

D-Helix™ Antenna HX-CUX618A



Helix Antenna with WiFi & BT Antenna

The Harxon HX-CUX618A is a high-performance helix antenna designed for high-precision positioning. It offers superior satellite signal tracking, including GPS, GLONASS, GALILEO, and Beidou, along with L-Band correction services. Upgraded with WiFi and BT antenna for better integration, this product is ideal for surveying, UAV, personnel and vehicle monitoring, and many more applications. It's regarded as an all-in-one solution for integrated helix antenna needs.



ADVANCED D-QHA TECHNOLOGY FOR CONSISTENT PERFORMANCE

HX-CUX618A features a multi-point feeding technology that ensures a high phase center stability for outstanding positioning accuracy. Meanwhile, adopting advanced patented D-QHA technology and covering a wider frequency band, HX-CUX618A achieves extraordinary 2.8dBi gain for reliable and consistent performance. Its high gain with ultralow signal loss, wide beam width for exceptional low elevation satellite tracking with symmetric radiation patterns deliver consistent performance even under challenge environment that has serious blockage.

STRONG ANTI-INTERFERENCE PERFORMANCE

HX-CUX618A optimizes its circuit layout and equips a robust pre-filtered LNA that features an excellent out-of-band interference rejection performance and restrains possible unwanted electromagnetic interference, providing reliable GNSS signals for easy integration into positioning solutions.

SMALL FORM FACTOR, LIGHT WEIGHT, DESIGNED FOR INTEGRATION

The HX-CUX618A antenna is lightweight and compact, measuring only $\Phi 43.6 \times H 40.8$ mm, making it ideal to be integrated into UAVs, surveying and monitoring devices. It reduces the overall weight of applications and increases service time.

ALL-IN-ONE HELIX ANTENNA INTEGRATED WITH WIFI & BT ANTENNA

HX-CUX618A is designed with the integration of WiFi and BT antenna. On the one hand, its 1dBi gain (typical value) enables easy connection and configuration for mobile device users; on the other hand, its highly integrated design simplifies development and reduces costs for device engineers.

KEY FEATURES

- Comprehensive GNSS support: GPS, GLONASS, Galileo, BeiDou as well as L-Band correction service
- Centimeter phase center repeatability, high gain at low elevation
- Improved signal filtering and excellent multipath rejection
- Small form factor facilitates easier integration
- Integrated with WiFi and BT antenna

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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	
BT	
Wi-Fi	

Nominal Impedance 50Ω

Polarization RHCP

Axial Ratio $\leq 3\text{dB}$

Azimuth Coverage 360°

Output VSWR $\leq 2@GNSS$ $\leq 2@BT$

Gain RHCP (maximum) 2.8dBi@GNSS

LNA

LNA Gain 33dB (Typical)

Noise Figure $\leq 2\text{dB}$

Output VSWR ≤ 2.0

Operation Voltage +3.3~12VDC

Operation Current $\leq 55\text{mA}$

Passband Ripple $\pm 2\text{dB}$

MECHANICAL

Dimensions

∅43.6*40.8mm (Cables not included)

Connector

IPEX 1st Generation

Cable Length 70mm (GNSS)

Cable Length 100mm (BT/Wi-Fi)

Weight $\leq 30\text{g}$

Mounting 3-NO.3-48UNC screws fixed

ENVIRONMENTAL

Temperature

Operating -40°C to +70°C

Storage -55°C to +85°C

Humidity 95% non-condensing

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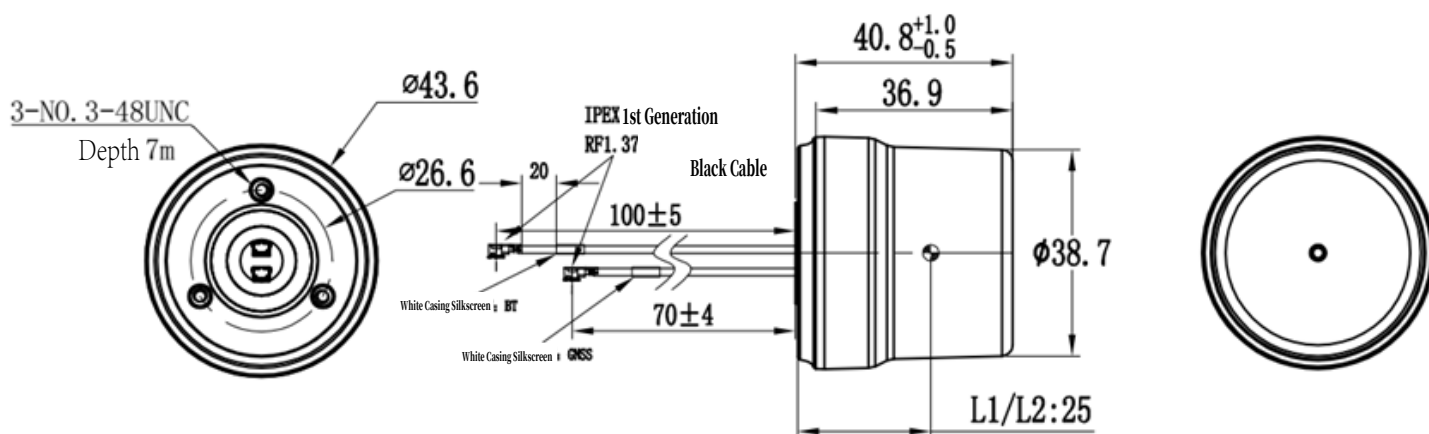
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Structure & Phase Center Drawing (mm)



TOP VIEW

SIDE VIEW

BOTTOM VIEW

Undeclared Tolerance: $\pm 0.3\text{mm}$