

SENCITY® Rail Antenna

1399.17.0122

Properties

- Railway rooftop antenna for Tetra, DVB-T, 2G/3G/4G/5G cellular and Wi-Fi 4/Wi-Fi 6 bands
- Multiple Antenna installations support Cellular and Wi-Fi MIMO
- Rugged design, meets EN 50155 Railway Standard
- Fire retardant according to EN 45545-2 and NFPA-130
- Dedicated grounding contact and Cable conduit support (sold separately)



Electrical data

	Band 1	Band 2	Band 3	Band 4
Frequency	694 MHz ... 790 MHz	790 MHz ... 960 MHz	1350 MHz ... 1710 MHz	1710 MHz ... 2700 MHz
Impedance	50 Ω	50 Ω	50 Ω	50 Ω
VSWR	2	1.5	2.2	1.5
Gain	5 dBi	5 dBi	6 dBi	6 dBi
Ambient Temperature	25 °C	25 °C	25 °C	25 °C
Composite Power max	800 W	550 W	450 W	350 W

	Band 5	Band 6	Band 7
Frequency	2700 MHz ... 3300 MHz	3300 MHz ... 4900 MHz	4900 MHz ... 6425 MHz
Impedance	50 Ω	50 Ω	50 Ω
VSWR	1.5	1.7	1.5
Gain	8.5 dBi	7 dBi	7.5 dBi
Ambient Temperature	25 °C	25 °C	25 °C
Composite Power max	350 W	300 W	300 W

Electrical remarks

Remarks

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.

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Electrical remarks	
	High-voltage-protection: no voltage on RF port, if the catenary line touches antenna (EN 50124-1, 27.5 kVAC/1min). High-current-protection: Designed acc. to UIC 533, DC-grounded antenna element protection against lightning and short circuit with catenary lines (EN50388, EN 50122-1, 40kA/0.1sec)

Ports	
	Port 1
Connector	N, jack (female)
Polarization	vertical
DC grounded	Yes

Connections	
	Port 1
Band 1	✓
Band 2	✓
Band 3	✓
Band 4	✓
Band 5	✓
Band 6	✓
Band 7	✓

Mechanical data	
Weight	0.8 kg
Dimensions	90 mm x 100 mm x 256 mm (Height x Width x Depth)
Remarks	Corrosion: Low corrosion design according to MIL-F-14072(E), 96 hours Salt Spray test. Mounting: Shall be installed in longitudinal position to the wind/driving direction. Suitable for installation on high-speed trains with a maximum speed of 500 km/hr.

Material data	
Radome material	PC (Polycarbonate)
Radome colour	RAL 7043 (dark grey)
Back plate/base plate material	Aluminum
Back plate/base plate plating	Passivated (Plating)
Back plate/base plate colour	Grey

Environmental data	
Operation temperature	-55 °C ... 85 °C
Storage temperature	-55 °C ... 85 °C
Transport temperature	-55 °C ... 85 °C
Environment (application)	Outdoor
Ingress protection (IP Rating)	IP67, IP69
Flammability rating	EN 45545-2 R24 HL3
Solar radiation	UL 746C, FI

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Environmental remarks

Environmental tests: EN 50155:2018-05

Flammability rating: EN45545-2:2013 + A1:2015, NFPA-130:2017

Tested according to ISO 4589-2:2017, NFX 70-100-1:2006, ISO 5659-2:2011.

Antennas with production date prior to 01-Oct-2020 do not have NFPA-130 compliance.

Additional Information

This product meets the Deutsche Bahn specifications for rolling stock equipment. Protected by Patents: US7327320B2, CN1765030B, AU2003218856A1, CA2521771C, SG114406, ZA200508290.

Antenna accessories

Item description	Item number	Product name
9091.99.0261	85079842	Sencity Rail antenna mounting plate
9091.99.0252	84148131	Sencity Rail antenna adapter plate
9091.99.0236	84079593	Sencity Rail antenna conduit support Kit
9091.99.0235	84079030	Sencity Rail antenna grounding kit

Antenna accessories remarks

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.

Ordering information

Item description	Item number	Product name
1399.17.0122	84071876	SENCITY® Rail Antenna

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