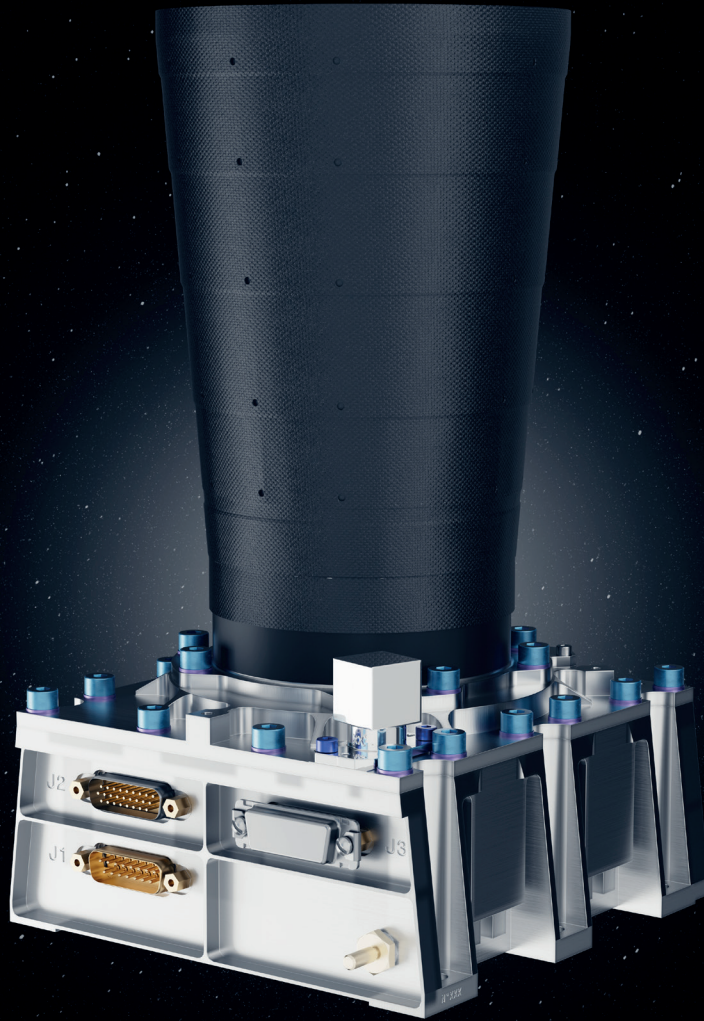
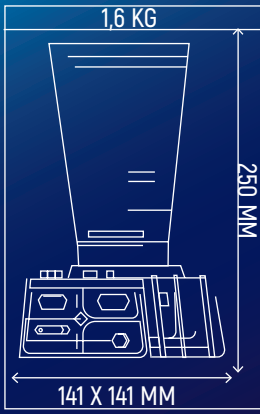


# HORUS

## SINGLE BOX STANDALONE STAR TRACKER



- OPTIMAL FOR GEO MISSIONS
- OPTIMIZED MASS AND COST
- FIRST FLIGHT MODELS DELIVERED IN 2023
- EXCEPTIONNAL ROBUSTNESS



## GENERAL DESCRIPTION

Baffle protecting the lens from direct Sun and Earth illumination with very low SEA of  $24^\circ$  • 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

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

### RELIABILITY AND LIFETIME

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

### INTERFACES

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

### PERFORMANCES AND ROBUSTNESS

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

Product specifications are subject to change without notice or obligation