

HIRSCHMANN MOBILITY



TETRA/ GNSS/ WLAN (2,4GHz/5,8GHz) Screw Antenna

TGN 3847 RD S/series
TGNW 3858 RD S/series
Pt no.
951-016-...

- For TETRA networks
- For GNSS satellites (GPS, Galileo, GLONASS)
- For WLAN all services
- With 17 cm rod

Subject to alterations

Technical data

Electrical Specification SATELLITE NAVIGATION

Frequency range	GPS:	1563 - 1587 MHz
	Galileo:	1559 - 1591 MHz
	GLONASS G1:	1593 - 1610 MHz
VSWR		≤ 1,65
Impedance		50 Ohm
Polarization		right hand circular
Gain		2 dBic ¹⁾
Voltage supply		2,9 - 5,5 VDC
Current consumption		typ. 12 ± 3 mA
Rejection (LNA)		> 30 dB
Amplification (LNA)		27± 3 dB
Bandwidth (LNA)		40 MHz
Noise figure (LNA)		≤ 1,9 +0,3 dB

Electrical Specification TETRA

Frequency range	Lower band:	380 - 455 MHz
	Upper band:	450 - 470 MHz
VSWR	Lower band:	≤ 2
	Upper band:	≤ 2,5
Impedance		50 Ohm
Polarization		linear, vertical
Gain (linear gain, vertical polarization)		typ. 5,1 dBi ²⁾
Load capacity		max. 10 W (acc. TETRA Standard)

Electrical Specification WLAN

Frequency	IEEE 802.11 b, g:	2400 - 2484 MHz
	IEEE 802.11 a, h:	5150 - 5725 MHz
	IEEE 802.11 n:	2400 - 2484 MHz
		5150 - 5725 MHz
	IEEE 802.11 p:	5755 - 5925 MHz
VSWR		≤ 2
Impedance		50 Ohm
Polarization		linear, vertical
Gain (linear gain, vertical polarization)		typ. 2 dBi ²⁾
Load capacity	IEEE 802.11 b, g:	≤ 200 mW
	IEEE 802.11 a, h:	≤ 1000 mW
	IEEE 802.11 n:	≤ 200 mW (2,4 - 2,84 GHz)
		≤ 1000 mW (5,1 - 5,72 GHz)
	IEEE 802.11 p:	≤ 8 W EIRP (5,79 - 5,81 GHz)

TETRA/ GNSS (GPS/Galileo/GLONASS)/ WLAN (2,4GHz/5,8GHz) SCREW ANTENNA

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Mechanical

Dimensions	ca. 95 x 57 x 40 mm (+ 170 mm rod)
Housing Materials	PA6
Weight	180 g
Operations temperature range	- 40 + 85° C
Storage temperature range	- 40 + 85° C
Housing protection class	IP67
Cable type	TETRA: RG316 / GNSS: RG174 / WLAN: DACAR302

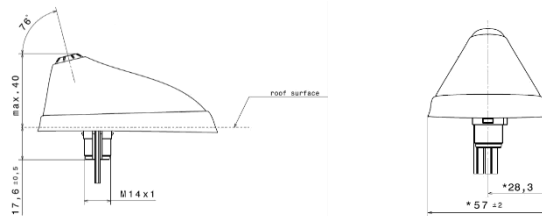
¹⁾ dBi: referenced to an isotropic radiator, circular polarization

²⁾ dBi: referenced to an isotropic radiator

Versions

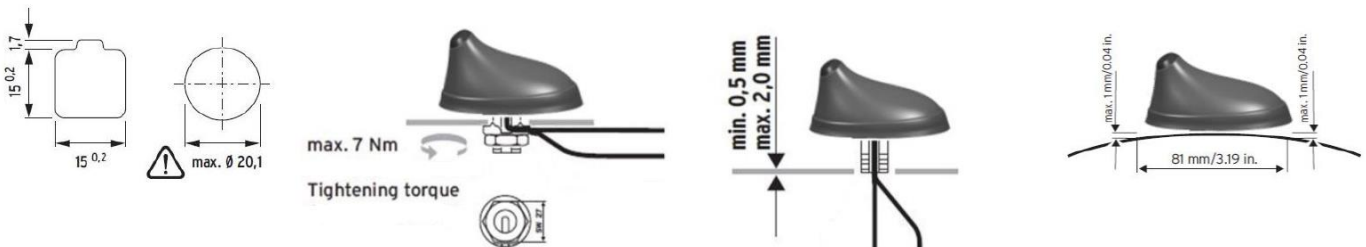
		Cable length	T	GN	W
951-016-111	TGNW 3858 RD S FMEf SMBf SMAm 0,15	~150 mm	FMEf	SMBf	SMAm
951-016-112	TGNW 3858 RD S TNCm SMAm SMAm 2,5	~2500 mm	TNCm	SMAm	SMAm
951-016-113	TGNW 3858 RD S TNCm SMAm SMAm 4,0	~4000 mm	TNCm	SMAm	SMAm
951-016-141	TGN 3847 RD S FMEf SMBf 0,15	~150 mm	FMEf	SMBf	

Technical drawings



Installation

- 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
- No metallic (conductive) surface above the antenna
- Connectors are not waterproof, so area below the antenna must be dry
- Drill a hole (diameter 19 +4/-0,5mm) (clean with isopropyl alcohol or similar)
- Screw the nut at recommended torque 6 Nm $\pm$ 15%
- No adjunction of any material (silicones, glue, ...)
- Check that the coaxial cable is not electrically charged (Potential ESD < 1 kV)
- Connect the coaxial cable connector by hand without forcing (Torque 1 $\pm$ 0,15 Nm = hand made)
- Check that the wires respect the appropriate way, not pulled / stressed / bended < 25mm radius / touching aggressive parts
- For extension cables in WLAN >5 GHz, we highly recommend a RG58 low loss or betterparts
- For TETRA optimal performances mount the antenna on a conductive plane



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