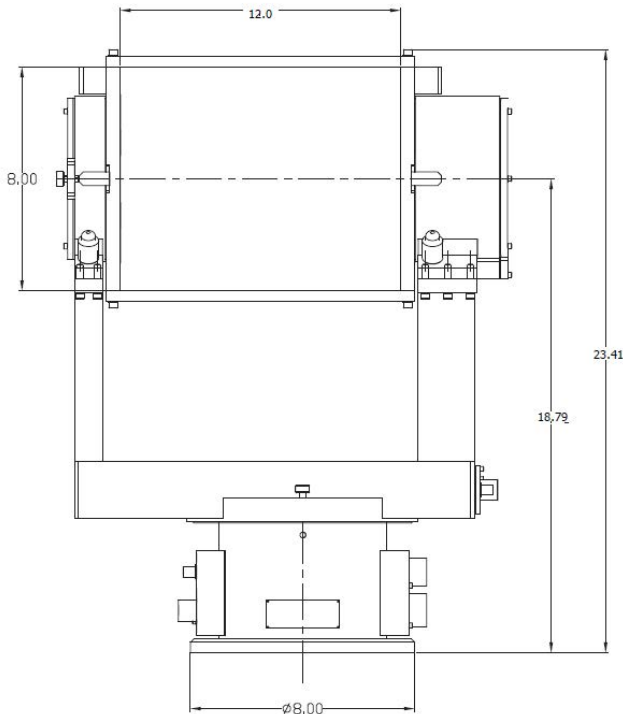


# Model SPS-500 Precision Positioner

## Features

- Ideal for stabilized mast/tower mounted
- surveillance acquisition and tracking applications
- Optimized for Size, Weight, and Power (SWaP)
- Precision positioning for payloads up to 60 pounds
- Angular contact bearing design for high stiffness and low running friction
- Brushless, direct drive (zero backlash) torque motors
- 16-bit high accuracy pancake resolvers
- High dynamic range velocity control
- Ruggedized for operation under military shock and vibration conditions
- Integrated Line of Sight (LOS) stabilization for shipboard, airborne, and ground platforms
- High reliability/maintenance-free operation
- Test Readiness Level (TRL7/8) with test data



# Model SPS-500 Precision Positioner

## Specifications

<b>RESOLUTION:</b>	<ul style="list-style-type: none"> <li>21 bits (3 <math>\mu</math>radians)</li> </ul>
<b>ACCURACY:</b>	<ul style="list-style-type: none"> <li><math>\pm 0.0057^\circ</math> (<math>\pm 100 \mu</math>radians)</li> </ul>
<b>REPEATABILITY:</b>	<ul style="list-style-type: none"> <li><math>\pm 0.0014^\circ</math> (<math>\pm 25 \mu</math>radians)</li> </ul>
<b>VELOCITY:</b>	<ul style="list-style-type: none"> <li><math>0.01^\circ</math> to <math>90^\circ</math>/second</li> </ul>
<b>ACCELERATION:</b>	<ul style="list-style-type: none"> <li><math>90^\circ</math>/sec<sup>2</sup></li> </ul>
<b>TRAVEL:</b>	<ul style="list-style-type: none"> <li>Azimuth <math>\pm 270^\circ</math> standard</li> <li>Elevation <math>-15^\circ</math> to <math>+95^\circ</math></li> </ul>
<b>RATELOOP BANDWIDTH:</b>	<ul style="list-style-type: none"> <li><math>&gt;15</math> Hz</li> </ul>
<b>BASE MOTION STABILIZATION WITH HIGH PERFORMANCE -FOG</b>	<ul style="list-style-type: none"> <li><math>&lt; 100 \mu</math>radians RMS</li> </ul>
<b>MOTOR TORQUE</b>	<ul style="list-style-type: none"> <li>10 ft-lb AZ</li> <li>5 ft-lb EL</li> </ul>

## Configuration

<b>PEDESTAL TYPE:</b>	<ul style="list-style-type: none"> <li>Direct drive, elevation over azimuth, 2 axis yoke</li> </ul>
<b>DRIVE MOTORS:</b>	<ul style="list-style-type: none"> <li>Brushless DC</li> </ul>
<b>WEIGHT, POSITIONER:</b>	<ul style="list-style-type: none"> <li>35 pounds</li> </ul>
<b>WEIGHT, PAYLOAD:</b>	<ul style="list-style-type: none"> <li>60 pounds</li> </ul>

## Environmental

<b>TEMPERATURE:</b>	<ul style="list-style-type: none"> <li><math>-30^\circ\text{C}</math> to <math>55^\circ\text{C}</math></li> </ul>
<b>RAIN:</b>	<ul style="list-style-type: none"> <li>Weather tight seals</li> </ul>
<b>HUMIDITY:</b>	<ul style="list-style-type: none"> <li>98%</li> </ul>
<b>SHOCK &amp; VIBRATION:</b>	<ul style="list-style-type: none"> <li>MIL Standard Levels</li> </ul>

## Mechanical

<b>MOUNTING:</b>	6 x 0.281 inch holes on a 7.25 inch bolt circle
<b>LOS:</b>	18.79 inches above the Pedestal mounting surface (yoke configuration)

## Control

- Separate Servo Control Chassis
- Integrated MIL Spec Servo Control Electronics (Option)

## Power / Voltage

The Positioner derives its power from the servo control unit. The servo control unit operates from:

- 115/240 VAC, single-phase, 50/60 Hz power; (Option)
- 24/28 VDC (Standard)
- 1500 - 3000 Watts depending on dynamic requirements

## Options

SPS-500 has many options from past programs such as, Gyro Stabilization, Slipr Rings, FORJ, Transportable Base, and Customer Cabling through the positioner. Let us know any desired features or optional interfaces, as it may already exist

## Corrosion Prevention and Safety

The pedestal is pretreated with chemical conversion coating and a weather resistant urethane top coat. It uses all stainless steel hardware and is supplied with stow locks for safe transportation. A pedestal safe switch is included to allow maintenance personnel to immobilize the pedestal during maintenance. Mechanical stops and a payload specific electrical interface are also standard items