



# LOW PROFILE MULTIBAND 4G-L1GPS-W-LAN RAILWAY ANTENNA

790÷960 MHz, 1710÷2170 MHz, 1575.42 MHz, 2400÷2700 MHz

M4GLWD1B

POLOMARCONI.IT

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

TRANSPORT

## Electrical Specifications

### 4G AND W-LAN BANDS

|  |       |                |
|--|-------|----------------|
| Frequency bands (MHz)                        | Band1 | 790 ÷ 960      |
|  | Band2 | 1710 ÷ 2170    |
|  | Band3 | 2400 ÷ 2700    |
| Impedance ( $\Omega$ )                       |       | 50             |
| VSWR   |       | $\leq 2.0:1$   |
| Continuous Max. Composite Power (W)          |       | 30             |
| Polarization                                 |       | vertical       |
| Gain (dB) over $\lambda/4$ monopole antenna  |       | 0              |
| Operating Temp. Range ( $^{\circ}\text{C}$ ) |       | $-40 \div +70$ |

### 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 ÷ 7  |
| Current consumption (mA)                               |  | $\leq 35$ , @ $T_0=25^{\circ}\text{C}$ , $V_{\text{dc}}=5\text{V}$             |
| Operating Temp. Range ( $^{\circ}\text{C}$ )           |  | $-40 \div +70$   |
| Satellite navigation and geolocation supported systems |  | GPS  |

## Mechanical Specifications

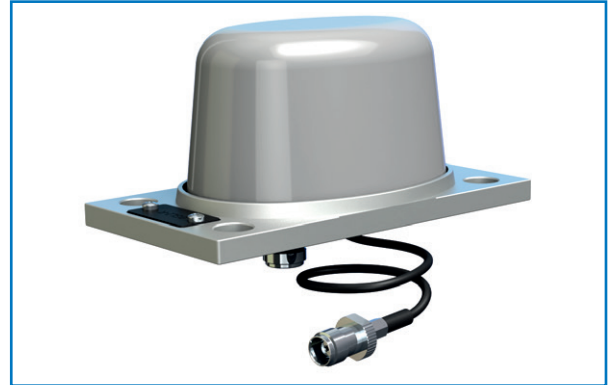
|  |  |   |
|--|--|---|
| Connectors   |  | N f for 4G and W-LAN bands<br>abt. 220mm of RF coaxial cable with TNC f connector |
| Dimensions<br>(Height from installation surface x Width x Depth, mm) |  | 70x80x145   |
| Weight (kg)  |  | abt. 0.5  |
| Materials  |  |   |
| Base   |  | Aluminum with SURTEC 650 galvanic treatment                                       |
| Radome   |  | High impact polycarbonate   |
| Mounting   |  | at the center of a metallic conductive surface with<br>minimum sizes of 250x250mm |



Patent n° 1548873

Antenna for train with protective means against high voltages.

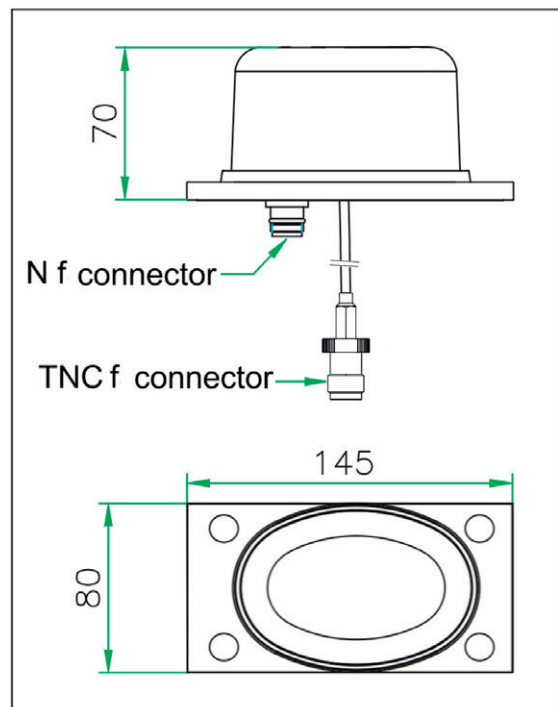
Patent has been used by SNCF and by the most important producers of trains.



### REFERENCE DOCUMENTS

M4GLWD1B-DT (Technical data)  
M4GLWD1B-PI (Mounting Instructions)

## GENERAL DIMENSIONS



All dimensions are in mm



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## 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, UIC 758, UIC 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) |

**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 250x250mm for Full GSM band; it's advisable to keep the mounting 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 LNA amplifier included; there is no need of an external low noise GPS amplifier as the internal GPS antenna is already amplified.