

SENCITY® Rail MULTI 4-Port Antenna

1399.17.0268

Properties

- Railway rooftop antenna for 2G/3G/4G/5G cellular and Wi-Fi 7 bands
- Supports MIMO 4x4 in Cellular and Wi-Fi Bands
- Rugged design, meets EN 50155 Railway Standard
- Fire retardant according to EN 45545-2 and NFPA-130
- High Voltage and High Current protection for use under catenary lines



Electrical data

	Band 1	Band 2	Band 3	Band 4
Name	Cellular 1-4	Cellular 1-4	Cellular 1-4	Cellular 1-4
Frequency	617 MHz ... 694 MHz	694 MHz ... 960 MHz	1350 MHz ... 2700 MHz	2700 MHz ... 3300 MHz
VSWR	1.5	1.8	1.8	1.8
Gain	3 dBi	4 dBi	4.5 dBi	4.5 dBi
Isolation between Ports	14 dB	14.5 dB	22 dB	26.5 dB
Ambient Temperature	25 °C	25 °C	25 °C	25 °C
Composite Power max	65 W	56 W	30 W	30 W

	Band 5	Band 6
Name	Cellular 1-4	Cellular 1-4
Frequency	3300 MHz ... 4900 MHz	4900 MHz ... 7125 MHz
VSWR	1.7	2
Gain	6 dBi	6.5 dBi
Isolation between Ports	25 dB	24 dB
Ambient Temperature	25 °C	25 °C
Composite Power max	25 W	21 W

Electrical remarks

Remarks	Ground plane: VSWR and gain values are also valid for installations on non-metallic surfaces (no specific ground plane requirements).
	Band 1, VSWR: 2.1 without ground plane

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Ports				
	Port 1	Port 2	Port 3	Port 4
Port name	Cellular 1	Cellular 2	Cellular 3	Cellular 4
Connector	N, jack (female)	N, jack (female)	N, jack (female)	jack (female)
Cable type	RADOX_RF_316_D	RADOX_RF_316_D	RADOX_RF_316_D	RADOX_RF_316_D
Cable length	0.493 m	0.358 m	0.357 m	0.494 m
Polarization	vertical	vertical	vertical	vertical
DC grounded	Yes	Yes	Yes	Yes

Connections				
	Port 1	Port 2	Port 3	Port 4
Port name	Cellular 1	Cellular 2	Cellular 3	Cellular 4
Band 1	✓	✓	✓	✓
Band 2	✓	✓	✓	✓
Band 3	✓	✓	✓	✓
Band 4	✓	✓	✓	✓
Band 5	✓	✓	✓	✓
Band 6	✓	✓	✓	✓

Mechanical data	
Weight	4.74 kg
Dimensions	84 mm x 380 mm x 439.5 mm (Height x Width x Depth)
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) 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	Aluminium

Environmental data	
Operation temperature	-40 °C ... 85 °C
Storage temperature	-55 °C ... 85 °C
Transport temperature	-40 °C ... 85 °C
Environment (application)	Outdoor
Ingress protection (IP Rating)	IP69
Flammability rating	EN 45545-2 R24 HL3
Solar radiation	UL 746C, F1
Standards	Railway EN 50155
	Railway EN 45545
	Railway NFPA130

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Environmental remarks

Environmental tests:

EN 50155:2022-06 §12.2.3

EN 60068-2-1 Cold temperature test Ad, -55°C, 16h §12.2.4

EN 60068-2-2 Dry heat test Bd +85°C, 16h §12.2.5

EN 60068-2-30 Damp heat cyclic test Db, +25/55°C, 2 cycles §12.2.10 EN 60068-2-11

Salt Mist test Ka, 96h §12.2.11 EN 61373 § 9

Random Vibration (Long life) test, Cat. 1 class B §12.2.11

EN 61373 § 10 Mechanical shock test, Cat. 1 class B §12.2.12 DIN EN 60529

Ingress protection test, IP69

Flammability rating: EN45545-2:2023

NFPA-130:2023

Related Products

9091.99.0269 Aluminium Mounting Plate for SENCITY® Rail MULTI 7-Port

9091.99.0270 Steel Mounting Plate for SENCITY® Rail MULTI 7-Port

Additional Information

The antenna needs a customer specific bracket when mounted on a curved roof (not part of the delivery content of the antenna). A standard bracket is available for the antenna mounting above an existing cable breakthrough on a flat roof (Article Number 9091.99.0270). Protected by Patents: DE202015009331(U1), US10116056(B2), CN106663861B, US7327320B2, CN1765030B, AU2003218856A1, CA2521771C, SG114406, ZA200508290.

Ordering information

Item description	Item number	Product name
1399.17.0268	85159947	SENCITY® Rail MULTI 4-Port Antenna

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