Spaceflight Heritage
We Deliver Hi-Rel Rad-Hard Systems

Precision Guidance and Control for CubeSats and SmallSats

The MAI-SES is a miniature Static Earth Sensor suitable for CubeSats, NanoSats, and larger spacecraft in Low Earth Orbit. The MAI-SES without a full enclosure is approximately 4.33 x 3.18 x 2.07 cm in volume. It is designed to be mounted inside our MAI-400 ADACS unit but can be independent of the MAI-400. The sensor has four thermopile detectors, which view the Earth, Space, and Earth limb and measure the dip angle with respect to the horizon. Two sensor heads mounted orthogonally are required to yield the nadir vector in the body frame. The MAI-SES is a companion product to the MAI-400, which provides full orbit attitude knowledge in both Sunlight and Umbra.

IR Earth Horizon Sensor Specifications

- Length: 43.26 mm
- Width: 31.75 mm
- Height: 31.75 mm
- Mass: 33 g
- Operating Voltage: 3.3 V
- Operating Current (per Sensor): 40 mA
- Coarse Field of View: 60 degrees
- Resolution (Coarse Field of View): >1 degree
- Fine Field of View: >7 degrees
- Resolution (Fine Field of View): >0.25 degrees
- Command and Telemetry: 12C or SCI (3.3 V)
- Launch Environment : >12 G rms

Complete ADACS and ADACS components for CubeSats and Small Spacecraft.

Adcole Maryland Aerospace's compact guidance and attitude control systems are designed to accommodate a variety of sensor options and combinations. ADACS sensor configuration examples:

- 2 Star Trackers
- 1 Star Tracker - 1 Sun Sensor
- 2 Earth Horizon Sensors

Technical Questions:
discover@adcolemai.com

HERITAGE AND MISSION HISTORY

Read More

Massachusetts Location:
669 Forest Street
Marlborough, MA 01752

Telephone: (508) 485-9100
Fax: (508) 481-6142

Maryland Location:
2145 Priest Bridge Dr, Ste15
Crofton, MD 21114

Telephone: (410) 451-2505
Fax: (410) 451-2507

Start your mission:
discover@adcolemai.com

Sun Sensors
CubeSats
Small Spacecraft
ADACS
Star Trackers