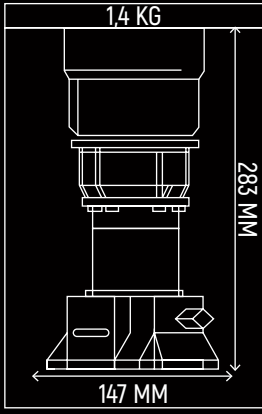


HYDRA ACCESS

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



- PROVEN PERFORMANCE, ACCURACY AND ROBUSTNESS
- FLIGHT-PROVEN (TRL9) SINCE 2014 • EMBEDDED FDIR FUNCTIONS
- STANDARDIZED HYDRA DEFINITION, SHORTENED LEAD-TIME AND OPTIMIZED COST
- CENTRALIZED PROCESSING (CP) VERSION ENABLING EXTRA MASS & COST OPTIMIZATION AT SYSTEM LEVEL
- 500+ OPTICAL HEAD IN ORBIT



ACCURACY AND PERFORMANCES

KEY FEATURES

- Up to 4 Optical Heads (OH) connected to spacecraft's on-board computer through SpaceWire interface (MIL 1355) with up to 8m- long cables
- HAS-2 CMOS sensor with Thermo-Electric Cooler (TEC)
- Software integrated in the spacecraft processor processes multiple OH data and can be made available for any processor
- Optics made of rad-hard materials
- Export control EU Dual Use 7A004a - ITAR Free

END OF LIFE WORST CONDITIONS DATA

Bias	<11 arcsec
Thermo-elastic error	<0.055 arcsec/°C
Low Frequency Spatial Error @ 3σ	0.6 arcsec (XY) 4.6 arcsec (Z)
High Frequency Spatial Error @ 3σ	3.4 arcsec (XY) 27 arcsec (Z)
Temporal noise @ 3σ	2.3 arcsec (XY) 18 arcsec (Z)
Slew rate	≤5 deg/s in Acquisition ≤8 deg/s in Tracking
Acceleration	≤2 deg/s ² in Acquisition ≤3 deg/s ² in Tracking
Time from lost-in-space	2.2s typ
Sun/Earth Exclusion Angle	26 deg / 18.5 deg

No performance degradation with full moon in the field of view

EEE parts class	Level 2
Reliability (MIL-HDBK-217F @ 30°C)	190FIT (OH)
Lifetime	10 years LEO / 18 years GEO

Robust to solar flare in acquisition and tracking

Power supply	5V±10%
Power consumption @ 30°C, 5V	OH: 0.7W typ (TEC OFF)
Output data	SpaceWire (MIL 1355)
Output rate	8Hz

Temperature Range	-30°C / +60°C (Operation) -40°C / +70°C (Storage)
Random vibrations	OH: 30g RMS
Shocks	OH: 2000g SRS

RELIABILITY AND LIFETIME

INTERFACES

ENVIRONMENTS