HIRSCHMANN MOBILITY

CELLULAR-MIMO (2G/3G/4G/5G) GNSS (GPS/GLONASS/QZSS/BEIDOU/ GALILEO)/ WLAN-MIMO (2.4GHz/5.8GHz) Screw Antenna

5G S MIMO/Series

Part Number 951-018-XXX

Features

- Telematic & M2M application - telemetering, remote, maintenance
- Public transport, Building indoor & outdoor, ...
- High performance, coverage & data rate

Technical Data

Dimensions	ca.	124 mm x 80 mm x 84 mm
Housing materials		ASA+PC
Weight		320 g var. acc. to versions
Temperature range	Operations:	-40°C – +85°C
	Storage:	-40°C – +85°C
Protection class		IP66 (acc. IEC 60529)
Cable type		RG 174 Low Loss compliant

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Technical Data

Cellular			
Frequency range *	LTE-LB 700:	698 - 862 MHz	
	AMPS/ GSM 850:	824 - 894 MHz	VSWR 2.8
	GSM 900:	880 - 960 MHz	
	GSM 1800:	1710 - 1880 MHz	
	GSM 1900:	1850 - 1990 MHz	VSWR 2.0
	UMTS 2100:	1920 - 2170 MHz	
	LTE-HB 2600:	2305 - 2690 MHz	VSWR 1.9
	5G 3500:	3300 – 3800 MHz	VSWR 1.7
	5G 4000:	3800 – 4200 MHz	VSWR 1.7
	5G 5000:	4400 – 5000 MHz	VSWR 2.8
Gain		Avg. 2.0 dBi *	Max. 5.5 dBi[1)]
Polarization		linear, vertical	
Decopling Cell 1 vs 2		LB: 8 dB	HB: > 18 dB
Impedance		50 Ohm	
Load capacity	Max.	10 W pulsed	
GNSS			
Frequency range *	GPS L1/QZSS:	1563 - 1587 MHz	
	Beidou (B1C):	1559 - 1591 MHz	
	Galileo E1:	1559 - 1591 MHz	
	GLONASS G1:	1593 - 1610 MHz	
VSWR		≤ 1.5	
Gain		2 dBic[2)]	
Polarization		Right hand circular	
Impedance		50 Ohm	
Voltage supply		2.9 – 5.5 VDC	
Current consumption	typ.	13 ±2 mA	
Rejection (LNA)		> 30 dB	
Amplification (LNA)		27 ± 2 dB	
Noise figure (LNA)		≤ 3.0 dB	
WLAN or Bluetooth			
Frequency range *	Bluetooth:	2400 - 2484 MHz	
	IEEE 802.11 b, g, n, ax:	2412– 2484 MHz	≤ 200 mW
	IEEE 802.11 a, h, n, ac, ax:	5150– 5875 MHz	≤ 1000 mW
	IEEE 802.11 p:	5755– 5925 MHz	≤ 8 W EIRP <5.81 GHz
			≤ 2 W EIRP >5.85 GH

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VSWR		≤ 2	
Gain (linear gain, vertical polarization)	typ.	2 dBi[1)]	
Polarization		linear, vertical	
Decopling WLAN 1 vs 2		LB: > 20 dB	HB: > 15 dB
Impedance		50 Ohm	

[1)] dBi: referenced to an isotropic radiator
[2)] dBic: referenced to an isotropic radiator, circular polarization
* non exhaustive list, contact us for new standards or bands updates

Versions

PN	Description	Cable length	CELL	CELL2	GNSS	WLAN 1	WLAN 2
951-018-711	**C2GNW2 7059 S MIMO 0,2**	~ 200 mm	SMA male	SMA male	SMA male	SMA male	SMA male
951-018-611	**CGNW2 7059 S MIMO 0,2**	~200 mm	SMA male		SMA male	SMA male	SMA male
951-018-511	**C2W2 7059 S MIMO 0,2**	~200 mm	SMA male	SMA male		SMA male	SMA male
951-018-411	**CW2 7059 S MIMO 0,2**	~200 mm	SMA male			SMA male	SMA male
951-018-311	**C2GNW 7059 S MIMO 0,2**	~200 mm	SMA male	SMA male	SMA male	SMA male	
951-018-211	**C2W 7059 S MIMO 0,2**	~200 mm	SMA male	SMA male		SMA male	
951-018-113	**C2GN 7038 S MIMO 5,0**	~5000 mm	Fakra female, Code D	Fakra female, Code Z	Fakra female, Code C		
951-018-112	**C2GN 7038 S MIMO 3,0**	~3000 mm	SMA male	SMA male	SMA male		
951-018-111	**C2GN 7038 S MIMO 0,2**	~200 mm	SMA male	SMA male	SMA male		
951-018-011	**CEL2 7038 S MIMO 0,2**	~200 mm	SMA male	SMA male			

Other variants are possible acc. quantities (long dimensions in RG174 are not adapted to WLAN >5 GHz)

Technical Drawing

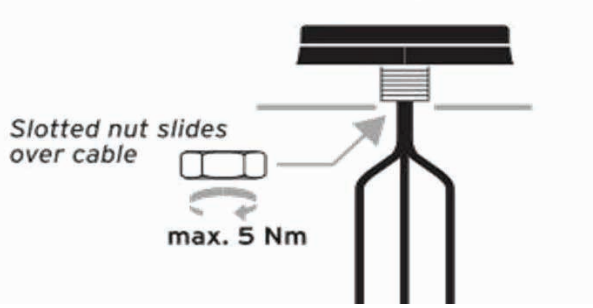
Installation

Specs:

- Take the necessary electrostatic precautions for a connection of electronic components (Potential ESD < 1 kV)
- Surface must be quite flat (maximum radius 1cm per meter) & max thickness 10 mm & conductive (metal recommended 400x400 mm)
- No metallic (conductive) surface above the antenna
- Connectors are not waterproof, so area below the antenna must be dry
- GNSS connector must only be connected to a satellite receiver with a controlled and limited power source acc. datasheet
- For extension cables in WLAN > 5 GHz, we highly recommend a RG58 low loss or better

Process:

- Drill a hole (diameter 15 +4/-0,5 mm)
- Clean with isopropyl alcohol or similar
- No adjunction of any material (silicones, glue, ...)
- Screw the nut on the grounding plate (Torque 5 Nm +0 -10%)
- Check that the coaxial cable is not electrically charged (Potential ESD < 1 kV)
- Connect the coaxial cable connector by hand without forcing (Torque 1 +/- 0,15 Nm = handmade)
- Check that the cables respect the appropriate way, not pulled / stressed / bended < 25 mm radius / touching aggressive parts



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