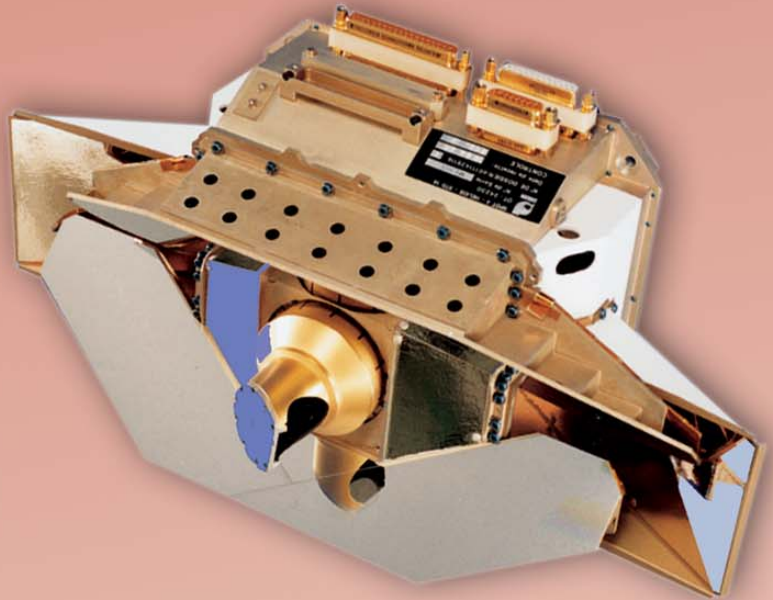
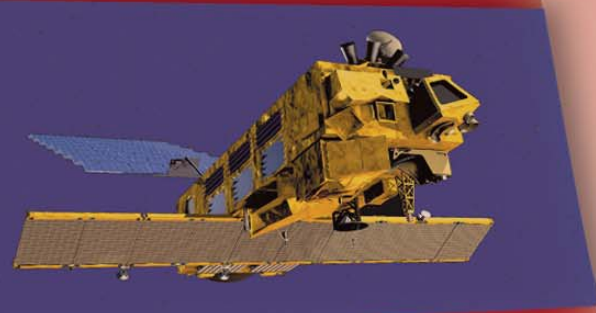


STD 16 EARTH SENSOR



Scanning Infrared Earth Sensor for LEO Orbits

The STD 16 is a dual conical scanning Earth Sensor able to meet the more stringent requirements and environmental constraints of LEO missions.

Since 1995, more than 10 STD 16 flight models have been launched and operated in space, and many others have been delivered or are to be delivered for LEO satellites:

SPOT 4, SPOT 5, ENVISAT, HÉLIOS 1a, HÉLIOS 1b, HÉLIOS 2a, HÉLIOS 2b, ADEOS 1, ADEOS 2, ETS 7, ALOS, METOP 1, 2, 3.

STD 16 PROVEN TECHNOLOGIES FOR MEASURING PITCH AND ROLL ON BOARD LEO SATELLITES:

- an optronic sensor with a rotating and two fixed mirrors
- an infrared bolometer to detect Earth to Space and Space to Earth transitions
- a dual track scanning pattern to increase accuracy and operability of the sensor
 - electronic functions for driving the scanning mechanism as well as operating the bolometer and data processing



PERFORMANCES

- Altitude range: 300-6 000 km
- Operating depointing range:
 - Pitch range : ± 17 deg (Roll = 0)
 - Roll range : ± 33 deg (Pitch = 0)
- Output data rate: 1 Hz
- Accuracy budget: 3σ
 - bias: 0.06 deg
 - typical noise: 0.042 deg.

ENVIRONMENTAL CHARACTERISTICS

- Operating temperature : -20 deg.C, +50 deg.C
- Storage temperature : -40 deg.C, +65 deg.C
 - Vibration : 20 - 2 000 Hz :
 - Z axis: 14 g.rms - X, Y axis: 12.2 g.rms

MECHANICAL INTERFACES

- Operating temperature : -20 deg.C, +50 deg.C
- Height: 175 mm - width: 208 mm - length: 386mm
 - Mass : 3.5 kg

ELECTRICAL INTERFACES

- Typical consumption : 7.5 W
- Power supply : 22 to 52 Volts
- Output data: AS16 / CS16

RELIABILITY

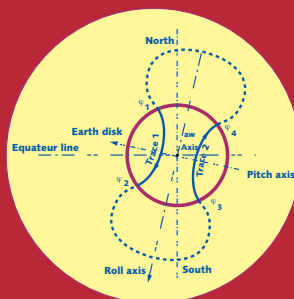
< 1 117 Fits

LIFE-SPAN

5 years in LEO.



Earth simulator for sensor calibration



Scanning Format