



## 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 <sup>1)</sup>
Polarization	linear, vertical	
Decoupling Cell 1 vs 2	LB: 8 dB	HB: > 18 dB
Impedance	50 Ohm	
Load capacity	Max. 10 W pulsed	
Diagnostic resistor	10 KOhm	
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 <sup>2)</sup>	
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 GHz

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VSWR	≤ 2	
Gain (linear gain, vertical polarization)	typ. 2 dBi <sup>1)</sup>	
Polarization	linear, vertical	
Decoupling WLAN 1 vs 2	LB: > 20 dB	HB: > 15 dB
Impedance	50 Ohm	
Diagnostic resistor	10 KOhm	

<sup>1)</sup> dBi: referenced to an isotropic radiator    <sup>2)</sup> 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
951-018-715	C2GNW2 7059 S MIMO 5.0	~5000 mm	SMA male	SMA male	SMA male	SMA-RP m	SMA-RP m
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
951-018-515	C2W2 7059 S MIMO 5.0	~5000 mm	SMA male	SMA male		SMA-RP m	SMA-RP m
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

\* For long dimensions cables and up to 4 functions, for WLAN the RG174 is replaced by Dacar 302

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### Technical Drawing



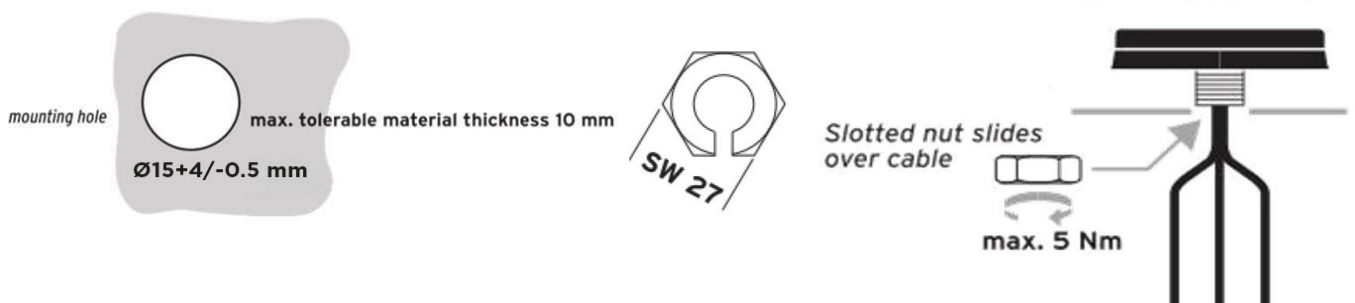
### Installation

#### 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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