Data Sheet

HUBER+SUHNER

Sencity Rail MIMO Low Profile Antenna
1399.99.0057

Description

Railway rooftop antenna for Cellular and WiFi bands.
Supports 2x2 Cellular MIMO for 3G and 4G.
Supports 2x2 WiFi MIMO in Wi-Fi 4 / Wi-Fi 6 bands.
Rugged design, meets EN 50155 railway standard.
Embedded combined GPS/Glonass antenna with integrated LNA.
Fire retardant acc. to DIN 5510-2, BS 6853, NF F16-101/102, 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	1.9	1.5	1.9
Impedance (Ohm)	50	50	50	50
Gain (dBi)	5	5	5	5
Composite power max (W)	50	50	50	40
Ambient temperature (°C)	25	25	25	25
Port Isolation (dB)	18	18	18	18

	Band 5	Band 6
Band Name		GPS/Glonass
Frequency (MHz)	4900 - 6425	1574.4 - 1610
VSWR	2	1.5
Impedance (Ohm)	50	50
Gain (dBi)	7.5	
Composite power max (W)	30	
Ambient temperature (°C)	25	
Port Isolation (dB)	30	

Ports

	Port 1	Port 2	Port 3
Port name	Cell/Wifi1	Cell/Wifi2	GPS/Glonass
Connector	N, jack (female)	N, jack (female)	TNC, plug (male)
Cable Type	ENVIROFLEX_316_D	ENVIROFLEX_316_D	ENVIROFLEX_316_D
Cable Length (m)	0.2	0.2	0.14
Polarization	vertical	vertical	circular right
DC grounded	Yes	Yes	No

Connections

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

General Data

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Indicated VSWR and gain values are valid for a metallic ground plane of 0.5 x 1 m or larger.

Electrical Data LNA

LNA noise figure dB	1.8
LNA current consumption (mA)	30
LNA is connected to	Port 3

LNA input voltage range: 3...5V
Total gain @90° elevation: 37dBiC
Values for LNA power consumption, noise figure and gain are given for a 5V operating voltage and may differ slightly for a lower voltage
EMC: EN 50121-3-2:2001, ETSI EN 301 489-1 V1.8.1 (2008-04)

Mechanical Data

Dimensions (mm)	40 x 100 x 465 (Heigth x Width x Depth)
Weight (kg)	1.2

High-voltage-protection: no voltage on RF port, if catenary line touches antenna (EN 50124-1, 3.8 kVDC, 27.5 kVAC)
High-current-protection: Designed acc. to UIC 533, DC-grounded antenna element (protection against lightning and short circuit with catenary lines(40kA/0.1s).
Corrosion: Low corrosion design acc. to MIL-F-14072(E).
Mounting: Shall be installed in longitudinal position to the wind/driving direction. 4x composite sealing washers included for silicone-free sealing of the mounting screws.

Environmental Data

Environmental conditions	indoor/outdoor
Operation temperature (°C)	-40 to 85
Storage temperature (°C)	-55 to 85
IP rating	IP69
Flammability rating	DIN 5510
Solar radiation	DIN 75220
2011/65/EU (RoHS - including 2015/863 and 2017/2102)	compliant
WEEE 2012/19/EU	no special marking needed
REACH 1907/2006/EC	compliant

Environmental tests: EN 50155
Flammability rating: DIN 5510-2, BS 6853, NF F16-101/102, EN 45545-2

Material Data

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

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-0000714303
Painting instruction	DOC-0000256180
Security instruction	DOC-0000278984
Outline drawing	DOU-00297490
3D-model	DOC-0000468135
CE compliancy	DOC-0000785728

Additional Information

This product meets the Deutsche Bahn specifications for rolling stock equipment. Protected by Patents: DE202015009331(U1), US10116056(B2), CN106663861B.

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