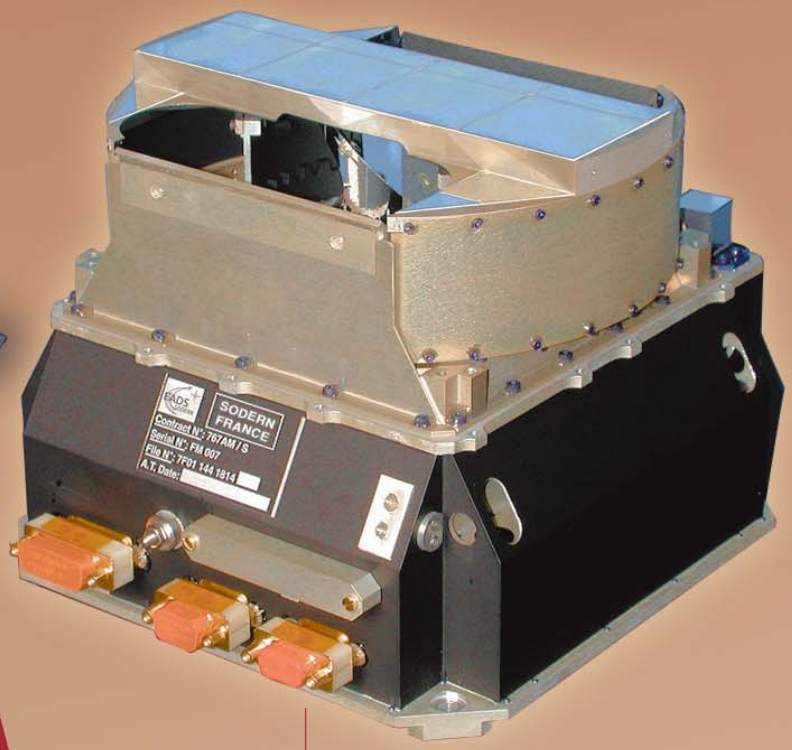
STD 15 EARTH SENSOR



Scanning Infrared Horizon Sensor for GEO Orbits

The STD 15 is a dual conical scanning Earth Sensor able to meet the more stringent requirements and environmental constraints of GEO missions.

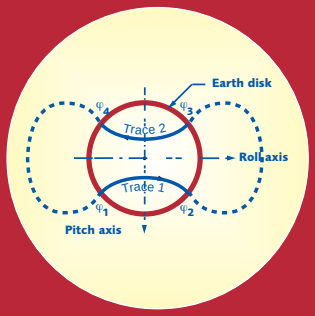
Since 1991, more than 100 units have been delivered in the world for the STD 15/16 product line. Most do them have been launched and operated on board telecommunication satellites, such as:

TC2-A, TC2-B, TC2-C, TC2-D, HISPASAT 1A, HISPASAT 1B, HOT BIRD 2, HOT BIRD 3, HOT BIRD 4, HOT BIRD 5, HOT BIRD 7, WORLDSTAR 1, WORLDSTAR 2, SINGASAT 1, NILESAT 1, NILESAT 2, RESSAT, SESAT, ASTRA 2B, HELASAT, EXPRESS-AM, W3A.

EADS SODERN

STD 15: PROVEN TECHNOLOGIES FOR MEASURING PITCH AND ROLL ON BOARD GEO SATELLITES:

- An optronic sensor with a rotating mirror and fixed mirrors
- An infrared bolometer to detect Earth to Space and Space to Earth transition
- A dual track scanning pattern to increase accuracy
- Electronic functions for driving the scanning mechanism as well as operating the bolometer and data processing



Scanning Format

PERFORMANCES

- Altitude range: 15 000 - 140 000 km
- Operating depointing range:
  - Nominal:
    Pitch range: ± 12 deg (Roll = 0) - Roll range : ± 2.9 deg (Pitch = 0)
  - Extended:
    Pitch range: ± 15.6 deg (Roll = 0) - Roll range : ± 14.5 deg (Pitch = 0)
- Output data rate: 1.25 Hz
- Accuracy budget: 3 σ
  - bias: 0.035 deg
  - typical noise: 0.015 deg.

ENVIRONMENTAL CHARACTERISTICS

- Operating temperature: -25°C, +55°C
- Storage temperature: -40°C, +60°C
- Vibration: 20 - 2 000 Hz

:

- Z axis: 16.9 g.rms - X, Y axis: 13.2 g.rms

MECHANICAL INTERFACES

- Operating temperature: -25°C, +55°C
- Height: 168 mm - width: 206 mm - length: 206 mm
- Mass: 3.4 kg

ELECTRICAL INTERFACES

- Typical consumption: 6.5 W
- Power supply: 20 to 55 Volts
- Output data: 1553 protocole

RELIABILITY

< 1 095 Fits

LIFE-SPAN

15 years in GEO orbit.

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