

# Survey GNSS Antenna HX-CSX633A

**Harxon**  
a *BDStar* company

HIGH PRECISION GNSS ANTENNA FOR  
AGRICULTURAL VEHICLES, SMALL  
ROBOTS AND SURVEYING APPLICATIONS



## RUGGEDIZED HOUSING, EASY TO INSTALL

HX-CSX633A is designed with brand new structure, enabling easy and flexible installations (magnetic mount, screws mount and pole mount) for many high-precision applications, including agricultural vehicles, small robots and surveying applications. It is built into a compact and ruggedized housing with IP67 rating to protect from dust, rain and sunlight, it can withstand a certain amount of shock and vibration, providing reliable performance even in harsh environments.

## HIGH PHASE CENTER STABILITY

HX-CSX633A features a multi-point feeding design to achieve greater phase center stability. It effectively improves measurement accuracy and provides better positioning solutions.

## TRACKING IN CHALLENGING ENVIRONMENTS

The ability to receive low elevation signals with high gain and wide beam width makes HX-CSX633A an excellent choice for tracking visible satellites in tough environments, providing the positioning solutions with precision and reliable data. It can be widely used in challenging conditions where high precision is needed, such as obstructed environments of forest or construction.

## STRONG ANTI-INTERFERENCE PERFORMANCE

The antenna LNA features an excellent out-of-band rejection performance, which can suppress the electromagnetic interference, providing the stability and reliability of GNSS signals. Also, it effectively avoids disconnection danger when receivers are operated under complex electro magnetic environments such as communication base station applications or urban area.

## KEY FEATURES

- Support GPS, GLONASS, GALILEO, BDS, QZSS, IRNSS and SBAS signal reception
- Stable phase center guarantees the accuracy of positioning within millimeter-level
- Strong anti-interference ability to endure the challenging operating environments
- Ruggedized housing, flexible installation options, IP67 Rating waterproof



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## PERFORMANCE

<b>Signal Received</b>	
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
SBAS	L1/L5
L-Band	
<b>Nominal Impedance</b>	50Ω
<b>Polarization</b>	RHCP
<b>Axial Ratio</b>	≤3dB
<b>Azimuth Coverage</b>	360°
<b>Output VSWR</b>	≤2.0
<b>Gain at Zenith</b>	5.5dBi
<b>Phase Center Error</b>	±2mm

## LNA

<b>LNA Gain</b>	L2: 40±2dB
	L1: 38±2dB
<b>Noise Figure</b>	≤2dB
<b>Output VSWR</b>	≤2.0
<b>Passband Ripple</b>	±2dB
<b>Operation Voltage</b>	+3.3~+12VDC
<b>Operation Current</b>	≤45mA
<b>Group Delay Ripple</b>	≤5ns

## MECHANICAL

<b>Dimensions</b>	Φ152*57.7mm
<b>Connector</b>	TNC-K
<b>Weight</b>	≤700g
<b>Mounting</b>	Magnetic mount
	3 x M5 screws mount
	BSW5/8"-11 screw, 12-14mm

## ENVIRONMENTAL

<b>Operating Temperature</b>	-40°C to +85°C
<b>Storage Temperature</b>	-55°C to +85°C
<b>Humidity</b>	95% non-condensing
<b>Shock</b>	MIL-STD-810-F to survive a 2m (6.56 ft) drop onto concrete
<b>Vibration</b>	MIL-STD-810-F on each axis
<b>Water/Dust Resistance</b>	IP67
<b>EMC (RF Input Static)</b>	Connected: 8KV, Air: 15KV, 10 times
<b>Regulatory Compliance</b>	CE FCC ROHS

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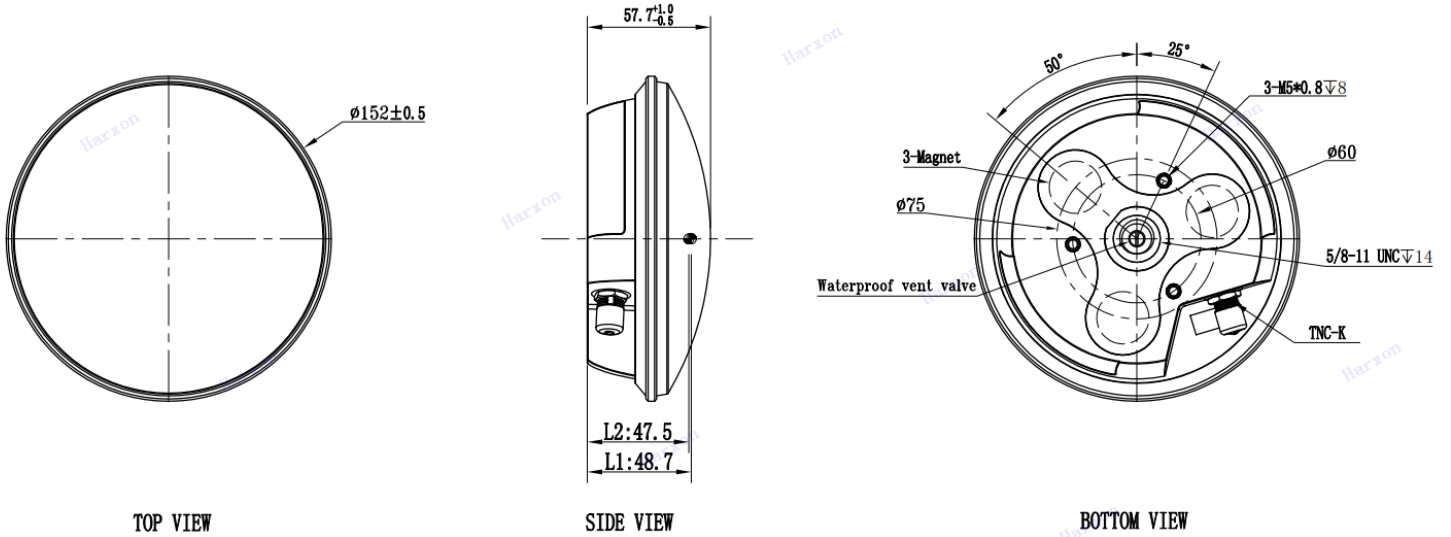
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## Structure & Phase Center Drawing (mm)



Undeclared tolerance:  $\pm 0.3$ mm

## Product Label

The content of the label is shown as below. The S/N code needs to be written according to the program file and the actual situation. The following figures are only for illustration.

Label 1: Special-shaped label, size  $\phi 109.8 \times T0.4$ mm

Label 2: size  $23 \times 9$ mm

