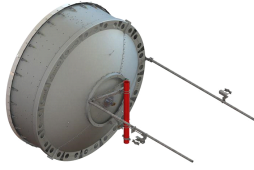


# USX10-7W



3.0m | 10ft Sentinel® Ultra High Performance, Super High XPD Antenna, dual-polarized, 7.125 – 8.500 GHz

## Product Classification

**Product Type** Microwave antenna

## General Specifications

**Antenna Type** USX - Sentinel® Ultra High Performance, Super High XPD Antenna, dual-polarized

**Diameter, nominal** 3.0 m | 10 ft

**Polarization** Dual

## Electrical Specifications

**Beamwidth, Horizontal** 0.9 °

**Beamwidth, Vertical** 0.9 °

**Boresite Cross Polarization Discrimination (XPD)** 40 dB

**Cross Polarization Discrimination (XPD) Electrical Compliance** ETSI EN 302217 XPD Category 3

**Electrical Compliance** ACMA FX03\_7p5a | ETSI 302 217 Class 3

**Front-to-Back Ratio** 80 dB

**Gain, Low Band** 43.7 dBi

**Gain, Mid Band** 44.4 dBi

**Gain, Top Band** 45.0 dBi

**Operating Frequency Band** 7.125 – 8.500 GHz

**Radiation Pattern Envelope Reference (RPE)** 7425

**Return Loss** 26.0 dB

**VSWR** 1.10

## Mechanical Specifications

**Fine Azimuth Adjustment** ±5°

**Fine Elevation Adjustment** ±5°

**Mounting Pipe Diameter** 115 mm | 4.5 in

**Net Weight** 263 kg | 580 lb

**Side Struts, Included** 2

**Side Struts, Optional** 3

**Wind Velocity Operational** 180 km/h | 112 mph

**Wind Velocity Survival Rating** 200 km/h | 124 mph

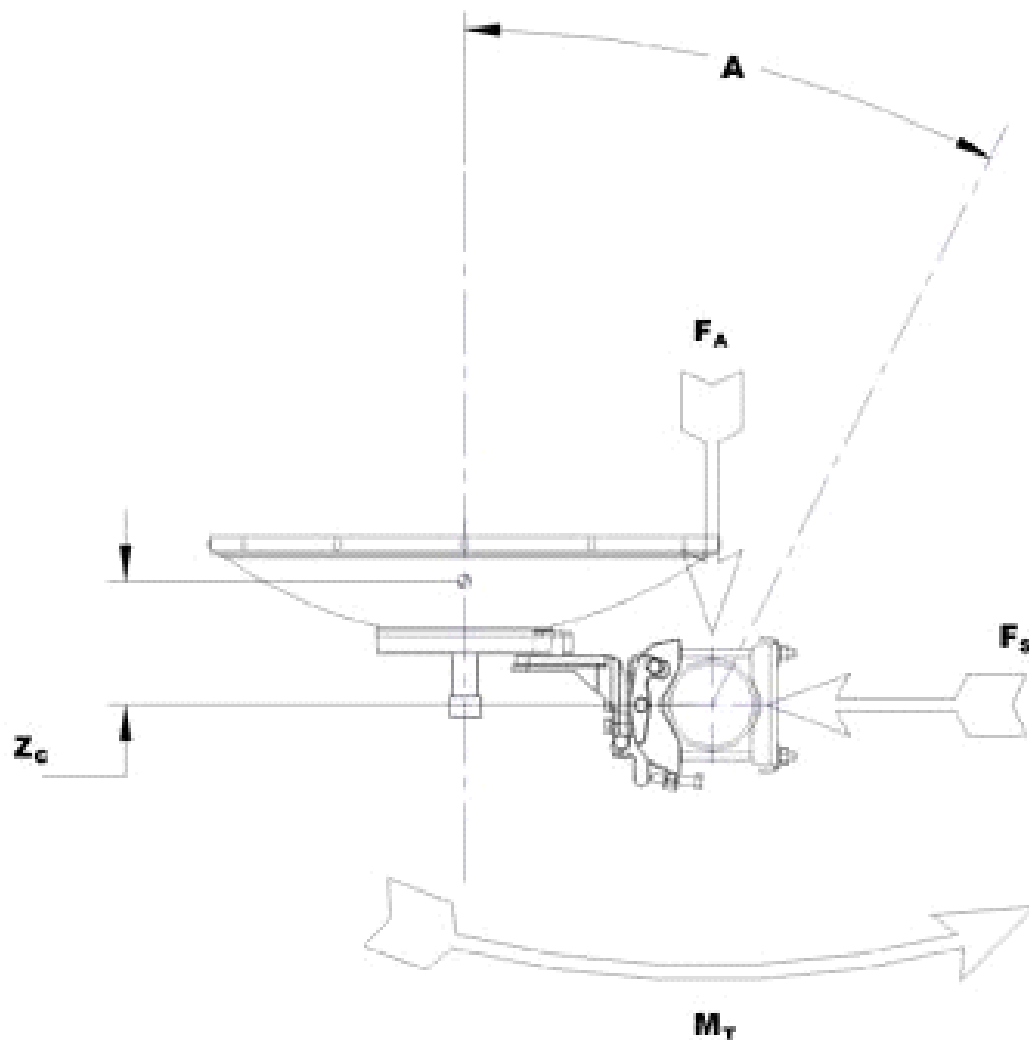
# USX10-7W

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## Wind Forces At Wind Velocity Survival Rating

