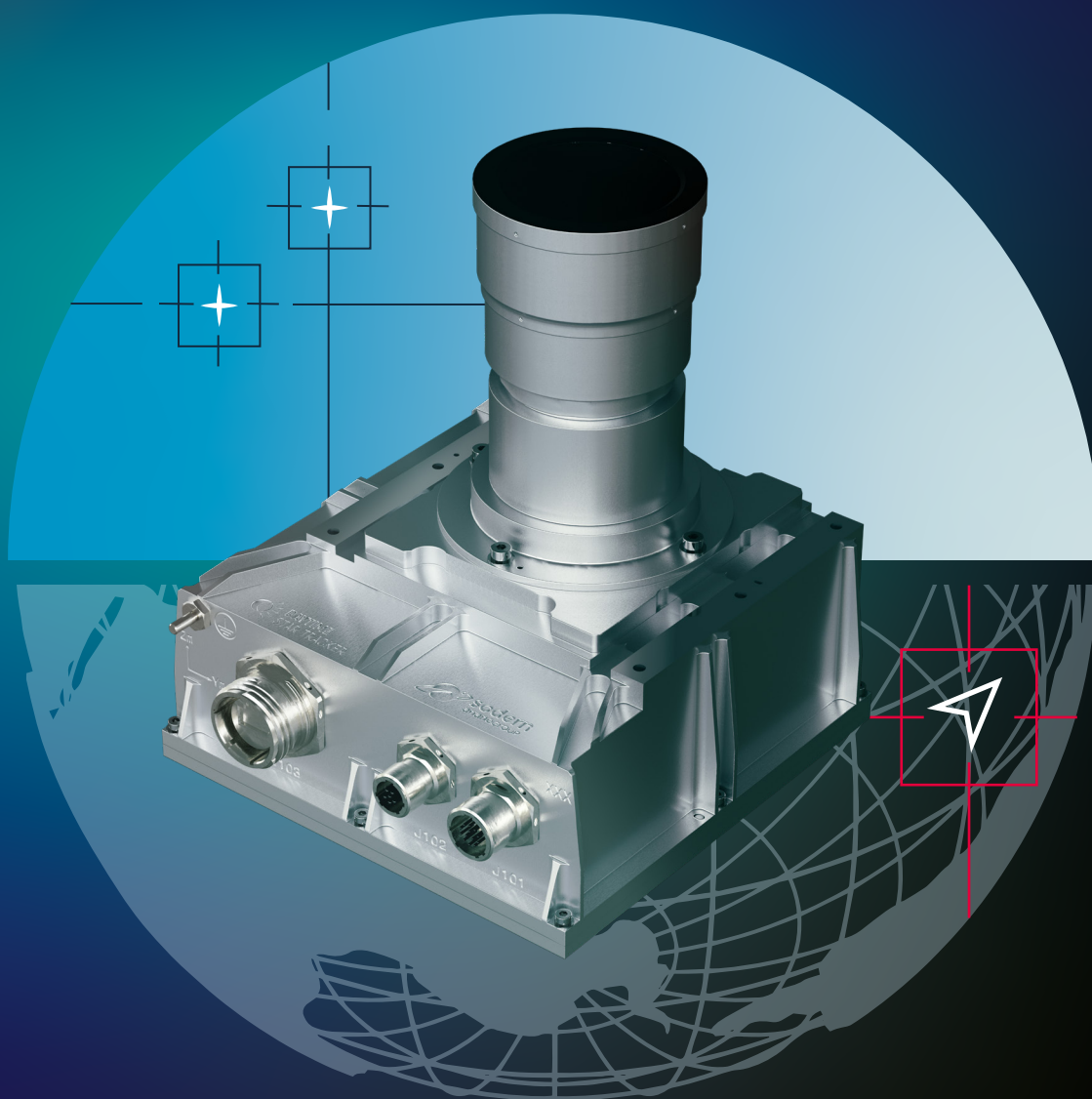




ASTRADIA

DAYTIME STAR TRACKER

DAYTIME STAR TRACKER FOR **GNSS-DENIED** NAVIGATION



24/7 MEASUREMENTS ANYWHERE ON EARTH
INDEPENDENT OF EXTERNAL MAP DATA
ROBUST TO AIRCRAFT ENVIRONMENTS · DUAL-USE PRODUCT
ABSOLUTE ATTITUDE FOR AIRCRAFT NAVIGATION SYSTEMS

ASTRADIA MAIN CHARACTERISTICS



HARDWARE FEATURES

Size	176 x 185 x 207 mm
Mass	<3kg

PERFORMANCE AND ROBUSTNESS

Minimal altitude	Day: >6km at full performance Night: 0km
Operating Slew rate	up to 3°/s
Sun or earth exclusion angle	30°
Impact of moon or satellites	None
Total accuracy	X/Y: 3 arcsec (1 σ) Z: 30 arcsec (1 σ)
Residual low frequency error	X/Y: 1 arcsec (1 σ) Z: 10 arcsec (1 σ)

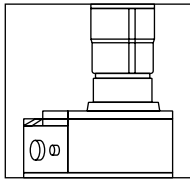
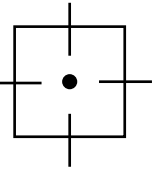
ELECTRICAL INTERFACES

Power supply	12V
Power consumption	20W
Data communication link	Ethernet / 1000BASE-T
Synchronization link with IMU	RS422
Output rate (attitude & covariance)	Up to 1Hz

