



LOW PROFILE MULTIBAND 4G-L1GPS-W-LAN RAILWAY ANTENNA

790÷960 MHz, 1710÷2170 MHz, 1575.42 MHz, 2400÷2700 MHz

M4GLWD1

POLOMARCONI.IT

POLOMARCONI offers a very wide range of wireless products.
Our products can be tailored according to the customer's need.

TRANSPORT

Electrical Specifications

4G AND W-LAN BANDS

Frequency bands (MHz)	Band1	790 ÷ 960
	Band2	1710 ÷ 2170
	Band3	2400 ÷ 2700

Impedance (Ω) 50

VSWR $\leq 2.0:1$

Continuous Max. Composite Power (W) 30

Polarization vertical

Gain (dB) over $\lambda/4$ monopole antenna 0

NAVIGATION AND GEOLOCALIZATION BAND

Frequency band (MHz) 1574.42 ÷ 1576.42

Impedance (Ω) 50

Polarization Right Hand Circular Polarization (RHCP)

Gain (dBic) ≥ 25 (typical 27), @ $T_0=25^\circ\text{C}$, $V_{DC}=5\text{V}$

Noise Figure (dB) ≤ 2.5 , @ $T_0=25^\circ\text{C}$, $V_{DC}=5\text{V}$

Operating supply voltage (V_{DC}) 3 ÷ 7

Current consumption (mA) ≤ 35 , @ $T_0=25^\circ\text{C}$, $V_{DC}=5\text{V}$

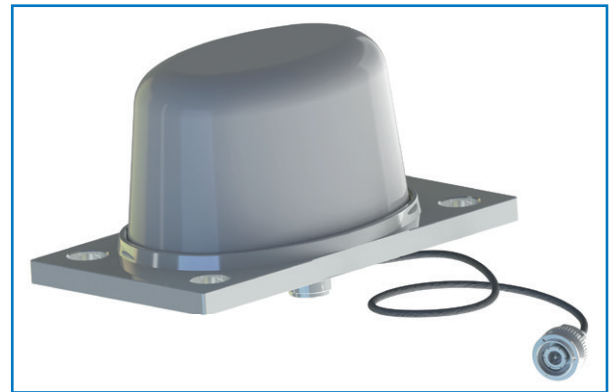
Satellite navigation and geolocalization supported systems GPS



Patent n° 1548873

Antenna for train with protective means against high voltages.

Patent has been used by SNCF and by the most important producers of trains.



Mechanical Specifications

Connectors N f for 4G and W-LAN bands
abt. 220mm of RF coaxial cable with TNC m connector

Dimensions (Height from installation surface x Width x Depth, mm) 70x80x145

Weight (kg) abt. 0.5

Materials
Base Aluminum with SURTEC 650 galvanic treatment
Radome High impact polycarbonate

Mounting at the center of a metallic conductive surface with minimum sizes of 500x500mm



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Environmental Specifications

CLIMATIC CONDITIONS according to NF EN 60068

Operating Temperature (°)	-40 ÷ +70
Storage Temperature (°)	-40 ÷ +70

MECHANICAL CONDITIONS according to EN 50155:2017 and EN 61373

EMC according to EN 50121-3-2

HIGH VOLTAGE PROTECTION according to EN 50124-1

HIGH CURRENT PROTECTION according to EN 50153, UIC 758, UIC 533, EN 50388 and EN 50123

Short-circuit currents flow/time before breaking	40 kA / 100 ms (DC)
	15 kA / 100 ms (AC)

