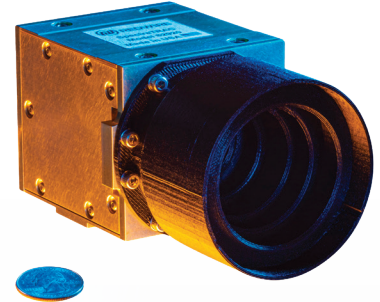




# STAR TRACKER SpectraTRAC

The Redwire SpectraTRAC Star Tracker is intended for Spaceflight, CubeSat, and NanoSat missions. The unit is completely self-contained and features Lost in Space star identification. When power is applied, you begin receiving quaternions accurate to 10 arcsec at 4 Hz rate, and a maximum tracking rate  $>2^\circ$  degrees per second.



Leveraging its heritage in producing advanced star trackers and compliant with the Buy America Act, Redwire's low-cost, high-performance SpectraTRAC is a COTS component supporting commercial, civil, and defense missions.

## APPLICATIONS

- + Spaceflight Missions
- + Nano Sat & Cube Sat Missions
- + Attitude Awareness & Positional Knowledge

## PARAMETERS

### 10 ARCSEC / 27 ARCSEC\*

Accuracy (Cross Axis / Boresight)

### 230 MS LIS, 170 MS TRACK (TYPICAL)

Time to Solution

### $> 2.0^\circ/\text{SEC}$

Max Tracking Rate

### 4 HZ

Update Rate

### 1889 STARS (6 VM)

Star Catalog

### 22 mm APERTURE, F1.2 BK7 GLASS

Lens

### 45°

Sun Exclusion w/ Baffle

### -30° TO 55° C

Operating Temperature

### 475 GRAMS

Mass (g) w/Baffle

### 120 X 61 X 61

Dimensions L x W x H (mm) w/Baffle

### 475 GRAMS

Mass (baffle & star tracker)

### 5.0 V

DC Voltage

### 2.5 W

Average power consumption

### RS-422

Serial Interface

\* 10 arcsec is a test capability. The accuracy is  $<6$  arcsec.



MADE IN THE USA

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MADE IN THE USA

V6 APR 2021



- + Typical design life is 5 years (based on each specific mission), 25% duty cycle.
- + Sky coverage >99%
- + AFOV is 19° x 14°

Redwire's compact and autonomous SpectraTRAC star tracker is ruggedized, radiation tested, optimized for low weight (475 grams, including baffle, and star tracker), small size (120 x 61 x 61 mm), and low power consumption (< 2.5W) with a design life > 5 years in Low Earth Orbit (LEO).

SpectraTRAC's processing unit, including an advanced star-tracking algorithm, records the accurate measurement of your spacecraft mission's position during orbit for optimum real-time attitude determination, and accounts for interference effects of light reflecting from the satellite's surfaces and exhaust plumes during propulsion sequences.

While 50-60 main navigational stars are primarily used to determine a satellite's position, the minimum number of catalog stars visible in any stationary image of arbitrary attitude (free of Earth, Sun, or Moon blockage) will be at least 7 and more typically 10 or 11 stars.

This product is controlled for export from the United States. Contact Redwire for details.

For more information about our space capabilities,

**CONTACT REDWIRE SPACE SALES**



## HERITAGE

Redwire is a new leader in mission critical space solutions and high reliability components for the next generation space economy. With decades of flight heritage combined with the agile and innovative culture of a commercial space platform, Redwire is uniquely positioned to assist its customers in solving the complex challenges of future space missions. For more information, please visit [www.redwirespace.com](http://www.redwirespace.com).

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