

## Sencity Rail Antenna 1399.99.0037

SWA-0825/360/5/30/DFRX30

### Description

Railway rooftop antenna for GSM 900, GSM 1800, GSM 1900, UMTS, LTE and WiFi 2.4 GHz Band communication.  
 Embedded GPS antenna with LNA.  
 Rugged design, meets EN 50155 railway standard.  
 Extremely low profile (40mm).  
 Fire retardant acc. to DIN 5510-2, BS 6853, NF F16-101/102, EN 45545-2.



### Product Configuration

#### Technical Data

##### Electrical Data

	Band 1	Band 2	Band 3	Band 4
Frequency (MHz)	790 - 806	806 - 870	870 - 960	1710 - 2170
VSWR	2.2	1.8	1.5	1.8
Impedance (Ohm)	50	50	50	50
Gain (dBi)	5	5	5	6

	Band 5	Band 6	Band 7
Band Name			GPS
Frequency (MHz)	2400 - 2500	2500 - 2700	1574.397 - 1576.443
VSWR	1.9	2.2	1.8
Impedance (Ohm)	50	50	50
Gain (dBi)	6	6	

##### Ports

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

##### Connections

	Band 1	Band 2	Band 3	Band 4	Band 5	Band 6	Band 7
Port 1	X	X	X	X	X	X	
Port 2							X

##### General Data

DC Grounding	Yes
Composite Power max (W)	100

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

LNA Input voltage range: 3...5V  
 Total gain @90° elevation: 34dBiC

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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 145 (Height 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).

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	outdoor
Operation temperature (°C)	-40 to 85
Storage temperature (°C)	-55 to 85
IP rating	IP69K
Solar radiation	DIN 75220
RoHS 2011/65/EU	compliant
REACH 2006/1907/EC	compliant

Environmental tests: EN 50155:2007

Flammability rating DIN 5510, 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-0000311051
Painting instruction	DOC-0000256180
Security instruction	DOC-0000278984
Outline drawing	DOU-00144558
3D-model	DOC-0000329807

### Additional Information

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