FLAMMABILITY RATING according to EN 45545-2:2013+A1:2015

IP 67

RoHS 2011/65/EU compliant

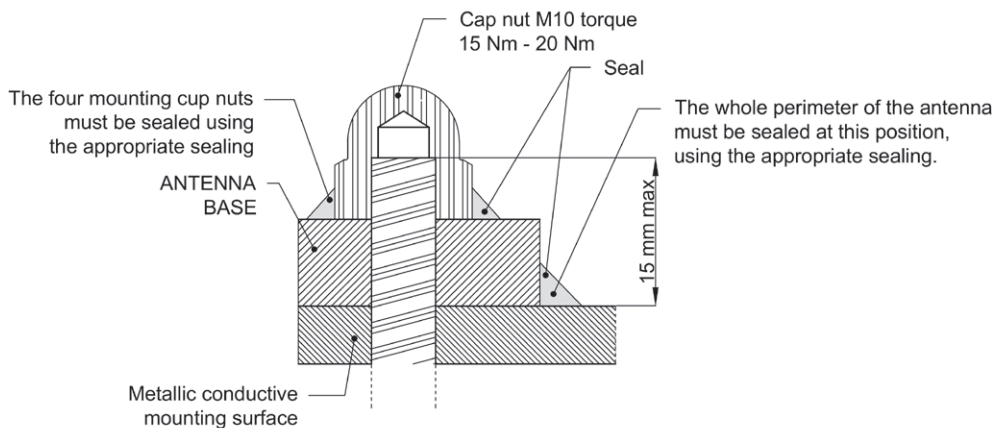
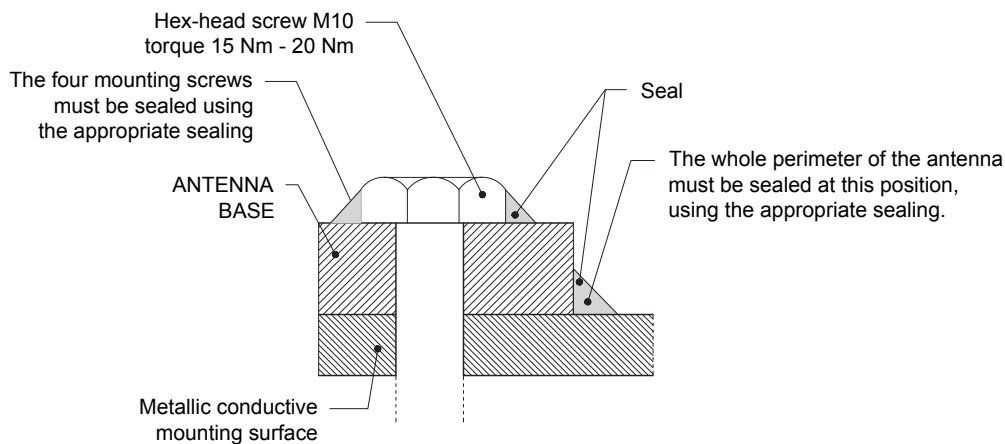
MOUNTING FLANGE

Mounting: at the center of a metallic conductive surface with minimum sizes of 500x500mm; it's advisable to keep the mounting surface clean and free from paint for an optimal electric contact. Mounting flange holes are indicated in the relevant mounting instructions document.

Grounding and high voltage protection: Our antennas have passed the strict SNCF's tests that approved our products as protected against lightning and high-tension lines thanks to our patented DC and AC grounded system.

Multiband: Our multi-band antennas can operate in all frequency ranges simultaneously.

Advantage: GPS LNA amplifier included; there is no need of an external low noise GPS amplifier as the internal GPS antenna is already amplified.





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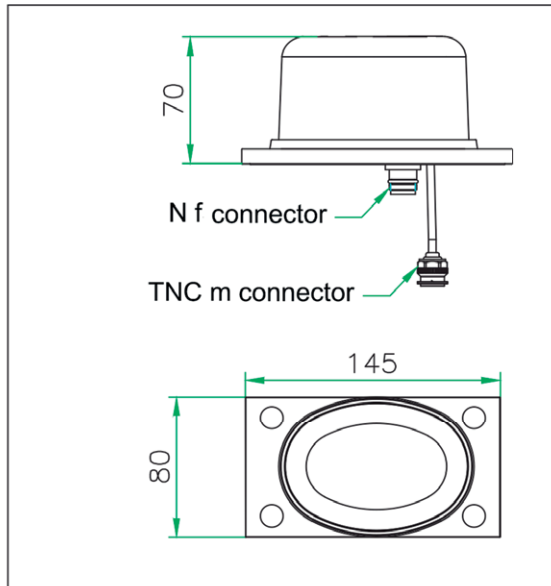
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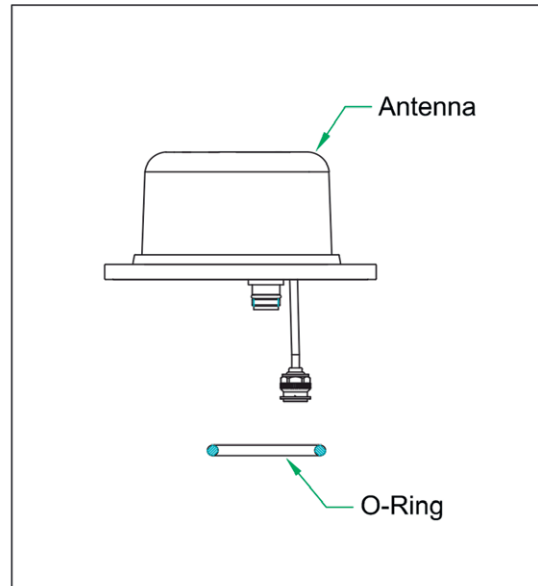
TRANSPORT

