PYXIS Tracker

PYXIS Tracker is a high performance star tracker for small satellite applications. A PYXIS Tracker includes a single tracker head with baffle, connected to an external CORTEX processor in an aluminum enclosure. An optional second tracker head with baffle is available as an add-on; a single processor can control two PYXIS Trackers.

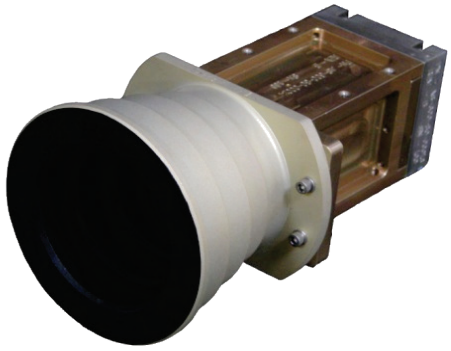
The PYXIS Tracker uses a 5 MP CMOS sensor which provides a compact, high performance and cost-effective solution. The PYXIS Tracker outputs a quaternion with associated time stamp.

Deliverables

- Each deliverable unit comes standard with a tracker head and baffle, external processing unit, 12" harness
- Deliverable units undergo functional testing per Andrews Space test procedures
- Flight Units undergo workmanship Acceptance Testing
  - Random Vibration
  - Thermal Cycling
  - Burn-In
- Documentation
  - Interface Control Document
  - Acceptance Test Report (Flight Units only)

Nominal Specifications	
Boresight Attitude Accuracy	< 10 arcsec (1-sigma)
Roll Axis Accuracy	< 40 arcsec (1-sigma)
Lost-in-Space Solution Time	< 2sec
Attitude Solution Update Rate	1 Hz
Slew Rate Capability	1 deg/sec
Field of View	15° x 20°
Sun exclusion Angle	+ / - 12.5° off boresight
Sensitivity	Magnitude 6
Star Catalog Size	4300 relevant stars
Interface	RS-422, RS-485
Qual. Vibration	14.1 g_{rms} (3 axes)
Qual. Shock	>1100 g, peak
Qual. TVAC	-40°C to 75°C (2 cycles, survival) -35°C to 70°C (8 cycles, operational)
Acceptance Vibration	10.0 g_{rms} (3 axes)
Acceptance TCycle	-40°C to 75°C (2 cycles, survival) -25°C to 65°C (8 cycles, operational)
Operating Temperature	-20°C to 60 °C
Radiation	<10 kRad
Tracker Head Baffle Processing Unit	4.8 x 4.8 x 8.0 cm, 150 g 6.0 x 8.0 x 8.0 cm, 330 g 10 x 18 x 5 cm, 450 g
Power	Tracker Head: 0.4 W, Processor: 4.0 W

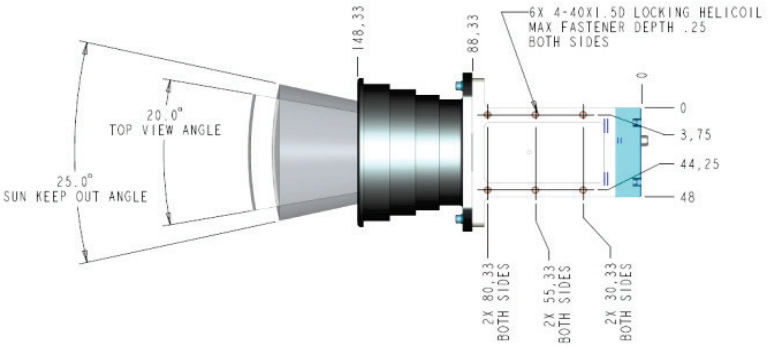
Nominal specifications reflect general product features and are subject to change.

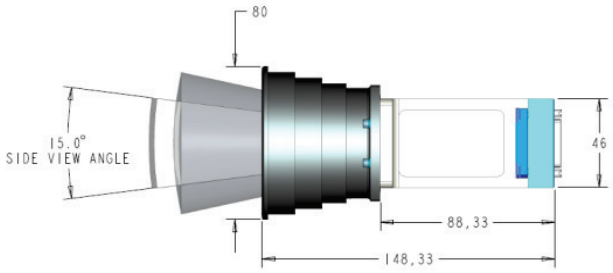


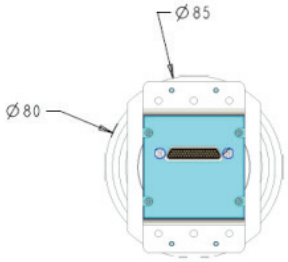
Base Price: $95,000

Optional 2nd Tracker Head +$45,000

3D CAD models are available for download @ andrews-space.com/pyxis-star-tracker







Andrews Space products are built to AS9100C aerospace quality standards using J-STD-001ES for electronics assemblies.