Data Sheet

HUBER+SUHNER
Excellence in Connectivity Solutions

Sencity Rail Antenna
1399.99.0120

SWA-0859/360/4/0/DFRX30_2

Description

Railway rooftop antenna for GSM 900, GSM 1800,

GSM 1900, UMTS, LTE, WiFi and WiMAX 2.4, 3.5, 5.3 and 5.8 GHz Bands,

Rugged design, meets EN 50155 railway standard,

Embedded GPS antenna with integrated LNA,

Fire retardant acc. to DIN 5510-2, BS 6853, NF F16-101/102, EN 45545-2.

Works also on non-metallic surfaces,

Split installation support,

Optional grounding kit available,

Optional conduit support kit available to protect the cabling,

Product Configuration

Technical Data

Electrical Data

	Band 1	Band 2	Band 3	Band 4
Frequency (MHz)	698 - 806	806 - 960	1710 - 2170	2400 - 2700
VSWR	1.8	1.5	1.5	1.5
Gain (dBi)	5	5	7	9.5

	Band 5	Band 6
Frequency (MHz)	3400 - 3700	4900 - 5935
VSWR	1.6	1.7
Gain (dBi)	8	8

General Data

Nominal impedance (Ω)	50
DC Grounding	Yes
Polarisation	vertical
Connector	N, jack (female), bottom
Composite power max.	100 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).

Electrical Data (GPS)

Frequency (MHz)	1574.397 - 1576.443
VSWR	1.8
Nominal impedance (Ω)	50
Polarisation	circular right
Connector	TNC, plug (male) W

Connector: pigtail, using EF316D cable with 0.14m

length.

LNA noise figure dB	1.8
LNA current consumption (mA)	30

EMC: EN 50121-3-2:2001

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

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Mechanical Data

Dimensions (mm)	90 x 100 x 256 (Heigth x Width x Depth)
Weight (kg)	1

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.

Environmental Data

Environmental conditions	outdoor
Operation temperature (°C)	-45 to 85
Storage temperature (°C)	-55 to 85
Transport temperature (°C)	-55 to 85
Solar radiation	DIN 75220
RoHS 2011/65/EC	compliant
REACH 2006/1907/EC	compliant

IP Rating: IP 66/68

Environmental tests: EN 50155:2007

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

9091.99.0235 Sencity Rail Antenna grounding kit

9091.99.0236 Sencity Rail conduit support Kit

9091.99.0251 MIMO adapter plate for Sencity Rail antennas

9091.99.0252 Adapter plate for Sencity Rail antenna

If the 698-790 MHz band is used, it is recommended to mount the antenna directly on a metal roof without using any kind of mechanical adaptor between antenna and roof.

Related Documents

Mounting instruction	DOC-0000295392
Painting instruction	DOC-0000256180
Security instruction	DOC-0000278984
Outline drawing	DOU-00131449
Outline drawing 2	DOU-00154160
3D-model	DOC-0000334491

Additional Information

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

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