MOUNTING INSTRUCTIONS

GENERAL DIMENSIONS



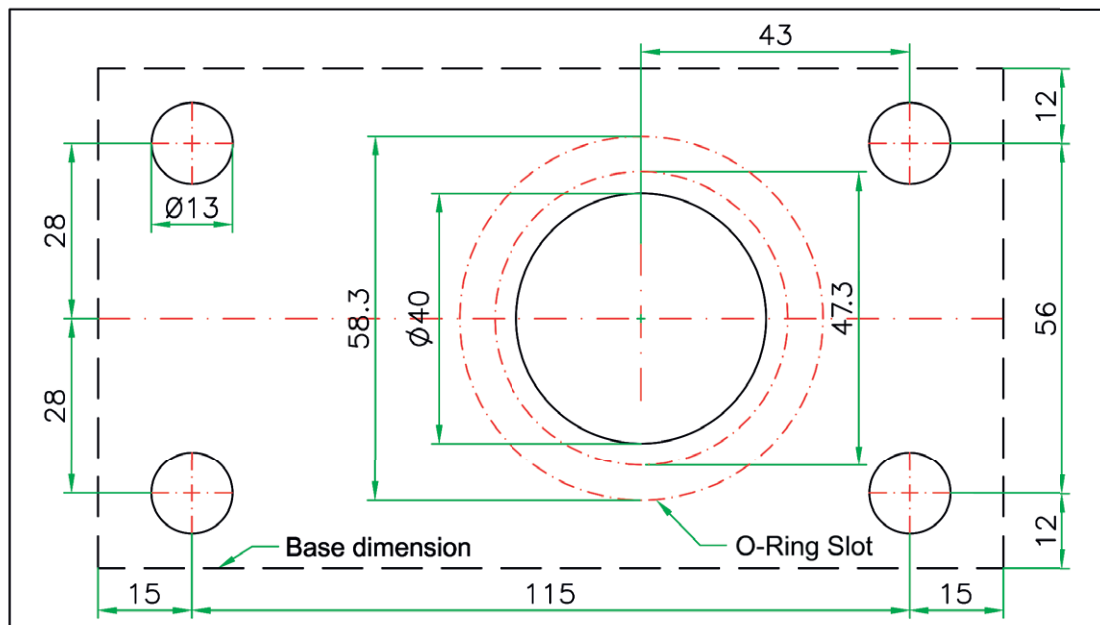
EXPLODED VIEW



MANUAL OF USE

- 1) In order to guarantee the SECURITY OF THE STAFF, in case of fall of the catenary and consequent contact of the same one with the antenna it's necessary that the antenna is mounted on conductive surface (metallic) connected to ground.
- 2) For the use of the antenna on glass-reinforced plastic surfaces or however on non metallic surfaces making sure that the antenna is mounted on a conductive surface (metallic) of minimum dimensions 500x500 mm; IN THIS CASE IS NOT GUARANTEED HOW MUCH BROUGHT BACK TO POINT 1 also maintaining the radioelectric characteristics unchanged.
- 3) For an optimal connection of the antenna with the installation conductive surface (metallic), before the assembly, strip the zones of contact between the antenna base surface and nuts and bolts of implantation.

PERFORATION MASK



All dimensions are in mm