



DUAL BAND GPS & WiFi ANTENNA

2400 ÷ 2485 MHz and 1574.42 MHz

BLWD1

POLOMARCONI.IT



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

RAILWAYS AND TRANSPORT

Electrical Specifications

Frequency Band (MHz)	2400 ÷ 2485
Impedance (Ω)	50
VSWR	<1.7:1
Continuous Max. Power (W)	30
Polarization	vertical
Gain (dB) over $\lambda/4$ monopole	0
Operation Temp. Range ($^{\circ}\text{C}$)	-40 $^{\circ}$ ÷ +70 $^{\circ}$

GPS BAND

Frequency Band (MHz)	1574.42 ÷ 1576.42
Impedance (Ω)	50
VSWR (GPS antenna without amplifier mounted on a conductive surface of dimensions 5x5 cm)	<1.5:1
Medium gain (dBic) (GPS antenna without amplifier) at zenith (90 $^{\circ}$ of elevation)	-2 ÷ +1
at 0 $^{\circ}$ of elevation axial ratio	-18 dB to 2 at 3 dB
Polarization	right hand circular

GPS AMPLIFIER

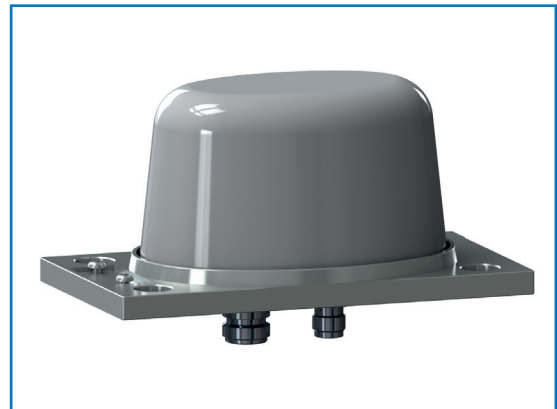
Gain (dB)	> 27 (29 medium)
Noise factor (dB)	< 1.5 (1.2 medium)
Power supply (V)	5 \pm 40%
Consumption (mA)	23 \pm 3.5 (21 medium)



Patent n $^{\circ}$ 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	Silver plated brass
Type of connection	N female for GSM/R TNC female for GPS (SMA female for 3V model)
Dimensions (mm)	70x80x145
Weight (kg)	0.5
Base material	Aluminium with SURTEC 650 treatment
Radome	High impact polycarbonate
Mounting	on metallic surface (600x600 mm minimum)
Reliability	above to 200,000 hours

Environmental Characteristics

ATMOSPHERIC and CLIMATIC CONDITIONS according to NF EN 60068

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

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

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

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

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

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.

BLWD1 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

BY



Made in Italy. We reserve the right to modify these data without any notice.

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