

Sencity Rail Antenna 1399.99.0121

Description

Railway rooftop antenna for 2G/3G/4G/5G cellular and WiFi 2.4/5 GHz bands.
 Multiple Antenna installations support Cellular and WiFi MIMO.
 Embedded combined GPS+GLONASS antenna with integrated LNA.
 Rugged design, meets EN 50155 railway standard.
 Fire retardant acc. to DIN 5510-2, BS 6853, NF F16-101/102, EN 45545-2.
 Works also on non-metallic surfaces.
 Dedicated grounding contact (optional).
 Cable conduit support (optional).



Product Configuration

Technical Data

Electrical Data

	Band 1	Band 2	Band 3	Band 4
Frequency (MHz)	694 - 790	790 - 960	1350 - 1525	1710 - 2700
VSWR	2	1.5	2.2	1.5
Impedance (Ohm)	50	50	50	50
Gain (dBi)	5	5	6	6
Composite power max (W)	800	550	550	350
Ambient temperature (°C)	25	25	25	25

	Band 5	Band 6	Band 7	Band 8
Band Name				GPS/Glonass
Frequency (MHz)	2700 - 3300	3300 - 4900	4900 - 6425	1574 - 1610
VSWR	1.5	1.7	1.5	1.8
Impedance (Ohm)	50	50	50	50
Gain (dBi)	8.5	7	7.5	
Composite power max (W)	350	300	300	
Ambient temperature (°C)	25	25	25	

Ports

	Port 1	Port 2
Connector	N, jack (female)	TNC, plug (male)
Polarization	vertical	circular right
DC grounded	Yes	No

Connections

	Band 1	Band 2	Band 3	Band 4	Band 5	Band 6	Band 7	Band 8
Port 1	X	X	X	X	X	X	X	
Port 2								X

General Data

Indicated VSWR values are valid for a metallic ground plane of 0.5 x 0.5m or larger. In the 790-5935 MHz band, Indicated VSWR values are also valid for installations on non-metallic surfaces (no specific ground plane requirements). Indicated gain values will be achieved on a metallic ground plane of 1 x 1 m or larger.

Electrical Data LNA

LNA noise figure dB	1.8
LNA current consumption (mA)	30

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LNA is connected to

Port 2

EMC: EN 50121-3-2:2001

LNA input voltage range: 3..5V

Total gain @90° elevation: 30 dBiC

Values for LNA power consumption, noise figure and gain are given for a 5V operating voltage and may differ slightly for a lower voltage

Mechanical Data

Dimensions (mm)	90 x 100 x 256 (Height x Width x Depth)
Weight (kg)	1

High-voltage-protection: no voltage on RF port, if the catenary line touches antenna (EN 50124-1, 27.5 kVAC).

High-current-protection: Designed acc. to UIC 533, DC-grounded antenna element (protection against lightning and short circuit with catenary lines(40kA/0.1s).

Corrosion: Low corrosion design acc. to MIL-F-14072(E).

Mounting: Shall be installed in longitudinal position to the wind/driving direction.

Environmental Data

Environmental conditions	indoor/outdoor
Operation temperature (°C)	-45 to 85
Storage temperature (°C)	-55 to 85
Transport temperature (°C)	-55 to 85
IP rating	IP66, IP68
Flammability rating	DIN 5510
Solar radiation	DIN 75220
2011/65/EU (RoHS - including 2015/863 and 2017/2102)	compliant
WEEE 2012/19/EU	no special marking needed
REACH 1907/2006/EC	compliant

Environmental tests: EN 50155:2007

Flammability rating DIN 5510-2, BS 6853, NF F16-101/102, EN 45545-2.

Material Data

Radome colour	RAL 7043 (dark grey)
Radome material	ASA (acrylic ester-styrene-acrylonitrile)
Back plate/base plate material	Aluminium

Related Products

9091.99.0235 Sencity Rail Antenna grounding kit

9091.99.0236 Sencity Rail conduit Support Kit

9091.99.0261 Sencity Rail antenna mounting plate

9091.99.0252 Sencity Rail antenna adaptor plate

If the band below 790 MHz is used, it is recommended to mount the antenna directly on a metal roof without using any kind of mechanical adaptor between antenna and roof.

Related Documents

Mounting instruction	DOC-0000295392
Painting instruction	DOC-0000256180
Security instruction	DOC-0000278984
Outline drawing	DOU-00142537
Outline drawing 2	DOU-00154160
3D-model	DOC-0000334491

Additional Information

This product meets the Deutsche Bahn specifications for rolling stock equipment.