DATA SHEET

# SENCITY® Rail Antenna

1399.17.0094

## 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 | 380 MHz ... 694 MHz | 694 MHz ... 960 MHz | 1350 MHz ... 2700 MHz | 2700 MHz ... 3300 MHz |
| Impedance | 50 Ω | 50 Ω | 50 Ω | 50 Ω |
| VSWR | 1.8 | 1.8 | 1.5 | 1.5 |
| Gain | 3 dBi | 4 dBi | 7.5 dBi | 6.5 dBi |
| Ambient Temperature | 25 °C | 25 °C | 25 °C | 25 °C |
| Composite Power max | 800 W | 550 W | 350 W | 350 W |

| | **Band 5** | **Band 6** |
|---|---|---|
| Frequency | 3300 MHz ... 4900 MHz | 4900 MHz ... 6425 MHz |
| Impedance | 50 Ω | 50 Ω |
| VSWR | 1.7 | 1.5 |
| Gain | 7 dBi | 8 dBi |
| Ambient Temperature | 25 °C | 25 °C |
| Composite Power max | 300 W | 300 W |

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| Electrical remarks | |
|---|---|
| Remarks | Indicated VSWR values are valid for a metallic ground plane of 0.5 x 0.5m or larger. Indicated gain values will be achieved on a metallic ground plane of 1 x 1 m or larger. |
| | High-voltage-protection: no voltage on RF port, if the catenary line touches antenna (EN 50124-1, 27.5 kVAC/1min).<br>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 | ✓ |

| Mechanical data | |
|---|---|
| Weight | 1.6 kg |
| Dimensions | 154 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.<br>Mounting: Shall be installed in longitudinal position to the wind/driving direction.<br>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 |

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| Environmental data | |
|---|---|
| Solar radiation | UL 746C, F1 |

**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.

There is no applicable EU directive nor related harmonized standard for passive antennas. Consequently, there is no CE marking on these antennas and no EU Declaration of Conformity can be issued.

**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 |

**Ordering information**

| Item description | Item number | Product name |
|---|---|---|
| 1399.17.0094 | 84029691 | SENCITY® Rail Antenna |

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