

OEM GNSS Antenna HX-CSX231A

Harxon
a *BDStar* company

The embedded full frequency GNSS antenna HX-CSX231A is a high gain, small size and compact active GNSS antenna that provides reliable and consistent positioning services for high dynamic applications such as small robots and autonomous vehicles. This affordable antenna features small size, light weight and stable performance.



HIGHLY RELIABLE ANTENNA STRUCTURE

HX-CSX231A is designed with plane antenna element with electromagnetic band gap structure and adopts low-loss microwave materials, which makes the antenna smaller in size, lighter in weight and improved in performance. This antenna features stable structure, good consistency, more reliable electrical performance.

STABLE PHASE CENTER FOR ROBUST POSITIONING PERFORMANCE

HX-CSX231A offers full support for superior satellite signals tracking, including GPS, GLONASS, Galileo, BeiDou, QZSS and IRNSS. It offers a very stable phase center variation with advanced multipoint feeding technology, exceptional low elevation satellite tracking with symmetric radiation patterns, as well as outstanding wide-angle circular polarization (WACP) ensures excellent positioning accuracy.

TRACKING IN COMPLEX ENVIRONMENTS

This antenna exhibits superior 4.5dBi high gain performance with ultralow signal loss, ensuring reliable satellite signal tracking. It also delivers wide beam width that covers wide frequencies with high marginal gain. These features in turn ensure the antenna a robust signal availability even in low elevation, making the antenna a perfect option in complex environments that have blockage, such as tree canopy and buildings.

STRONG ANTI-INTERFERENCE PERFORMANCE

The advanced LNA of HX-CSX231A excels in improved signal filtering, out-of-band rejection, restrained unwanted electromagnetic interferences and strong multi-path reduction capacity, providing strong anti-interference performance for consistent and reliable GNSS signals, even in complicated environments such as power grids, communication base stations and broadcast stations.

KEY FEATURES

- Supports GPS, GLONASS, Galileo, BeiDou, QZSS and IRNSS
- Small size and lightweight, with robust structure
- Improved signal filtering and excellent multipath rejection
- Stable phase center guarantees the accuracy of positioning within millimeter-level

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PERFORMANCE

Signal Received	
GPS	L1/L2/L5
BDS	B1I/B2I/B3I/B1C/B2a/B2b
GLONASS	L1/L2/L3
GALILEO	E1/ E5a/E5b/E6
QZSS	L1/L2/L5/L6
IRNSS	L5
Nominal Impedance	50Ω
Polarization	RHCP
Axial Ratio	≤3dB
Azimuth Coverage	360°
Output VSWR	≤2.0
Peak Gain	GNSS: 4.5dBi
Phase Center Error	±2mm

LNA

Gain	L1: 28±2dB L2: 30±2dB
Noise Figure	≤2dB
Output VSWR	≤2.0
Passband Ripple	±2dB
Operation Voltage	+3.3~+12VDC
Operation Current	≤45mA
Group Delay Ripple	≤5ns

MECHANICAL

Dimensions	Φ90*H21.8m
Connector	SMA-J

ENVIRONMENTAL

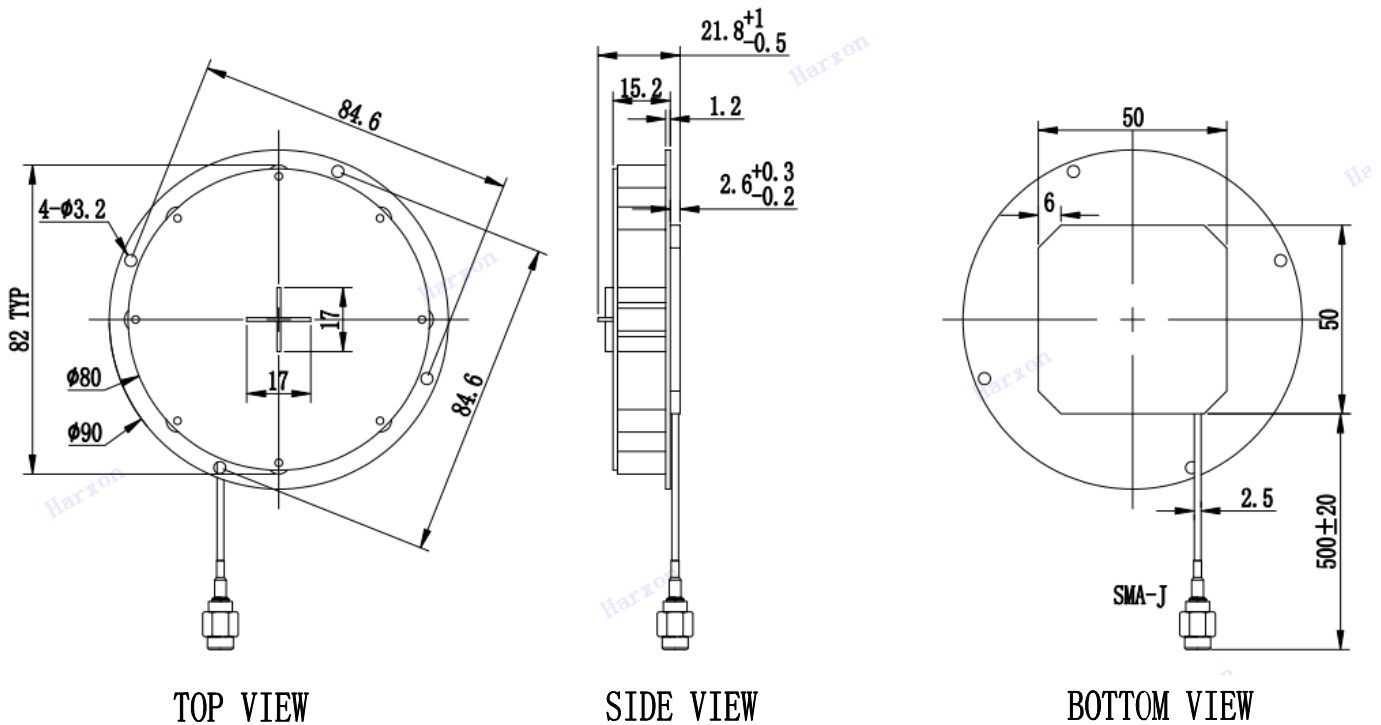
Operating Temperature	-40℃~+85℃
Storage Temperature	-55℃~+85℃
Humidity	95% non-condensing

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Structure& Phase Center Drawing (mm)



Undeclared tolerance:±0.3mm