

High-precision GNSS Vehicle Antenna HX-AULT006



Harxon HX-AULT006 is a high-performance automotive-grade multiband antenna, designed and crafted for high-precision positioning while being robust and reliable. It offers superior satellite signal tracking, including GPS, GLONASS, Galileo, BeiDou, as well as L-Band correction service. With compact form factor and ruggedized housing, this product is ideal for autonomous vehicles, intelligent shuttles, unmanned garbage trucks and meal delivery carts as well as many more applications.



RELIABLE AND CONSISTENT PERFORMANCE

HX-AULT006 offers comprehensive GNSS support for consistent satellite signal tracking, including GPS, GLONASS, Galileo, BeiDou as well as L-Band correction services. In addition, it exhibits stable phase center variation, extraordinary 4.5dBic (typical value) gain with ultralow signal loss, wide beam width and low elevation satellite tracking ability for reliable GNSS signals and outstanding positioning accuracy.

STRONG ANTI-INTERFERENCE CAPACITY

HX-AULT006 is equipped with robust pre-filtered LNA which guarantees excellent out-of-band interference rejection performance and restrains unwanted electromagnetic interference, thus providing stable GNSS signal tracking from all elevation angles even in challenging environments.

COMPACT FORM FACTOR AND RUGGEDIZED HOUSING

This automotive-grade antenna is designed into low-profile and compact form factor to minimize damage from overhead objects and reduce wind resistance. Its ruggedized housing ensures long lifespan with IP65 protection while using in tough environments such as vibration, harsh weather and high speed travel.

FAKRA CONNECTOR, EASY FOR INTEGRATION

For easy integrations into various applications of automotive industry, HX-AULT006 adopts FAKRA Connector (Fachkreis Automobil Connector), which conforms to automotive-grade requirements and provides convenient connections. Also, this product is open for flexible customizable requests.

KEY FEATURES

- Comprehensive GNSS support: GPS, GLONASS, Galileo, BeiDou as well as L-Band correction service
- Improved signal filtering and excellent multipath rejection
- Low-profile and compact design minimizes overhead damage and reduces wind resistance
- IP65 ruggedized protection
- FAKRA Connector, easy for integration

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Performance

Signal Received

GPS	L1/L2/L5
GLONASS	L1/L2/L3
GALILEO	E1/E5a/E5b/E6
BDS	B1/B2/B3
L-Band	

Impedance 50Ω

Polarization RHCP

Azimuth Coverage 360°

VSWR ≤2.0

Axial Ratio ≤2dB

Gain 4.5dBic (Typical value)

GNSS Phase Center

PCO X North≤3mm; Y East≤3mm

LNA

LNA Gain 40±2dB

Noise Figure ≤2dB

Out-band Rejection >40dB

Output VSWR ≤2.0

Passband Ripple ±2dB

Operation Voltage +3.3~+12VDC

Operation Current ≤55mA

Differential Propagation Delay ≤5ns

Structure

Jumper - Connector

FAKRA-Z female connector, RG174 line (Irradiation), Exterior line length 20cm (Total length 25cm) (DL Line)

Overall Dimensions

W95.3*L95.3*H36.8mm (Max dimension with rubber gasket: W96.9*L96.9*H36.8mm)

Internal Dimensions

W85*L85*H23mm

Installation

Line from the bottom, screws fixed

Cover Color

Specified white by Harxon

Electromagnetic Compatibility (Automotive Grade)

Radiated Emission - ALSE Method

CISPR25:2008

Conducted Emission - Voltage Method

CISPR25:2008

Conducted Immunity - Signal Line

ISO 7637-3:2016

Radiated Susceptibility - ALSE

ISO 11452-2:2004E:50V/m

Band: 1000MHz-1700MHz, E:50V/m

Radiated Susceptibility - BCI

ISO 11452-4:2011

Electrostatic Discharge - Power off Operation/

Power on Operation

ISO 10605:2008

Reliability Test (ISO 16750 Automotive Grade)

