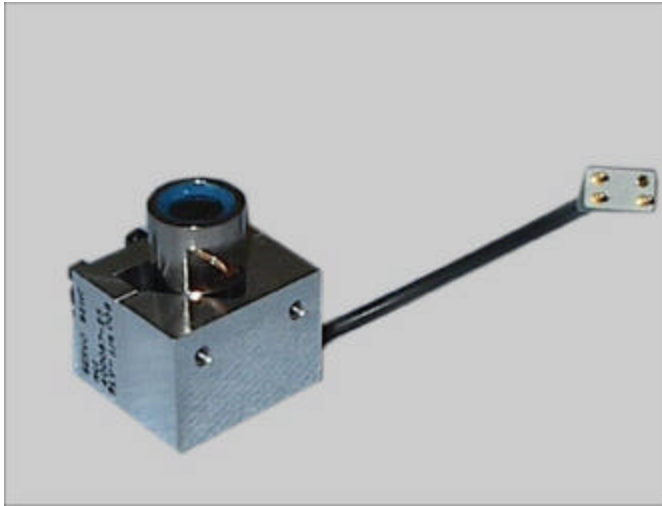


Mini Digital HCI



Description:

The Mini Digital HCI was originally developed for use on sounding rockets for Sandia National Laboratories then modified to provide either an analog or a digital output for NASA's Wallops Test Range. The sensor consists of a Lithium Tantalate pyroelectric detector mounted in an aluminum housing. The detector element is 0.75 mm square configured in a current mode circuit. The circuit consists of the pyroelectric crystal connected to a Op-Amp with a shaping circuit to limit low frequency circuit noise and a uP with A/D converter to digitize the signal and perform a rate of change calculation on the data.

The processing in the imbedded software produces a digital pulse output that corresponds to the center of the IR horizon. This technique provides for a consistent output that is independent of spin rate or temperature or detector output variations. The unit contains a narrow band IR filter designed for use at 15um. An A/R coated Germanium lens is incorporated to provide a 3° FOV.

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Subject to change without notice

Contact Information

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Specifications

- **Spin Rate:** 100 milliseconds to 10 seconds (Corresponds to ~ 10 RPS to 0.1 RPS)
- **FOV:** 3° 15 micron Filter, 1u BW
- **Output:** Analog or Digital
- **Analog** +/- 1V on a +1.5V offset
- **Digital** – **Space to Earth** +5V Pulse 2 ms wide **Earth to Space** +5V Pulse 1 ms wide

Environmental

- Temp: -30°C to +70°C
- Potted Assembly for high Shock / Vibration immunity

Physical

- Weight: 50 grams
- Size 1.0" x 1.375" x 1.25" (L x W x H)

Features

- COTS Assembly - Fast Delivery time
- Low Cost

Electrical

- Power Input: +8 to 28VDC at <3ma