



## Type 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.

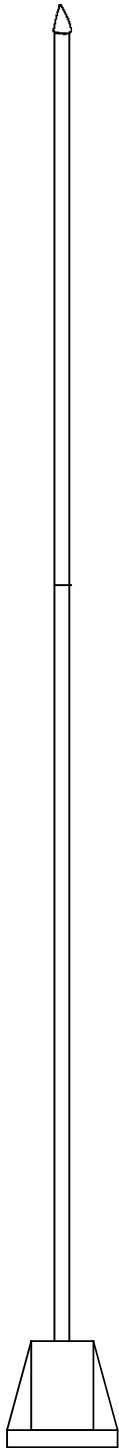
Lightning tends to take the path of least impedance (resistance and inductance). The LPS keeps this impedance to a minimum by the use of tempered marine grade aluminium tube which provides a large low loss surface area minimising the skin effect. Combined with this lowering of inductance from skin effect 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 (4m & 5m) is 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

<b>Colour</b>	Standard is low reflecting APO grey
<b>Current Capability</b>	Multiple lightning strikes of 250,000 Amperes
<b>Inductance (total)</b>	3.2 micro henries
<b>Resistance (total)</b>	0.7 milli ohms
<b>Overall Height</b>	1m (3.2ft), 2m (6.5ft), 3m (9.8ft), 4m (13.1ft) and 5m (16.4ft) versions
<b>Diameter</b>	Base element: 32mm (1.3 in)
<b>Construction</b>	Aluminium alloy A6060 Temper T81 with stainless steel 316 rod tip. Minimum cross sectional area = 200mm <sup>2</sup>
<b>Wind Survival</b>	250km/h (156 mph)
<b>Bending Force</b>	139MPa at rod base including 1.5 safety factor (minimum yield tensile strength for A6063 T81: 205MPa)
<b>Shock</b>	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
<b>Vibration</b>	Designed for 10 hours in any of three perpendicular directions: 1.25mm 5-14Hz; 0.45mm 14-23Hz; 0.125mm 23-33Hz
<b>Connection</b>	Stainless steel stud and lock nuts at side
<b>Mounting</b>	Base flange, 152mm (6 in) diameter with 4 x 9mm (0.4 in) diameter holes located equidistant on a 127mm (5 in) circle
<b>Weight</b>	3m version 6.5kg (13 lbs), 4m version 7.5kg (15 lbs), 5m version 7.8kg (17.2 lbs)



Specifications subject to change: issued 02/05/2016



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