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DATA SHEET

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 seperately)



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, F1

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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 adapter between antenna and roof.

Ordering information

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

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