

# MiDES-G



## Specifications

- Accuracy:  $0.025^\circ$  ( $3\sigma$ )
- Supply Voltage: 28 (+7 -6) VDC
- Supply Power: <4 W
- Output: Digital (RS 422)
- Detector: Proprietary LTO
- Optical Pass Band: 14.6-15.8 $\mu$
- Operational Range: Circular 33 °

## Environmental

- Random Vibration: 28 Grms
- Shock: 517Gs @ 10Khz
- Temperature: -40 to + 60°C
- Life: 15 years at GEO
- EMC: Mil-Std 462

## Physical

- Mass: 1.5 KG
- Dimensions: 5.25 x 5.25 x 5.07 in.
- Mounting Surface: Flat (flange)

## Electrical

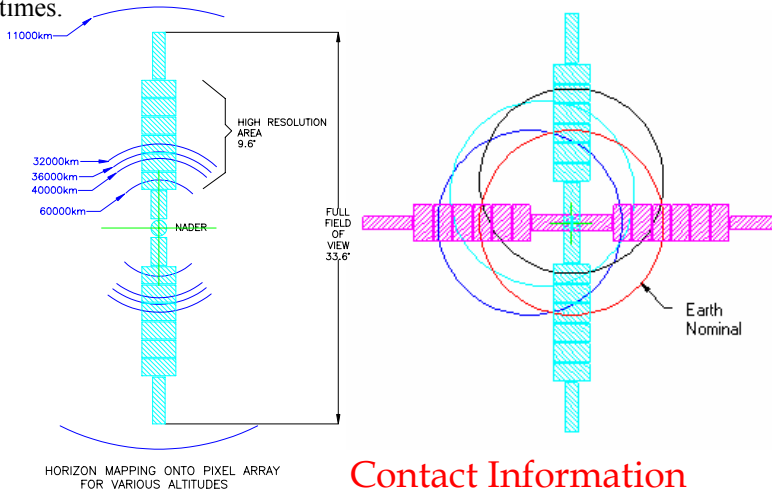
- Hybridized Detector Assembly
- 16 bit rad hard microprocessor
- Opto-isolated digital interface
- Built in test
- Outputs actual direct angle data

## Description:

The MiDES Earth sensor is designed to provide horizon position information in two mutually orthogonal axes (X and Y) which form a plane that is normal to nadir. This is accomplished utilizing one assembly that contains two optical heads that view the Earth and share common electronic signal processing circuitry and a common mechanical chopper.

The performance of the MiDES G is achieved through the use of a multi pixel detector array of 16 discrete pixels in each of the two hybrid detector assemblies. The radiant contrast needed to produce a voltage output from the pyroelectric detectors is achieved through the use of a chopper mechanism that causes the radiant energy falling on the detector to alternate between the energy emitted from the scene and from the chopper. The chopper temperature is much higher than the scene (space and Earth) thus producing a large output voltage at

all times.



## Contact Information

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