



# MULTI-BAND VHF-L1 GPS-G1 GLONASS ANTENNA

151 ÷ 156 MHz, 1575.42 MHz, 1602 MHz

BFLG1D2F

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

TRANSPORT

## Electrical Specifications

### VHF BAND

Frequency band (MHz)	151 ÷ 156
Impedance ( $\Omega$ )	50
VSWR	< 1.7:1
Continuous Max. Power (W)	30
Polarization	vertical
Gain (dB) over $\lambda/4$ monopole antenna	0
Operating Temp. Range ( $^{\circ}\text{C}$ )	-40 ÷ +70

### SATELLITE NAVIGATION AND GEOLOCALIZATION BANDS

Frequency band (MHz)	1574.42 ÷ 1576.42
Impedance ( $\Omega$ )	50
Polarization	Right Hand Circular Polarization (RHCP)
Gain (dBic)	$\geq 30$ , @ $T_0=25^{\circ}\text{C}$ , $V_{\text{DC}}=5\text{V}$
Noise Figure (dB)	$\leq 2.0$ , @ $T_0=25^{\circ}\text{C}$ , $V_{\text{DC}}=5\text{V}$
Operating supply voltage ( $V_{\text{DC}}$ )	3.0 ÷ 15.0
Current consumption (mA)	$\leq 30$ , @ $T_0=25^{\circ}\text{C}$ , $V_{\text{DC}}=5\text{V}$
Out of band attenuation (dB)	$\geq 40$ for frequencies $\leq 1472\text{MHz}$ and for frequencies $\geq 1718\text{MHz}$
Operating Temp. Range ( $^{\circ}\text{C}$ )	-40 ÷ +70
Satellite navigation and geolocalization supported systems	GPS and GLONASS

## Mechanical Specifications

Connectors	N f for VHF band TNC f for satellite navigation and geolocalization bands
Dimensions (Height from installation surface x Width x Depth, mm)	360x80x145
Weight (kg)	abt. 1.0
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 2000x1000mm



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.



## Environmental Specifications

**ATMOSPHERIC and CLIMATIC CONDITIONS according to EN 50155 and EN 60068**

**MECHANICAL CONDITIONS according to EN 50155**

**EMC according to EN 50121-3-2**

**HIGH VOLTAGE PROTECTION according to EN 50153 and EN 50124-1**

**DC GROUNDING, HIGH CURRENT PROTECTION according to EN 50153, IEC 758, IEC 533, EN 50388 and EN 50123**

Short-circuit currents flow / time before breaking	70 kA / 5 ms – 40 kA / 100 ms (DC) 31.5 kA / 10 ms – 15 kA / 100 ms (AC)
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**RoHS 2011/65/EU compliant**

**FLAMMABILITY RATING according to EN 45545-2**

**IP rating: IP67**

## MOUNTING FLANGE

Mounting: at the center of a metallic conductive surface with minimum sizes of 2000x1000mm; it's advisable to keep the mounting metallic conductive surface clean and free from paint for an optimal electrical contact. Mounting flange holes are indicated in the relevant mounting instruction 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 voltage thanks to our patented DC and AC grounded system.

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



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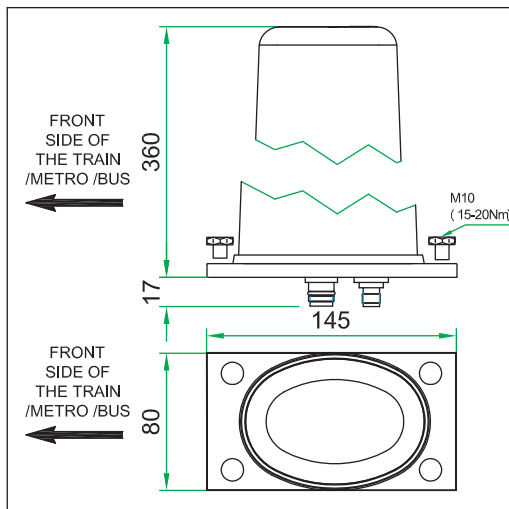
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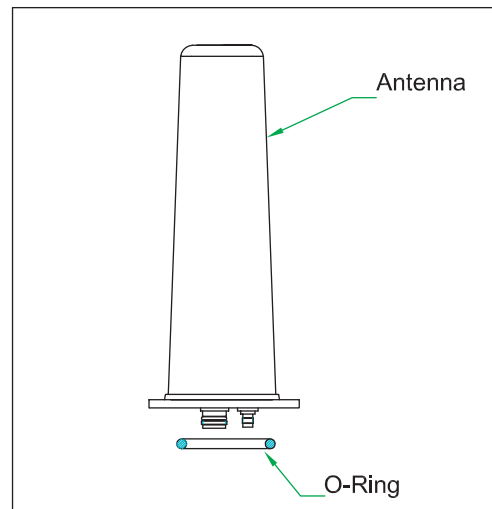
TRANSPORT

## MOUNTING INSTRUCTIONS

GENERAL DIMENSIONS



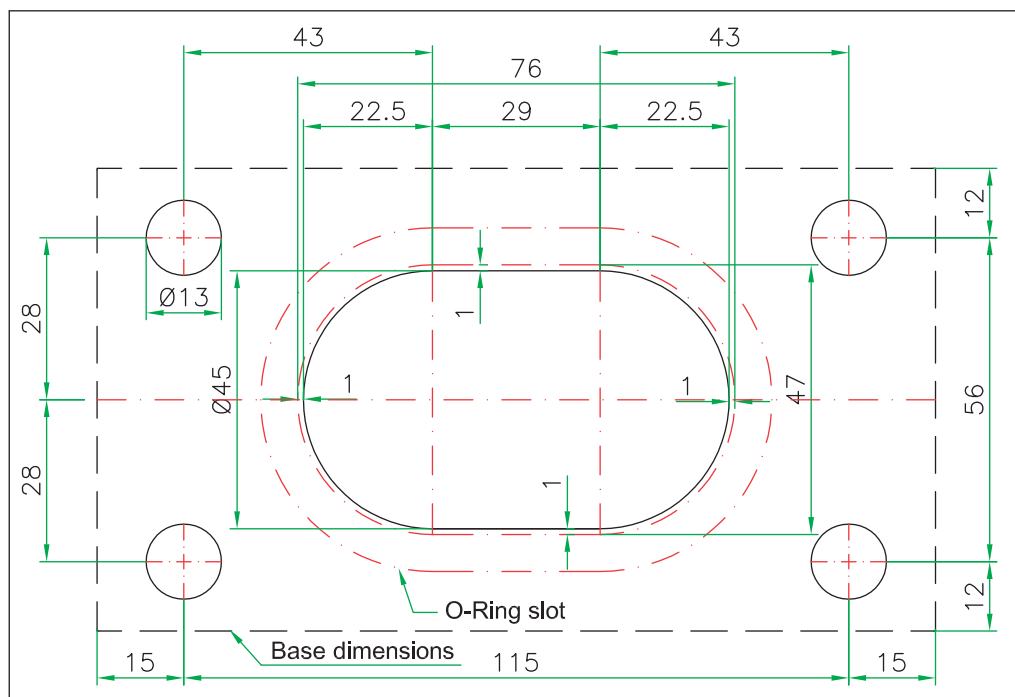
EXPLODED VIEW



### 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 earth.
- 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 at the center of a conductive surface (metallic) of minimum dimensions 2000x1000 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 conductive surface (metallic), before the assembly, strip the zones of contact between surface of antenna's installation and nuts and bolts of implantation.

PERFORATION MASK



All dimensions are in mm.