

APS-100 Pan and Tilt System

Axsys Motion Control Products

www.axsys.com



Axsys Technologies designs and manufactures high performance pan and tilt positioning systems that are ideal for a wide range of surveillance, reconnaissance and targeting applications in both military and commercial markets.

All Axsys precision pan and tilt systems combine our high power DC torque motors and high accuracy resolvers directly coupled to the payload for maintenance free operation with zero backlash. The Axsys APS-100 Pan and Tilt system combines these technologies into the industry's most reliable, powerful and precise long range positioners. With a heavy duty payload capacity of up to 100 pounds and, the APS-100 is ideally suited for multi-sensor platforms. An integrated 16 bit resolver (65K counts/rev) is directly coupled to each axis for superior control and accuracy, making it ideal for both long range IR and Visible camera systems. Built-in control electronics and software provide precise, smooth motion at all speeds. A multi-channel slip ring is standard on every unit, thus simplifying integration of both Axsys and third party sensors for full continuous pan rotation. The APS-100 is also available with optional inertial gyro stabilization, making it ideal for maritime shipboard mounting, mast mounting, or many other applications requiring dynamic position control.

FEATURES

- Direct drive torque motors
- 16 bit high accuracy resolver technology
- Multiple payload mounting locations
- Built-in control electronics and software
- 360° continuous pan angle
- Environmentally sealed to IP67 standard
- Zero backlash
- Smooth low speed motion to 0.01°/sec
- Gyro-stabilization (optional)

BENEFITS

- Direct drive technology provides maintenance-free operation with zero backlash
- High resolution and precision, allow for industry "best" long range pointing accuracy and stability
- Precise and smooth operation at all speeds
- Lowest cost of ownership
- Versatile Multi-Sensor payloads configurations
- Configurable with both Axsys and third Party cameras

APS-100 Pan and Tilt System

System Specifications

Operating Voltage	16 – 32 VDC
Operating Temperature	-32C to +70°C (-25°F to +158°F)
Pan Speed	0.01 to 300°/sec
Pan Angle	Continuous
Tilt Speed	0.01 to 300°/sec
Tilt Angle	±60°
Resolution	0.005°
Position Repeatability	±0.01°
Position Accuracy	±0.1°
Backlash	None
Payload	100 lbs (50 lbs Max each side)
Continuous Torque	2500 oz-in @ 24 VDC
Weight	74 lbs
Environmentally Sealed	IP67

Control Specifications

RS-232 or optional RS-422 interface

Proprietary motion control algorithm developed specifically for Pan and Tilt systems

Predictive control loop based on a single adjustment for servo tuning greatly simplifies optimization for different payloads

Hardware and software control of position, speed, and acceleration at all times

Trapezoidal speed profile virtually eliminates overshoot at commanded position

Gyro Stabilization Specifications

Maintains pointing accuracy within 1 milliradian of residual motion with input frequencies up to 5 Hz

Higher frequency inputs can be stabilized with electronic stabilization of imaging system.

Dual gyro modes to optimize performance for
1) boats and 2) masts and towers*

**Inertial stabilization bars are recommended for all mast and tower applications, and are included with the Gyro Stabilization option. Please consult Axsys for additional information. motioninfo@axsys.com*

Configuration Options

Gyro Stabilization	2-Axis Pan and Tilt
Marine Package	Includes upgraded materials, improved seals and powder coat paint with epoxy primer
Finishes	Desert Sand polyurethane paint (standard) White, black, and other custom colors and finishes available upon request

