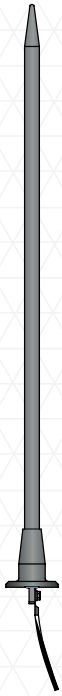
SPECIFICATIONS ▼

Colour	APO Grey (Low reflecting)	
Current Capability	Multiple lightning strikes of 250,000 Amperes	
Inductance (total)	3.2 micro henries	
Resistance (total)	0.7 milli ohms	
Overall Height	1m – 8m versions	
Diameter	Base element: 32mm	
Construction	Aluminium alloy A6060 Temper T81 with stainless steel 316 rod tip.	
Wind Survival	250km/h	
Shock	Capable of operation after three successive shocks applied in each direction of three mutually perpendicular axes at: 981m/s for 6mS duration upwards, downwards and horizontally	
Vibration	Designed for 10 hours in any of three perpendicular directions: 1.25mm 5-14Hz; 0.45mm 14-23Hz; 0.125mm 23-33Hz	
Connection	Stainless steel stud and lock nuts at side	
Mounting	Base flange, 152mm diameter with 4 x 9mm diameter holes located equidistant on a 127mm PCD	
Weight	1m: 2.0kg	2m: 3.0kg
	3m: 6.5kg	4m: 7.5kg
	5m: 7.8kg	6m: 8.8kg
	7m: 10.0kg	8m: 11.0kg



LPS1 - LPS2
TUBE MOUNT

LPS3 - LPS5



LPS1 - LPS2
FLANGE MOUNT

CONTACT DETAILS ▼

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JOINT SEALING KIT (not required for LPS-3 or shorter

The kit will consist of the following:

1 x Joint Shroud (made from Silastic 3481).
1 x Container of special grease (Penetrox "A") for antenna joint
1 x Roll of special tape (3M Vinyl Mastic) for antenna joint
Antenna Assembly Instructions

Other items required but not supplied:

1 x pair scissors
1 x Philips head screw driver
Rags - lint free
Cleaning fluid (general purpose)
Lubricant (detergent and water)

Section joining:

The object of this procedure is to exclude moisture from the joints of the antenna. Strict adherence to the instructions will prolong service life and ease disassembly of the lightning rod in years to come.

> **Note:** When handling the lightning rod ensure that hands and tools are clean. Wipe any dirt, grease etcetera from antenna using clean rag soaked in cleaning fluid.
>
> Ensure sections are adequately supported and are not knocked or scraped against any hard surfaces. If necessary, place protective wrapping around antenna to prevent damage to surface finish.

Preliminary Joint Shroud Installation:

1. Roll the joint shroud back over itself as far as possible.
2. Lightly lubricate the internal surface of the shroud with detergent and water.
3. Carefully slide the joint shroud over the top of the base section of the antenna until you are below the four screw holes.

Joint Sealing:

1. Thoroughly clean mating surfaces of the joint using rag and cleaning fluid and allow drying. Ensure no dust or residue is left on the surfaces.
2. Apply the special conductive grease supplied to both surfaces of the joint.
3. Insert top section into base section and gently rotate the top section to ensure even distribution of the jointing grease.
4. Align the joint fixing holes, insert and tighten the four Philips head screws.
5. Thoroughly clean any excess grease from the external surface of the antenna, using rag and cleaning fluid. Allow to dry.
6. Wind special tape supplied firmly (without stretching) once around antenna immediately below the fixing screws, and then spirally wind tape towards antenna joint, keeping tape firm. Each winding to step up by half the tape width until a position just above the joint is reached. Proper adherence to this procedure will ensure that the screws and joint are properly sealed.

Joint Shroud Installation:

1. Unroll the joint shroud and manipulate it until it covers the tape.
2. Thoroughly clean all excess lubricant from antenna with a clean rag.

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