

Telemetry Antenna RM31N and GPS Antenna GA31N



Vaisala telemetry antenna RM31N and GPS antenna GA31N are well suited for example for naval installations

Features and Benefits

- Height only 1 meter - optimised for naval installation
- Antennas fit in a transport case
- Long telemetry range - 150 km with RS92-SGP

The Vaisala Telemetry Antenna RM31N and GPS Antenna GA31N are designed to be used with Vaisala sounding systems when performing GPS soundings. The antennas are only 1 meter long making them suitable, for example, for most naval installations where there are limitations on antenna height. Both of the antennas can be packed in a single transport case.

RM31N

RM31N is an omni-directional UHF antenna for receiving radiosonde signals in the 400 MHz meteorological band. The operating telemetry range when used with the Vaisala RS92-SGP radiosonde is up to 150 km. The mounting sleeve at the bottom of the tubular stand makes it easy to install the whole antenna assembly on top of an external mast. All the amplifier parts are housed in a watertight box at the base of the antenna mast. The amplifier runs on DC voltage, supplied by the UHF receiver.

GA31N

GA31N is used with the Vaisala sounding systems for the local reception of GPS signals when performing GPS soundings. This way the system gets orbital and other navigational data directly from the GPS satellites.

The antenna can be mounted with a cast-aluminium flange or pole mounting clips. GPS signal reception requires an unobscured line-of-sight to GPS satellites. Seen from the zenith, an open sky angle of at least 75 degrees is necessary. The best reception is achieved with a location that has a clear view of the sky down to the horizon in every direction.

The GA31N is equipped with a 35 dB pre-amplifier. A band pass filter renders it immune e.g., to Inmarsat and radar interference. The GA31N is sealed with epoxy for protection against ambient conditions.

Technical Data

UHF Antenna

Frequency range	400 ... 406 MHz
Directivity	2 dBi
Polarization	Vertical
Horizontal pattern	Omnidirectional

Telemetry Range

With RS92-SGP radiosonde	150 km
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Amplifier

Gain	20 dB typical
Noise figure	<2 dB
Power input	+10 ... 12VDC, typically 130 mA through RF cable
Output impedance	50 ohms, VSWR <1.5

GPS Antenna

Primary power	+ 5 volts DC (\pm 10%)
Power consumption	30 mA (maximum)
Output impedance	50 Ohms
Frequency	L1 (1575 MHz)
Polarization	Right-Hand Circular Polarization (RHCP)
VSWR	2.0 (maximum)
Axial ratio	2 dB at zenith, 10 dB above 10° elevation
Gain	35 dB (nominal)
Noise figure	3.3 dB
Pass-band width	50 MHz
Azimuth coverage	360° (omni-directional)
Elevation coverage	0° to 90° elevation (hemispherical)

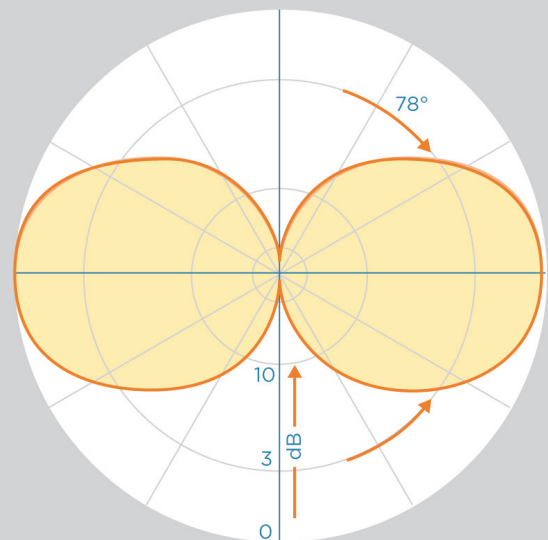
Mechanics

Connector	UHF Antenna	Coaxial N-type female
	GPS Antenna	Coaxial TNC-type female
Height	UHF Antenna	1000 mm
	GPS antenna	960 mm
Weight (without cables)	UHF Antenna	3.3 kg
	GPS Antenna	2.1 kg
UHF antenna mounting sleeve inner diameter		61.5 mm
GPS antenna mounting		Pedestal flange or pole clamps
Transportation case dimensions		1016 x 457 x 335 mm
Standard cable length		33 m

Environmental Conditions

Operating temperature range	-40 ... +55 °C
Operation humidity range	0 ... 100 %RH
Operating precipitation	Unlimited
Maximum wind speed	65 m/s
Storage temperature	-50 ... +100 °C
Storage humidity	0 ... 100 %RH

RM31N radiation pattern - elevation



VAISALA

For more information, visit
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