

Auriga is the very last innovative Sodern star tracker specifically made to meet cost reduction, increased production rate and technical performance objectives of the satellites constellations emerging market.

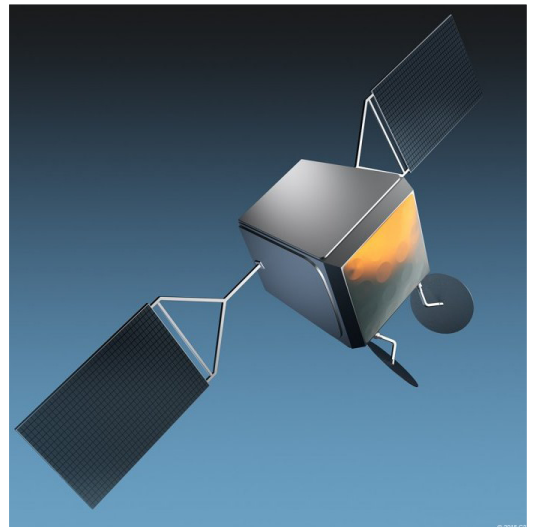
Best in class: 40 years of experience with high quality star trackers underlies this small low cost high performing market entry.

Smart design: simple architecture using validated COTS with flight proven software.

High performance: fast acquisition and arcsec tracking - guaranteed for 7 + year life.

Thanks to algorithms inherited from HYDRA, Sodern's currently in-production CMOS Star Tracker, AURIGA offers excellent robustness especially at End Of Life and for high detector temperature conditions in both acquisition and tracking modes.

Steady state production of Flight Units in early 2018.



Reduced weight and volume  
Low Cost  
Over 5 years guarantee

## TECHNICAL SPECIFICATIONS

### Environmental Characteristics

- Operating range: With sun  $-27^{\circ}\text{C}$  /  $+40^{\circ}\text{C}$   
Without sun  $-30^{\circ}\text{C}$  /  $+60^{\circ}\text{C}$
- Storage temperature:  $-40^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$
- Mechanical first frequency:  $> 2000$  Hz
- Size:  $56 \times 66 \times 94$  (height)
- Mass: 210 g

### Reliability, Availability and Lifetime

- EEE component class : Level 3 equivalent and Automotive
- Reliability :  $<1000$  FIT (RDF 2005 method)
- Lifetime: Designed for 7 years in LEO

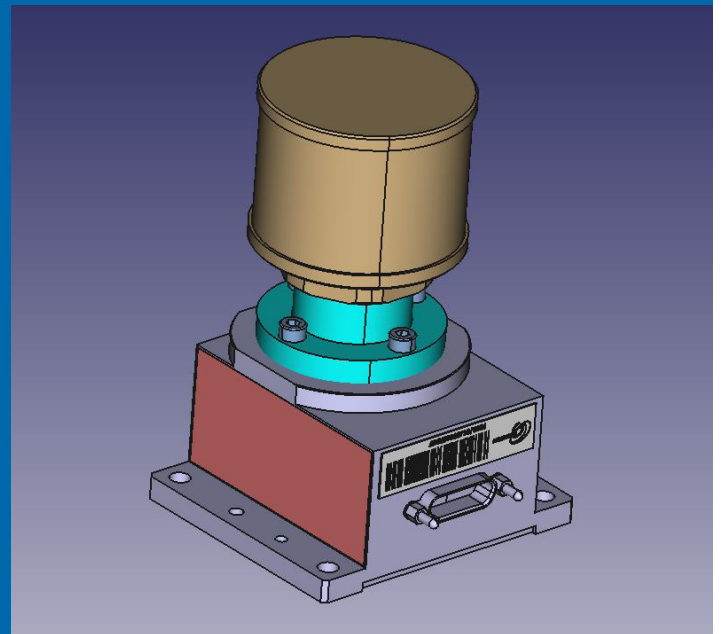
### Performance and Robustness

- BIAS: 0.03 Deg.
- Thermo-elastic Error :  $0.5$  Arcsec/ $^{\circ}\text{C}$
- FOV error :  $2 / 11$  Arcsec
- Space-time noise on XY / Z @ $1\sigma$  :  $6 / 40$  Arcsec
- Time from lost-in-space @EOL  $0.06^{\circ}/\text{s}$ , @99%:  $< 11\text{s}$
- Kinematics in Acq/Tracking @EOL:  
up to  $0.4/3^{\circ}/\text{s}$  according to temperature
- Full Moon in the Field of view: No performance degradation
- Baffle SEA (Sun Exclusion Angle) : 34 Deg
- Baffle EEA (Earth Exclusion Angle): 29 Deg

### Electrical interfaces

- Power supply: 5 V
- Power consumption: 1 W
- Output data: SpaceWire
- Output Rate: 5 Hz

Software: Can be made available for any processor



### SODERN: ENABLING YOUR AMBITIONS

Since 1962, Sodern keeps on developing cutting edge technology and constantly brings innovation-based solutions to the market. Sodern's products are successfully used in competitive markets all over the world through a wide range of applications spanning from the extremely small (Neutrons) to the infinitely large (Outer Space). Sodern is the market number one supplier of star trackers and has also acquired an extensive expertise in the space optoelectronic instrumentation domain.