



5 BANDS GSM-DCS-L1 GPS-UMTS-W-LAN ANTENNA

870 ÷ 960 MHz, 1710 ÷ 1880 MHz, 1575.42 MHz,
1920 ÷ 2170 MHz, 2400 ÷ 2485 MHz

PDBLUWD1

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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

MAIN

Frequency range (MHz)	GSM	870 ÷ 960
	DCS	1710 ÷ 1880
	UMTS	1920 ÷ 2170
	W-LAN	2400 ÷ 2485
Input impedance (Ω)		50
V.S.W.R.		$\leq 2.0:1$
Maximum rated RF 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 (Ω)	50
Polarization	Right Hand Circular Polarization (RHCP)
Gain (dBic)	≥ 25 (typical 27), @ $T_0=25^\circ\text{C}$, $V_{\text{DC}}=5\text{V}$
Noise Figure (dB)	≤ 2.5 , @ $T_0=25^\circ\text{C}$, $V_{\text{DC}}=5\text{V}$
Operating supply voltage (V_{DC})	3.0 ÷ 7.0
Current consumption (mA)	≤ 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, DCS, UMTS and W-LAN bands TNC female for GPS band (SMA female with cable in 3V model)
Dimensions (Height x Width x Depth, mm)	70x80x145
Weight (kg)	abt. 0.5
Materials	body Aluminium with SURTEC 650 treatment radome High impact polycarbonate connectors Silver plated brass
Mounting	on metallic conductive surface (600x600mm minimum)
Operating Temp. Range ($^\circ\text{C}$)	-40 ÷ +70



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Environmental Specifications

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

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	±15 kV on air, ±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 metallic surface with a minimum size of 600x600mm; it's advisable to keep the mounting surface clean for a better electrical contact.

PDBLUWD1 4 holes flange; see mounting flange B.

PDBLUWD1-3V 3 screws flange: flange with 3 screws included, according to FEDERTRASPORTI 00104/5; see mounting flange C.

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.

Multiband: Our multi-band antennas can operate in several frequencies simultaneously, so they don't need demixer.

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



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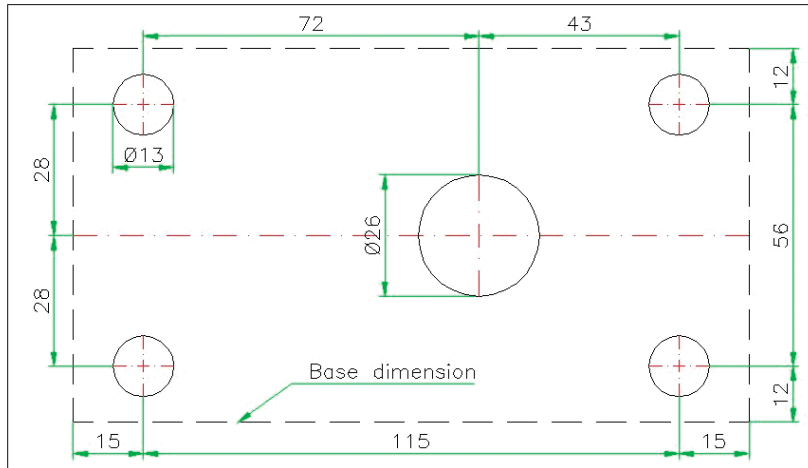
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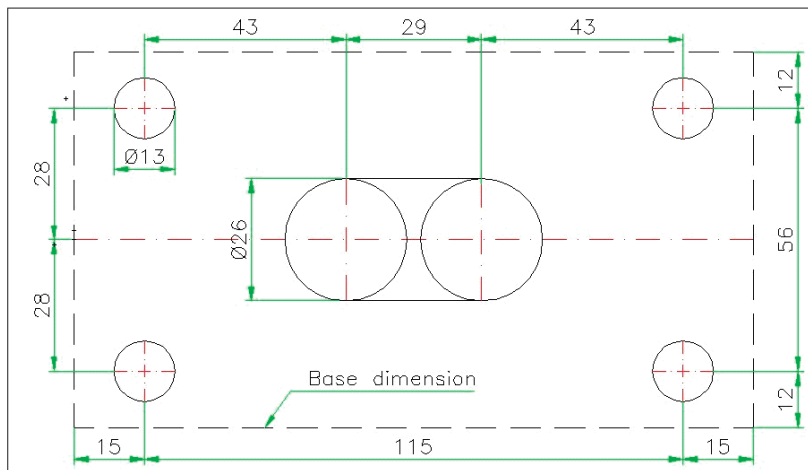
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TYPE A:



TYPE B:



TYPE C (FEDERTRASPORTI 00104/5):