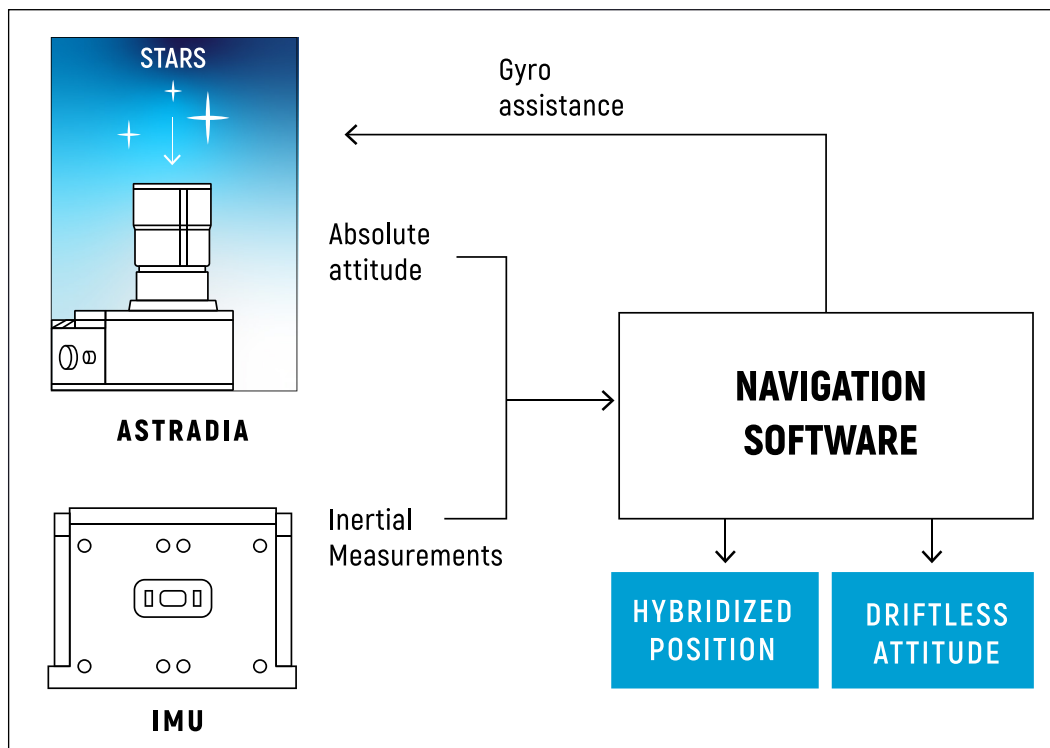
ENVIRONMENTAL CONDITIONS

Operating temperature range	0 / +30°C
Operating vibration limits	DO160

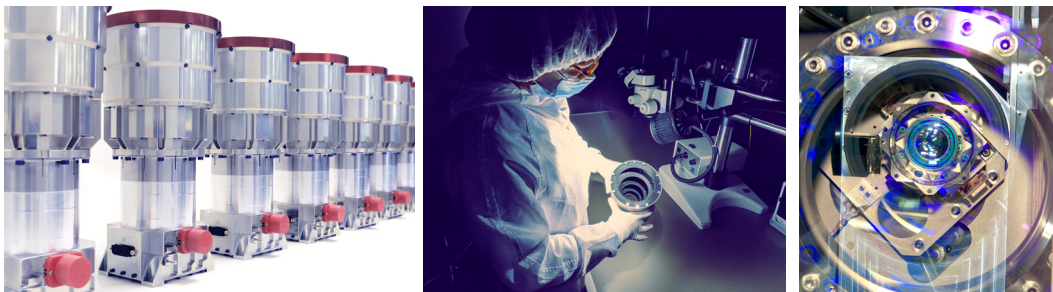
ASTRADIA ON BOARD



A new strapdown sensor for **inertial navigation systems** that prevents unbounded position drift without relying on external system like GNSS, satellites, or maps.



BASED ON SODERN'S STAR TRACKER LEGACY



- Already numerous star trackers with flight legacy
- Validated stars catalogs and detection algorithms
- High production capability with certified calibration benches



ASTRADIA OPTIONS

A FULL SET OF OPTIONS TO SUPPORT YOUR DESIGN,
VERIFICATION AND OPERATIONAL NEEDS

TECHNICAL SUPPORT

**Any question about ASTRADIA use
or performance ? Our experts are here to help!**

- Mission specific performance assessment
- ASTRADIA packaging adaptation on-demand
for easier onboard installation

DIGITAL TWIN

**High-fidelity digital twin to prepare
ASTRADIA integration**

- Performance evaluation in operating scenarios
- Interfaces fidelity
- Embedded thermal model

ELECTRICAL & OPTICAL GROUND SUPPORT EQUIPMENT

**Electrical Ground Support Equipment
for ASTRADIA testing without
a full navigation system**

- Telemetry recording and visualization
 - Tracking initialization
 - IMU coupling

**On-demand specific Optical Ground
Support Equipment for hardware
in the loop tests**

- Multi-stars with straylight emulation
- Simplified multi-stars emulation

ENHANCED FUTURE RELEASES

The upcoming version will be designed for broader compatibility with aircraft environments

- Extended DO160 compliance for thermal and mechanical operational range
 - Form factor reduction
 - 28V Power voltage
- Optional RS422 input for gyro assistance instead of Ethernet



We are available to discuss your business needs and mission
requirements, provide pricing and technical proposal:

CONTACT US: SALES-DEPARTMENT@SODERN.FR



SODERN.COM



20 avenue Descartes
94451 Limeil-Brévannes
Cedex France