



# DUALBAND GSM-R - GPS ANTENNA

876 ÷ 960 and 1575.42 MHz

BGLD1

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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

Frequency band (MHz)	876 ÷ 960
Impedance ( $\Omega$ )	50
VSWR	<1.8:1
Max rated power (W)	30
Polarization	vertical
Gain (dB over $\lambda/4$ monopole)	0

## SATELLITE NAVIGATION AND GEOLOCALIZATION BAND

Frequency band (MHz)	1574.42 ÷ 1576.42
Impedance ( $\Omega$ )	50
Polarization	Right Hand Circular Polarization (RHCP)
Gain (dBic)	$\geq 25$ (typical 27), @ $T_0=25^\circ\text{C}$ , $V_{\text{DC}}=5\text{V}$
Noise Figure (dB)	$\leq 2.5$ , @ $T_0=25^\circ\text{C}$ , $V_{\text{DC}}=5\text{V}$
Operating supply voltage ( $V_{\text{DC}}$ )	3.0 ÷ 7.0
Current consumption (mA)	$\leq 35$ , @ $T_0=25^\circ\text{C}$ , $V_{\text{DC}}=5\text{V}$
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 female for GSM/R TNC female for GPS (SMA female for 3V model)
Dimensions (mm)	140x80x145
Total weight (kg)	0.5
Materials	base Aluminium with SURTEC 650 treatment radome High impact polycarbonate connectors Silver plated brass
Mounting	on metallic surface (600x600 mm minimum)
Operation Temp. Range ( $^\circ\text{C}$ )	-40 ÷ +70

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## Environmental Characteristics

### ATMOSPHERIC and CLIMATIC CONDITIONS according to NF EN 60068

Temperature conditions	-40°C, +70°C
Atmospheric pressure	-40°C, +70°C, 95% HR at 2000 mt
Rain, hail, snow, frost	1000 mm/h, 1 J impact, 0.5 m, 3 cm
Combined wind and train speed	530 km/h

### PREAMPLIFIER EMC according to CEI 61000 and ETSI GSM 11-10

Radiated electromagnetic fields	20 V/m (30 MHz – 1 GHz)
Electrostatic discharges	±15 kV on air, ±8 kV on contact
Pulsed magnetic fields	1000 A/m

### MECHANICAL CONDITIONS according to NF EN 60068, 61373 and 15-818

Free falls	1 m
Hits (vertical, cross-sectional, longitudinal)	30m/s <sup>2</sup> , 30m/s <sup>2</sup> , 50m/s <sup>2</sup> , 30ms
Impacts	50 J

### GROUNDING and HIGH VOLTAGE PROTECTION according to NF EN 50388 and NF 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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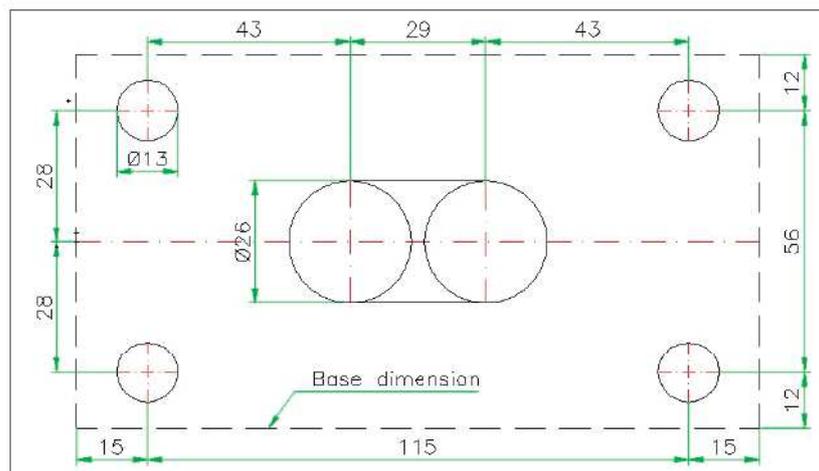
## MOUNTING FLANGE

Mounting: on a conductive surface with a minimum size of 600x600 mm; it's advisable to keep the mounting surface clean for a better electrical contact.

BGLD1 4 holes flange: flange with 4 M10 studs included.

**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: amplifier included; there is no need of an external low noise GPS amplifier as the internal GPS signal is already amplified**  
**Approved by:** SNCF, SNCB, TRENITALIA

## Drilling Mask



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