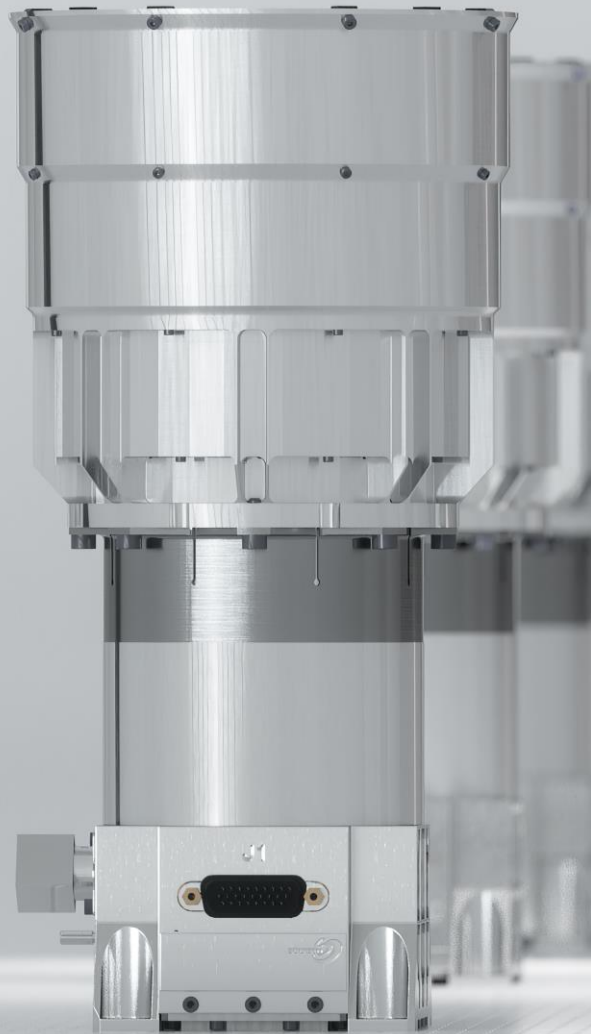


HYDRA ACCESS



HIGH-END HYDRA STAR TRACKER AVAILABLE OFF-THE-SHELF

- BEST-IN-CLASS PERFORMANCE AS PART OF HYDRA PRODUCT LINE
- STANDARDIZED HYDRA DEFINITION, SHORTENED LEAD-TIME AND OPTIMIZED COST
- CENTRALIZED PROCESSING (CP) VERSION ENABLING EXTRA MASS & COST OPTIMIZATION AT SYSTEM LEVEL
- VERSATILE, ROBUST & ACCURATE – FLIGHT PROVEN SINCE 2012 WITH SEVERAL HUNDREDS UNITS CURRENTLY IN-ORBIT

HYDRA ACCESS

HIGH-END HYDRA STAR TRACKER AVAILABLE OFF-THE-SHELF

GENERAL DESCRIPTION			
OPTICAL HEAD (OH)			
<ul style="list-style-type: none"> Baffle protection for direct Sun and Earth illumination Lenses made of Rad-Hard materials HAS-2 (CMOS) detector Connected to the spacecraft's processor through SpaceWire interface with up to 8 m length cable 			
CENTRALIZED SOFTWARE			
<ul style="list-style-type: none"> Software integrated in the spacecraft processor. Can be made available for any processor Operating frequency up to 10 Hz according to host processor performances Embedded Star Catalog and Algorithms inherited from 50+ years of experiences and Hydra Star Tracker 			
TECHNICAL SPECIFICATIONS			
ENVIRONMENTS		PERFORMANCE & ROBUSTNESS	
Operating temperature	-30°C / +50°C	Bias	<11 arcsec
Storage temperature	-40°C / +70°C	Thermo-elastic error	<0.055 arcsec/°C
Random vibrations	30 g RMS	Low Frequency Spatial Error (LFSE)	0.6 arcsec @ 3 σ (XY)
Shocks	2350 g SRS		4.6 arcsec @ 3 σ (Z)
MASS & VOLUME		High Frequency Spatial Error (HFSE)	3.4 arcsec @ 3 σ (XY)
OH dimensions (incl. baffle)	166mm x 160mm x 283mm		27 arcsec @ 3 σ (Z)
OH mass (incl. baffle)	1.4 kg	Temporal noise	2.3 arcsec @ 3 σ (XY)
RELIABILITY & LIFETIME			18 arcsec @ 3 σ (Z)
EEE parts class	Level 1	Slew rate	5 deg/s (Acquisition)
Reliability	45 FIT (MIL-HDBK-217F method)		8 deg/s (Tracking)
Lifetime	10 years LEO	Acceleration	2 deg/s ² (Acquisition)
	18 years GEO		2.5 deg/s ² (Tracking, 10Hz)
ELECTRICAL INTERFACES		Time from lost-in-space	2.2s typ
Power supply	4.5V to 7V	Full moon in the field of view	No performance degradation
Power consumption	0.8W typ (1.0W max)	Sun Exclusion Angle (SEA)	26 deg
Output data	SpaceWire	Earth Exclusion Angle (EEA)	18.5 deg
Output rate	5Hz or 10Hz	Robust to solar flare in acquisition and tracking	
Export control: EU Dual Use 7A004			
EXCEPTIONNAL ROBUSTNESS		EMBEDDED FDIR FUNCTIONS	
Hydra can survive high mechanical loads and performs under very harsh conditions : High slew rates, temperature, protons, stray-light...		Hydra Star Tracker delivers accurate attitude in any situations thanks to multiple-head autonomous management	

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Specifications and information are approximate and subject to change without notice or obligation on the part of the manufacturer.

More information on www.sodern.com

Contact: sales-department@sodern.fr