

FSS-1

1 deg accuracy Fine Sun Sensor

For Micro- and Nano-Satellites

Features

- Performance
 - 2 axis sun sensor
 - Field of view: 60 deg half angle
 - Accuracy: 1 deg
- Physical
 - 42 x 16 x 6.2 mm
 - Mass: 8 gram
 - Operating temperature range -40°C to 70°C
- Interface
 - CAN
 - Flying leads w/wo connector
- Electrical
 - Voltage: 3,3V
 - Power: 90 mW
- Reliability
 - 5 years design lifetime

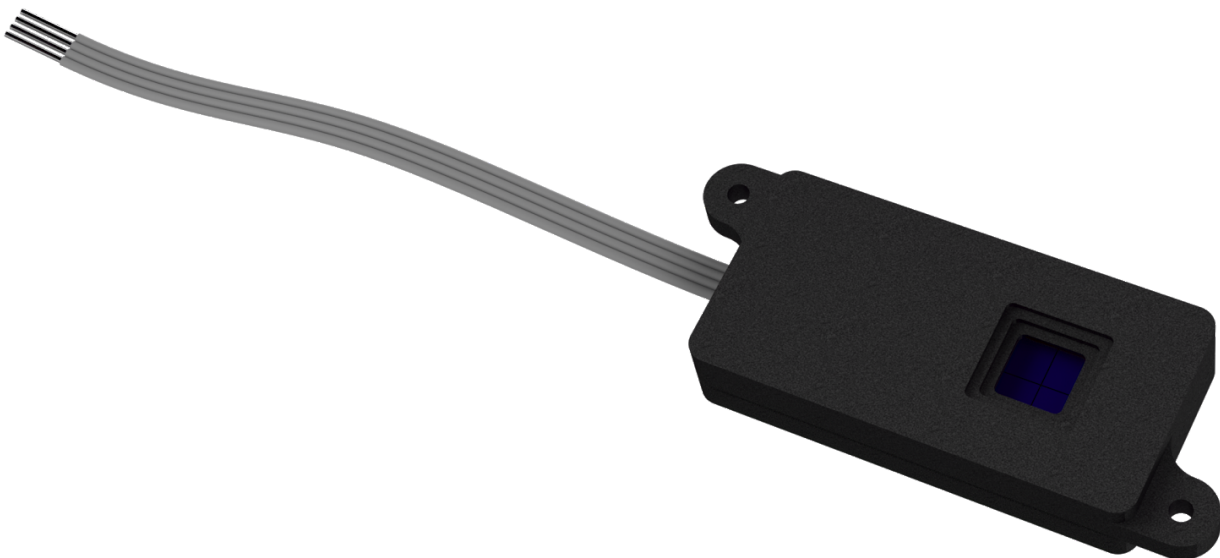
Description

Small factor 2 axis stand-alone fine sun sensor with two different estimates modes; table based (from ground calibration) or polynomial fit (on-orbit or ground calibration).

The sensor provides an estimate of sun vector and multiple measurements can be combined to increase the precision of the sun vector estimate, e.g. using a Fraser-Potter fixed-interval smoother or a Kalman Filter.

Everything except the photodiodes are shielded in an aluminum casing to protect it from the harsh environment of space.

The CAN interface together with Space Inventor's parameter system provides an easy to setup and user interface for the sun sensor. The sun vector along with calibration parameters, raw values and intermediate calculations are exposed by the parameter system.



FSS-1 - Fine Sun-sensor with flying leads