Mechanical Load:

Vibration - Passenger vehicle

Random vibration test, 8h for each axial test

Physical Shock

Half-sine wave; Acceleration: 500m/s²; 10 shocks in each direction

Free Drop

Test according to GBT 2423.8

Climate Load:

High/Low Temp Storage

Low temp: -40°C/High temp: 95°C, last 24h

High/Low Temp Operation

Low temp: -40°C, last 24h; High temp: 85°C, last 96h

Temp Gradient Test

Decrease to T_{min}=-40°C, increase from T_{min}=-40°C to T_{max}=85°C every 5°C

Temp Cycle Test

8h/cycle×30 cycle

Temp Shock Test

1h/cycle×100 cycle

High Temp Endurance Test

High temp: 85°C, 1000h; 1.5 hours per day, 15 years' lifespan

Cyclic Damp Heat Test

GB/T2423.34-2005, 24h×10 cycle

Steady Damp Heat Test

Temp: 85±5%, power on 5h, power off 91h

Salt Spray Test

Test according to GB/T2423.18-2012

Solar Radiation Test

24h/cycle×3 cycle

Dustproof

IP6X

Waterproof

IPX5

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Version 1 Specifications subject to change without notice.

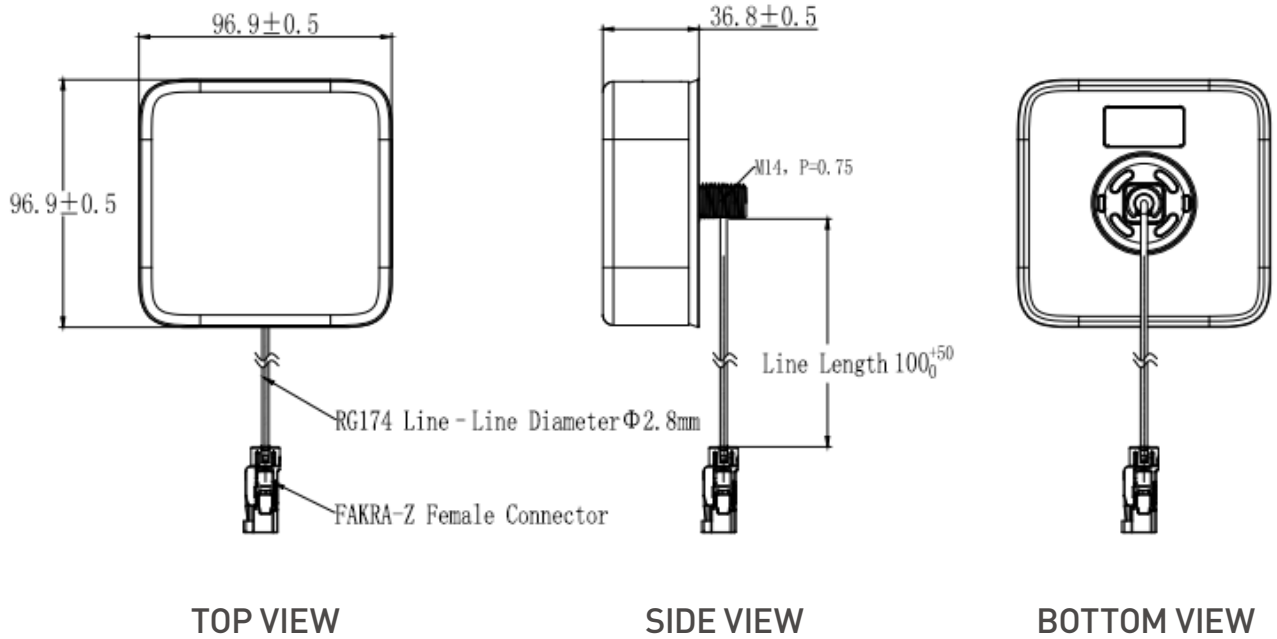
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Structure & Phase Center Drawing (mm)



Undeclared Tolerance: ± 0.3 mm