

MULTI-HEAD STAR SENSOR

The key to higher data availability for agile CubeSat missions

PYXIS SPACE is a young and innovative supplier for the small satellite sector, committed to the New Space philosophy of fast, cost-efficient, and reliable development. The company builds on more than 15 years of heritage in satellite technology and provides compact, high-performance solutions tailored to the needs of research institutes, universities, and commercial missions worldwide.

The Multi-Head Star Sensor is a unique solution that can integrate up to six sensor heads to significantly increase data availability during large attitude maneuvers. The number and orientation of the heads can be fully customized to mission requirements. Thanks to their ultra-compact design, the sensor heads can easily be integrated into a CubeSat's tuna can, making them ideal for space-constrained platforms.



FEATURES

- Very compact and lightweight sensor heads (23 × 30 × 35 mm)
- Integrated redundant control of individual heads
- Up to six sensor heads per system possible
- Easy integration into satellites, especially into a CubeSat tuna can
- Radiation-tolerant design based on space-proven components
- flight-proven since 2024
- Cost-efficient production following New Space philosophy
- High-volume manufacturing and rapid delivery

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SPECIFICATIONS OF FOUR HEAD COFIGURATION

Accuracy, 3σ:	
- cross boresight	36"
- boresight	180"
Data Rate	2 Hz, no initial acquisition time needed
Slew Rate	up to 1.5 °/s
Sun / Earth Exclusion Angle	80° / 70° for each sensor head
Interface	2 x CAN 2.0B, redundant configuration
Power Supply	+4 V to +5.5 V
Power Consumption	300 mW
Mass	240 g
Dimensions	tuna can, Ø79mm x L67mm
Environment	-40 °C to +50 °C (operational) -40 °C to +80 °C (survival)
TRL	9
Radiation	10 kRad

OPTIONS

- In-orbit calibration
- Image download
- Space debris filter
- EGSE hard- and software
- Star field simulator