

HX12-4-6GF



3.6m | 12ft ValuLine® High Performance, High XPD Antenna, dual-polarized, 4.400 – 5.000 GHz, grey, CPR187G flange

Product Classification

Product Type Microwave antenna

General Specifications

Antenna Type HX - ValuLine® High Performance, High XPD Antenna, dual-polarized

Polarization Dual

Antenna Input CPR187G

Antenna Color Gray

Reflector Construction Two-piece reflector

Radome Color Gray

Radome Material Fabric

Flash Included Yes

Side Struts, Included 2

Side Struts, Optional 3

Dimensions

Diameter, nominal 3.6 m | 12 ft

Electrical Specifications

Operating Frequency Band 4.400 – 5.000 GHz

Gain, Low Band 41.6 dBi

Gain, Mid Band 42.2 dBi

Gain, Top Band 42.7 dBi

Boresite Cross Polarization Discrimination (XPD) 33 dB

Front-to-Back Ratio 68 dB

Beamwidth, Horizontal 1.2 °

Beamwidth, Vertical 1.2 °

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| | |
|----------------------------------------------------------------------|-------------------------------|
| Return Loss | 23 dB |
| VSWR | 1.15 |
| Radiation Pattern Envelope Reference (RPE) | 7428 |
| Electrical Compliance | ETSI 302 217 Class 3 |
| Cross Polarization Discrimination (XPD) Electrical Compliance | ETSI EN 302217 XPD Category 2 |

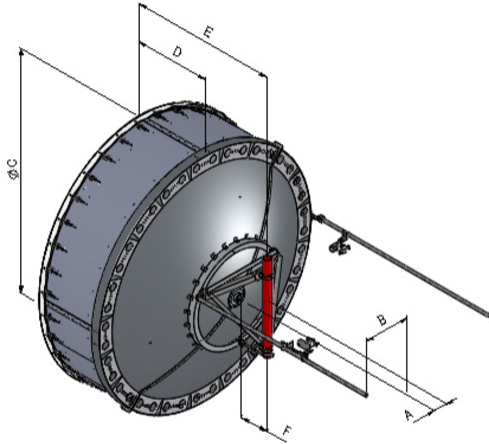
Mechanical Specifications

| | |
|------------------------------------------|------------------------|
| Compatible Mounting Pipe Diameter | 115 mm 4.5 in |
| Fine Azimuth Adjustment Range | ±5° |
| Fine Elevation Adjustment Range | ±5° |
| Wind Speed, operational | 180 km/h 111.847 mph |
| Wind Speed, survival | 200 km/h 124.274 mph |

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Antenna Dimensions and Mounting Information

HX / USX12



| Dimensions in inches (mm) | | | | | | |
|---------------------------|-----------|------------|--------------|-------------|-------------|------------|
| Antenna size, ft (m) | A | B | C | D | E | F |
| 12 (3.6) | 8.5 (216) | 28.2 (715) | 149.3 (3793) | 46.3 (1177) | 81.5 (2069) | 10.6 (269) |

Wind Forces at Wind Velocity Survival Rating

| | |
|---------------------------------------------|---------------------------------|
| Axial Force (FA) | 26750 N 6,013.641 lbf |
| Angle α for MT Max | -120 ° |
| Side Force (FS) | 9450 N 2,124.445 lbf |
| Twisting Moment (MT) | -17550 N-m -155,330.594 in lb |
| Force on Inboard Strut Side | 13000 N 2,922.517 lbf |
| Force on Outboard Strut Side | 4500 N 1,011.64 lbf |
| Zcg without Ice | 680 mm 26.772 in |
| Zcg with 1/2 in (12 mm) Radial Ice | 841 mm 33.11 in |

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Weight with 1/2 in (12 mm) Radial Ice

643 kg | 1,417.571 lb

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Wind Forces at Wind Velocity Survival Rating Image



Packaging and Weights

| | |
|-----------------------|---------------------------------------------|
| Height, packed | 1530 mm 60.236 in |
| Width, packed | 2140 mm 84.252 in |
| Length, packed | 3990 mm 157.087 in |
| Packaging Type | Standard pack |
| Volume | 13 m ³ 459.091 ft ³ |
| Weight, gross | 648 kg 1,428.594 lb |
| Weight, net | 348 kg 767.208 lb |

Regulatory Compliance/Certifications

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Agency

ISO 9001:2015

Classification

Designed, manufactured and/or distributed under this quality management system

* Footnotes

Operating Frequency Band

Bands correspond with CCIR recommendations or common allocations used throughout the world. Other ranges can be accommodated on special order.

Gain, Mid Band

For a given frequency band, gain is primarily a function of antenna size. The gain of Andrew antennas is determined by either gain by comparison or by computer integration of the measured antenna patterns.

Boresite Cross Polarization Discrimination (XPD)

The difference between the peak of the co-polarized main beam and the maximum cross-polarized signal over an angle twice the 3 dB beamwidth of the co-polarized main beam.

Front-to-Back Ratio

Denotes highest radiation relative to the main beam, at $180^\circ \pm 40^\circ$, across the band. Production antennas do not exceed rated values by more than 2 dB unless stated otherwise.

Return Loss

The figure that indicates the proportion of radio waves incident upon the antenna that are rejected as a ratio of those that are accepted.

VSWR

Maximum; is the guaranteed Peak Voltage-Standing-Wave-Ratio within the operating band.

Radiation Pattern Envelope Reference (RPE)

Radiation patterns define an antenna's ability to discriminate against unwanted signals. Under still dry conditions, production antennas will not have any peak exceeding the current RPE by more than 3dB, maintaining an angular accuracy of $\pm 1^\circ$ throughout

Cross Polarization Discrimination (XPD) Electrical Compliance

The difference between the peak of the co-polarized main beam and the maximum cross-polarized signal over an angle twice the 3 dB beamwidth of the co-polarized main beam.

Wind Speed, operational

For VHLP(X), SHP(X), HX and USX antennas, the wind speed where the maximum antenna deflection is 0.3 x the 3 dB beam width of the antenna. For other antennas, it is defined as a deflection is equal to or less than 0.1 degrees.

Wind Speed, survival

The maximum wind speed the antenna, including mounts and radomes, where applicable, will withstand without permanent deformation. Realignment may be required. This wind speed is applicable to antenna with the specified amount of radial ice.

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Axial Force (FA)

Maximum forces exerted on a supporting structure as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe.

Side Force (FS)

Maximum side force exerted on the mounting pipe as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe.

Twisting Moment (MT)

Maximum forces exerted on a supporting structure as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe.

Packaging Type

Andrew standard packing is suitable for export. Antennas are shipped as standard in totally recyclable cardboard or wire-bound crates (dependent on product). For your convenience, Andrew offers heavy duty export packing options.