

KU Leuven Mini Star Tracker

Accurate and Compact Star Tracker for CubeSats

The KU Leuven Mini Star Tracker offers arc second range pointing accuracy to your CubeSat. The custom algorithms are optimized for accuracy, robustness and low computational cost. The star tracker is extremely compact and easy to interface in CubeSats and large satellites. Due to its small size, several can be mounted under different angles.



Star Tracker Features

Performance

- Cross-boresight: 20" (1σ)
- Around boresight: 120" (1σ)
- Tracks stars up to magnitude 6
- Tracks up to 16 stars
- Update rate of 2 Hz
- On-board calibration algorithm

Robustness

- Lost-in-space availability: >99% of the night sky
- Discards vast majority of false star instances
- Autonomously detects and corrects for outlier stars
- Electronics are radiation tested

Power consumption

- Nominal: < 1W

- ✓ High accuracy
- ✓ High Robustness
- ✓ Easy interfacing

Interface

- RS485
- +3.3 V
- Bright pixel/ROI/Histogram modes
- Allows to downlink full images

