D-Helix™ Antenna HX-CHX602A

High Gain Foldable Helix Antenna for Surveying

Harxon a BDStar company

Harxon HX-CHX602A helix antenna is a multi-constellation full frequency high gain geodetic surveying antenna. This small form factor antenna employs a foldable design that allows a maximum of 90 degree bending angle for superior GNSS signal availability while integrated with surveying terminals as pad and consoles in the field. Its high sensitivity, low power consumption, small dimensions, flexible angle of signal reception make it a great match for geodetic surveying applications



HIGH PHASE CENTER STABILITY

The Harxon HX-CHX602A offers full support for reliable and consistent satellite signals tracking, including GPS, GLONASS, Galileo and BeiDou, as well as L-Band. It also exhibits a very stable phase center by adopting multipoint feeding technology, exceptional low elevation satellite tracking with symmetric radiation patterns, high gain with ultralow signal loss, as well as outstanding wide-angle circular polarization (WACP) ensures remarkable positioning accuracy.

TRACKING IN CHALLENGING ENVIRONMENTS

The HX-CHX602A is able to track any visible satellites under challenging conditions, providing the positioning solutions with higher precision and reliable data. The ability to track low elevation satellites while maintaining high gain makes this antenna an excellent choice for any applications where the sky is partially visible, such as plant protection, tree canopy, or for UAV power patrol, GIS surveying where high precision is needed.

STRONG ANTI-INTERFERENCE PERFORMANCE

The advanced LNA (Low Noise Amplifier) excels in improved signal filtering and out-of-band rejection and restraints unwanted electromagnetic interferences, plus strong multi-path reduction capacity over all GNSS frequency bands, providing strong anti-interference performance for consistent and reliable GNSS signals, even under complicated environments such as power grids, communication base stations or radio.

SMALL FORM FACTOR FOLDABLE DESIGN

HX-CHX602A adopts a rugged small form factor foldable design that allows a maximum of 90 degree bending angle, providing the most flexible GNSS signal reception angle for robust signal availability of the surveying control terminals. This foldable design ensures reliable performance even after long-term repeated bending operations. The Harxon patented IP65 waterproof enclosure ensures the antenna long term reliable performance even under harsh environments as rain, dust, splash or sunlight.

KEY FEATURES

- **Multi-constellation Full Frequency and L-Band Support**
- **Reliable Phase Center for Millimeter Positioning Accuracy**
- **Excellent Anti-interference Performance**
- **Small Form Factor with Foldable Design**
- **IP65 Rating Waterproof**

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PERFORMANCE

Signal Received	
BDS	B1/B2/B3
GPS	L1/L2/L5
GLONASS	G1/G2/G3
GALILEO	E1/E5a/E5b/E6
L-Band	
Nominal Impedance	50Ω
Polarization	RHCP
Axial Ratio	≤3dB
Azimuth Coverage	360°
Output VSWR	≤2.0
Peak Gain	2dBi

LOW NOISE AMPLIFIER

LNA Gain	33±2dB
Noise Figure	≤2dB
Output VSWR	≤2.0
Passband Ripple	±2dB
Operation Voltage	+3.3 to +12VDC
Operation Current	≤55mA

MECHANICAL

Dimensions	25mm×107mm
Weight	≤95g
Connector	SMA Male

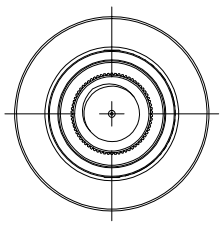
ENVIRONMENTAL

Operating	-40℃ to +80℃
Storage	-55℃ to +80℃
Humidity	95% no-condensing
Ingress Protection Rating	IP65

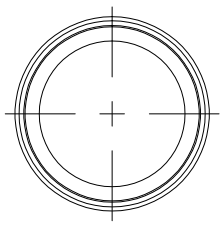
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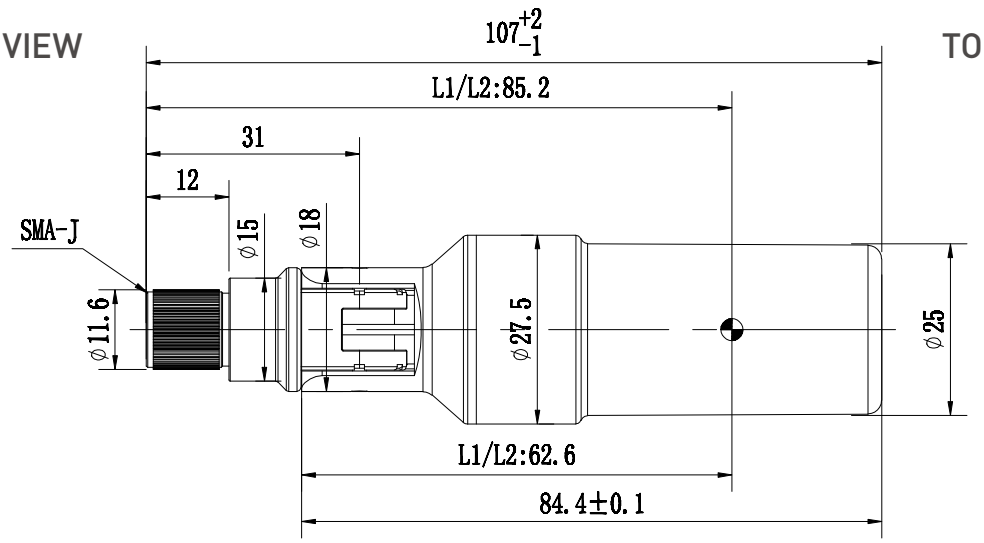
Structure& Phase Center Drawing (mm)



BOTTOM VIEW



TOP VIEW



SIDE VIEW

Undeclared Tolerance:±0.3mm