

# HUBER+SUHNER® DATA SHEET

## Sencity Rail MIMO Antenna: 1399.99.0130



Rev.: J

### SWA-0759/360/6/0/MIMO

#### Description

Railway rooftop antenna for 2G/3G/4G cellular, WiFi 2.4 and 5 GHz bands.  
 Supports 2x2 cellular MIMO for UMTS and LTE.  
 Rugged design, meets EN 50155 railway standard.  
 Embedded combined GPS+GLONASS antenna with integrated LNA.  
 Fire retardant acc. to BS 6853, NF F16-101/102, prEN 45545 (2009).  
 Works also on non-metallic surfaces.



#### Product Configuration

#### Technical Data

##### Electrical Data

	<b>Band 1</b>	<b>Band 2</b>	<b>Band 3</b>	<b>Band 4</b>
Frequency (MHz)	698 - 790	790 - 960	1710 - 2170	2400 - 2700
VSWR	1.7	1.7	1.8	1.8
Gain (dBi)	5	5.5	8	8
	<b>Band 5</b>			
Frequency (MHz)	4900 - 5935			
VSWR	2			
Gain	8.5 dBi			

##### General Data

Nominal impedance	50 Ω
DC grounded	Yes
Polarisation	vertical
Connector	N, jack (female), bottom
Pigtail	Type: ENVIROFLEX_142, Length: 0.2 m
Composite power max.	10 W at ambient temperature 50 °C
Ground plane:	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).
Isolation between ports 1+2	>15 dB (<1 GHz) >25 dB (>1.7 GHz)

The above listed parameters are valid for port 1 and port 2. Please refer to the outline drawing to identify port 1 and port 2.

##### Electrical Data (GPS)

Frequency (MHz)	1574 - 1610
VSWR	1.8
Nominal impedance	50 Ω
Polarisation	circular right
Connector	TNC, plug (male) pigtail, using EF316D cable with 0.17m length.
Navigation systems support	GPS/Galileo and Glonass
LNA noise figure	2 dB
LNA current consumption	30 mA
EMC	EN 50121-3-2:2006
LNA input voltage range	3..5V

HUBER+SUHNER is certified according to ISO 9001 and ISO 14001

#### WAIVER!

It is exclusively in written agreements that we provide our customers with warrants and representations as to the technical specifications and/or the fitness for any particular purpose. The facts and figures contained herein are carefully compiled to the best of our knowledge, but they are intended for general informational purposes only.



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**HUBER+SUHNER – Excellence in Connectivity Solutions**

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Total gain @90° elevation 30 dBiC  
Note Values for LNA power consumption, noise figure and gain are given for a 5V operating voltage and may differ slightly for a lower voltage

### Mechanical Data

Dimensions (mm) 81.6 x 102.5 x 352.5 (Height x Width x Depth)  
Weight 1.5 kg  
Wind speed survival: 500km/h, operational: 500 km/h  
High-current-protection: Designed acc. to UIC 533, DC-grounded antenna element (protection against lightning and short circuit with catenary lines(40kA/0.125s, 70kA/0.05s).  
Corrosion: Low corrosion design acc. to MIL-DTL-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 outdoor  
Operation temperature (°C) -40 to 85  
Storage temperature (°C) -55 to 85  
Transport temperature (°C) -40 to 85  
IP rating IP 69K  
Solar radiation DIN 75220  
RoHS 2002/95/EC compliant  
Environmental tests EN 50155:2007  
Flammability rating BS 6853, NF F16-101/102, prEN 45545 (2009)

### Material Data

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

### Related Products

9091.99.0235 Sencity Rail Antenna grounding kit  
9091.99.0236 Sencity Rail conduit Support Kit

### Related Documents

Mounting instruction DOC-0000443802  
Painting instruction DOC-0000256180  
Security instruction DOC-0000278984  
Outline drawing1 DOU-00205090  
3D-model (Step) DOC-0000421492

### Additional Information

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

HUBER+SUHNER is certified according to ISO 9001 and ISO 14001

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