



# THREE BAND UHF – GSM – L1 GPS ANTENNA

456 ÷ 462 , 870 ÷ 960 and 1575.42 MHz

TRGLD1

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)	456 ÷ 462 870 ÷ 960
Impedance (Ω)	50
VSWR	<2:1
Continuous Max. Power (W)	30
Polarization	vertical
Gain (dB) over λ/4 monopole	0
Operation Temp. Range (°C)	-40° ÷ +70°

### GPS BAND

Frequency Band (MHz)	1575.42 ±1
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° of elevation)	-2 ÷ +1
Polarization	right hand circular

### GPS AMPLIFIER

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

## Mechanical Specifications

Connectors	Silver plated brass
Type of connection	N female for UHF and GSM TNC female for GPS
Dimensions (mm)	70x80x145
Weight (kg)	0.5
Base material	Aluminium with SURTEC 650 treatment
Radome	High impact polycarbonate
Mounting	on metallic surface (800x800mm minimum)
Reliability	above to 200,000 hours

## Environmental Characteristics

### ATMOSPHERIC and CLIMATIC CONDITIONS according to NF EN 60668

Temperature conditions	-40°C, +70°C
Atmospheric pressure	-40°C, +70°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 60668, 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

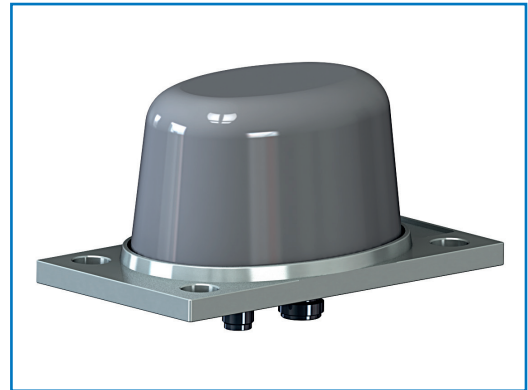
Short-circuit currents flow / time before breaking	70 kA / 5 ms – 40 kA / 100 ms (DC) 31,5 kA / 10 ms – 15 kA / 100 ms (AC)
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Patent n° 1548873

Antenna for train with protective means against high voltages.

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



## MOUNTING FLANGE

Mounting: on a conductive surface with a minimum size of 800x800 mm; it's advisable to keep the mounting surface clean for a better electrical contact.

TRGLD1 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.

**\*Advantage:** UHF frequency could be modified on customer's request

**Approved by:** SNCF, SNCB, TRENITALIA

BY



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TRGLD1-DS REV. 00 - 04/09/2014