



SentinelTRAC: Star Trackers

> SentinelTRAC-2 Star Trackers

PRODUCT INFORMATION

- + Notable Features
 - + Software reconfigurable in-orbit
 - + Operable up to 8 Hz
 - + 45 krad(Si) TID
 - + No destructive SEE $\leq 37 \text{ MeV}\cdot\text{cm}^2/\text{mg}$
 - + Prestored test telemetry
 - + 30 minutes @ 4Hz
 - + 15 minutes @ 8Hz
 - + Object detection algorithms (4 Hz):
 - + raw images, ~ 2000 image centroids
 - + Compatible with SentinelSIM starfield simulator

SentinelTRAC-2
with 30° SEA Baffle

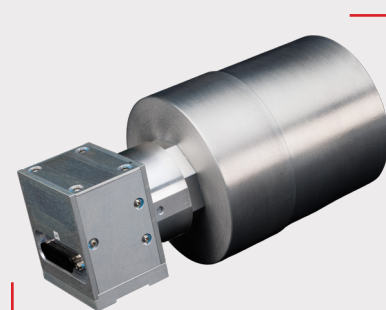


SentinelTRAC-2 with
45° SEA Baffle



PRODUCT SPECIFICATIONS

ACCURACY (1 σ , CROSS AXIS)	6.1/37.5 arcsec (XY/Z) @ 0.5 deg/sec 12.4/76.8 arcsec (XY/Z) @ 2 deg/sec
MAX ACQUISITION & TRACKING RATE	3.0°/sec, 3.0°/sec
TRACK MODE UPDATE RATE	8 Hz
ACQUISITION TIME, LOST IN SPACE	< 1 sec (3 σ)
STAR CATALOG	1889 stars to 6.1 VM
SUN EXCLUSION ANGLE	30°, 45°
EARTH EXCLUSION ANGLE	26°, 34°
INPUT VOLTAGE	5.0 $\pm$ 0.3 VDC
AVERAGE POWER CONSUMPTION	2.5 W
OUTPUT FORMATS	RS-422 UART (Telemetry) GigE (imaging, centroid list)
WEIGHT	397 grams (30° baffle), 385 grams (45° baffle)
ENVELOPE	166 x 87 x 87 mm (30° baffle) 126 x 57 x 57 mm (45° baffle)
SHOCK & VIBE	1550 g pyro-shock to 10,000 Hz, Vibration to 14.1 gRMS, 3-axes
OPERATING TEMPERATURE	-30°C to 50°C
RADIATION (TID)	45 krad (Si)
DESTRUCTIVE SEE	> 37 MeV·cm ² /mg



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