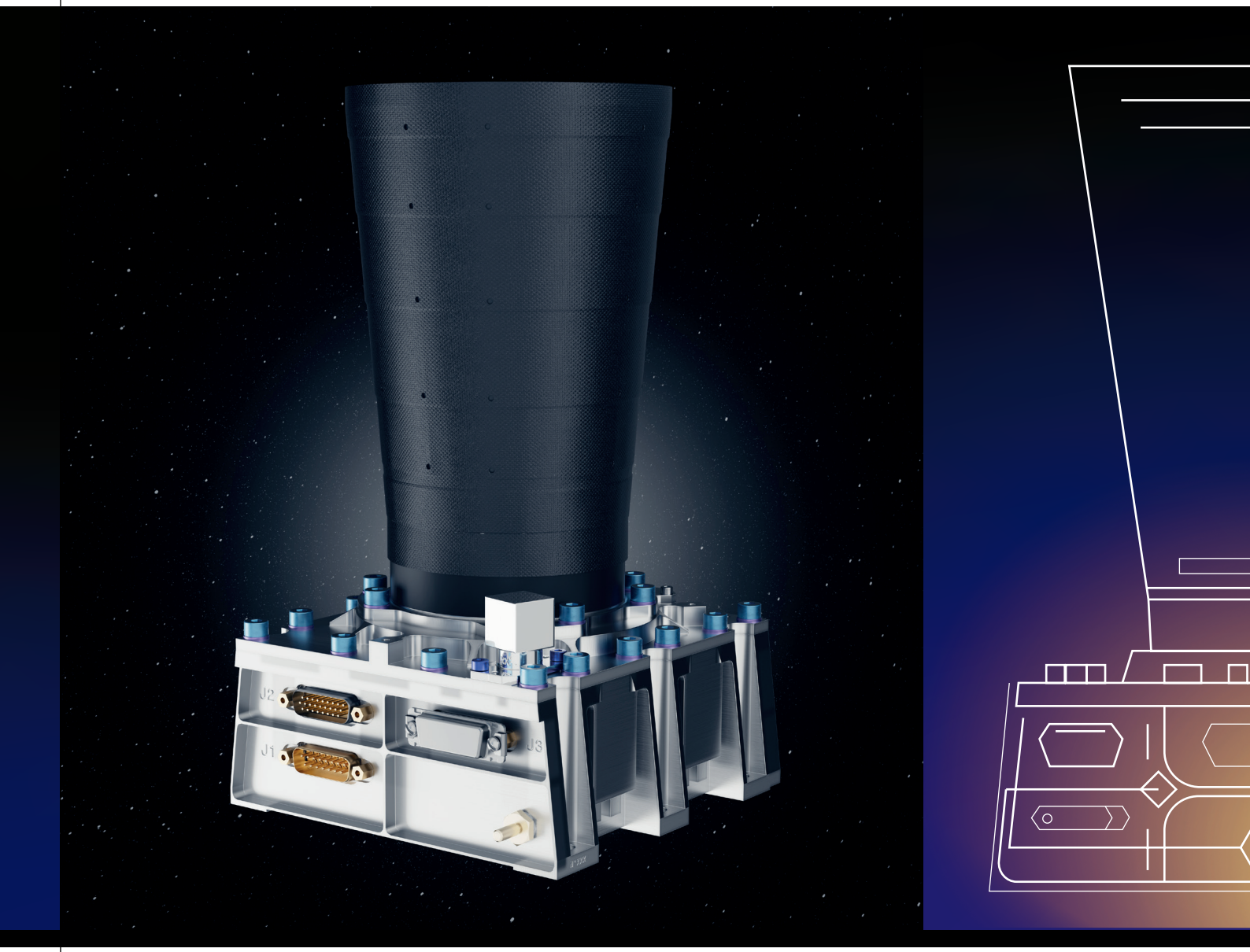
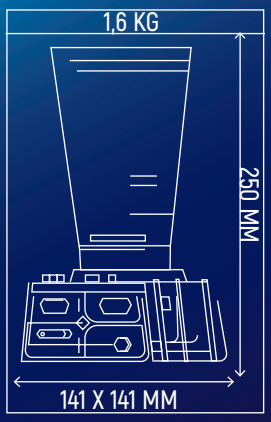
HORUS

SINGLE BOX STANDALONE STAR TRACKER



- OPTIMAL FOR GEO MISSIONS
- OPTIMIZED MASS AND COST
- FIRST FLIGHT MODELS DELIVERED IN 2023
- 500+ OPTICAL HEAD IN ORBIT
- EXCEPTIONNAL ROBUSTNESS



GENERAL DESCRIPTION

Baffle protecting the lens from direct Sun and Earth illumination with very low SEA of 24° • Lens made of Rad-Hard glasses • ESA Qualified FaintStar CMOS detector with Thermo-Electric Cooler • Embedded software processing data and computing the attitude • Embedded Star Catalog and Algorithms inherited from 50 years of experiences and Hydra Star Tracker • Export Control : EU Dual Use 7A004a - ITAR Free

END OF LIFE WORST CONDITIONS DATA

ENVIRONMENTAL CHARACTERISTICS

Operating temperature range (°C)	- 30 / + 50
Storage temperature (°C)	- 40 / + 70
Mechanical environment (in/out of plane)	Random 31 gRMS / Shocks 1500 gSRS

RELIABILITY AND LIFETIME

EEE parts class for OH	Level 1 or level 2
Reliability@30°C MIL-HDBK-217F method FIDES Method	430 FIT (lvl 1), 700 FIT (lvl 2) 158 FIT (lvl 1), 172 FIT (lvl 2)
Lifetime (years)	10 in LEO / 18 in GEO

INTERFACES

OH Power supply (V)	70-105 or 24-50
OH Power consumption with all TM read at each ETR (W, typ/max)	<7 (TEC OFF)
Output data	MIL-STD-1553B
Output rate (Hz)	8 or 10 (lower output rates possible by averaging samples at 8 or 10Hz)

PERFORMANCES AND ROBUSTNESS

Bias (worst case)	< 11 arcsec
Thermo-elastic Error (worst case)	< 0.055 arcsec/°C
Low Frequency spatial (FOV) error XY / Z @ 3σ	0.8 / 5.8 arcsec
High Frequency spatial (Pixel) error XY / Z @ 3σ	3.5 / 25 arcsec
Temporal noise on XY / Z @ 3σ	3 / 22 arcsec
Time from lost-in-space (typ)	2.9 s
Slew rate in Acquisition	6 deg/s
Slew rate in Tracking	8 deg/s
Acceleration in Acquisition	1 deg/s^2
Acceleration in Tracking at 10 Hz	2 deg/s^2
Full Moon in the Field of View	No performance degradation
Baffle Sun Exclusion Angle	24 deg
Baffle Earth Exclusion Angle	18 deg
Solar flare Acquisition/Tracking	Robust to solar flares (CREME96 worst 5 minutes model)