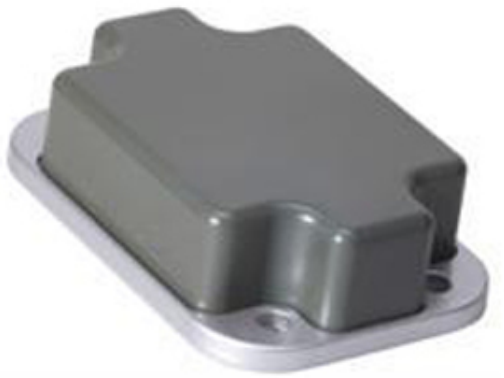
Data Sheet

HUBER+SUHNER

SENCITY® Rail Low Profile Antenna
1399.99.0037

Description

Railway rooftop antenna for 2G/3G/4G cellular and Wi-Fi 4/Wi-Fi 6 bands.
Multiple Antenna installations support Cellular and Wi-Fi MIMO.
Embedded GNSS antenna with integrated LNA.
Supports GPS L1, Galileo E1, BeiDou B1 and GLONASS G1.
Rugged design, meets EN 50155 railway standard.
Fire retardant according to EN 45545-2.
Extremely low profile (40mm).



Product Configuration

Technical Data

Electrical Data

	Band 1	Band 2	Band 3	Band 4
Frequency (MHz)	790 - 806	806 - 870	870 - 960	1350 - 2700
VSWR	2.2	1.8	1.5	2
Impedance (Ohm)	50	50	50	50
Gain (dBi)	5	5	5	5
Composite power max (W)	80	80	80	80
Ambient temperature (°C)	25	25	25	25

	Band 5	Band 6
Band Name		GNSS
Frequency (MHz)	4900 - 6425	1559 - 1610
VSWR	2.1	1.8
Impedance (Ohm)	50	50
Gain (dBi)	8	
Composite power max (W)	80	
Ambient temperature (°C)	25	

Ports

	Port 1	Port 2
Connector	N, jack (female)	TNC, plug (male)
Polarization	vertical	circular right
DC grounded	Yes	Yes

Connections

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

General Data

Indicated VSWR values are valid for a metallic ground plane of 0.2 x 0.2m or larger. 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
LNA is connected to	Port 2

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This Antenna is compliant with the Radio Equipment Directive 2014/53/EU
EMC: EN50121-3-2 (2016)
ETSI EN 303 413 V.1.1.1 (2017-06)
ETSI EN 301 489-1 V2.2.3 (2019-03)
ETSI EN 301 489-19 V2.1.1 (2019-04)
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.
Antennas with production date prior to 01-Oct-2020 support only GPS bands between 1574.397 - 1576.443 MHz.

Mechanical Data

Dimensions (mm)	40 x 100 x 145 (Heigth x Width x Depth)
Weight (kg)	0.535

High-voltage-protection: no voltage on RF port, if catenary line touches antenna (EN 50124-1, 24 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 acc. to MIL-F-14072(E).
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.
4x composite sealing washers included for silicone-free sealing of the mounting screws.

Environmental Data

Environmental conditions	outdoor
Operation temperature (°C)	-40 to 85
Storage temperature (°C)	-55 to 85
IP rating	IP69
Flammability rating	EN 45545-2
Solar radiation	DIN 75220
2011/65/EU (RoHS - including 2015/863 and 2017/2102)	compliant acc. Annex III
Lead-free soldered	yes
WEEE 2012/19/EU	no special marking needed
ELV 2000/53/EC	compliant
REACH 1907/2006/EC	compliant

Environmental tests: EN 50155:2007
Flammability rating: EN 45545-2.

Material Data

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

Related Products

9090.99.0062 Sencity Rail Mounting plate ***Customer specific***
9091.99.0257 Sencity Rail - M10 sealing washer kit

Related Documents

Mounting instruction	DOC-0000897030
Painting instruction	DOC-0000256180
Security instruction	DOC-0000278984
Outline drawing	DOU-00144558
3D-model	DOC-0000329807
CE compliancy	DOC-0000896953

Additional Information

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

Waiver: Fact and figures herein are for information only and do not represent any warranty of any kind.