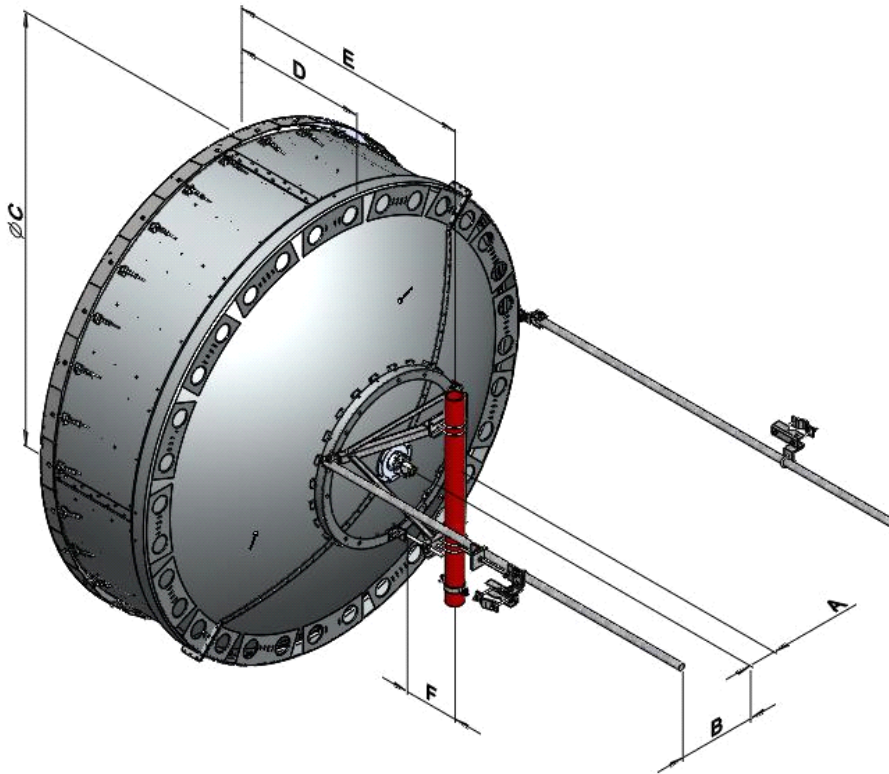
<b>Angle <math>\alpha</math> for MT Max</b>	-130 °
<b>Axial Force (FA)</b>	18800 N   4226 lbf
<b>Force on Inboard Strut Side</b>	9500 N   2136 lbf
<b>Force on Outboard Strut Side</b>	3350 N   753 lbf
<b>Side Force (FS)</b>	-6560 N   -1475 lbf
<b>Twisting Moment (MT)</b>	-10725 N-m   -7910 ft lb
<b>Weight with 1/2 in (12 mm) Radial Ice</b>	466 kg   1027 lb
<b>Zcg with 1/2 in (12 mm) Radial Ice</b>	744 mm   29 in
<b>Zcg without Ice</b>	618 mm   24 in

Wind Forces At Wind Velocity Survival Rating Image



## Antenna Dimensions And Mounting Information

### USX10



Dimensions in inches (mm)						
Antenna Size, ft (m)	A	B	C	D	E	F
10 (3)	8.0 (203)	22.5 (572)	125.0 (3174)	38.6 (980)	71.1 (1807)	10.3 (262)

### \* Footnotes

#### 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.

<b>Boresite Cross Polarization Discrimination (XPD)</b>	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.
<b>Cross Polarization Discrimination (XPD) Electrical Compliance</b>	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.
<b>Front-to-Back Ratio</b>	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.
<b>Gain, Mid Band</b>	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.
<b>Operating Frequency Band</b>	Bands correspond with CCIR recommendations or common allocations used throughout the world. Other ranges can be accommodated on special order.
<b>Radiation Pattern Envelope Reference (RPE)</b>	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
<b>Return Loss</b>	The figure that indicates the proportion of radio waves incident upon the antenna that are rejected as a ratio of those that are accepted.
<b>Side Force (FS)</b>	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.
<b>Twisting Moment (MT)</b>	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.
<b>VSWR</b>	Maximum; is the guaranteed Peak Voltage-Standing-Wave-Ratio within the operating band.
<b>Wind Velocity Operational</b>	The wind speed where the antenna deflection is equal to or less than 0.1 degrees. In the case of ValuLine antennas, it is defined as a maximum deflection of 0.3 x the 3 dB beam width of the antenna.
<b>Wind Velocity Survival Rating</b>	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.