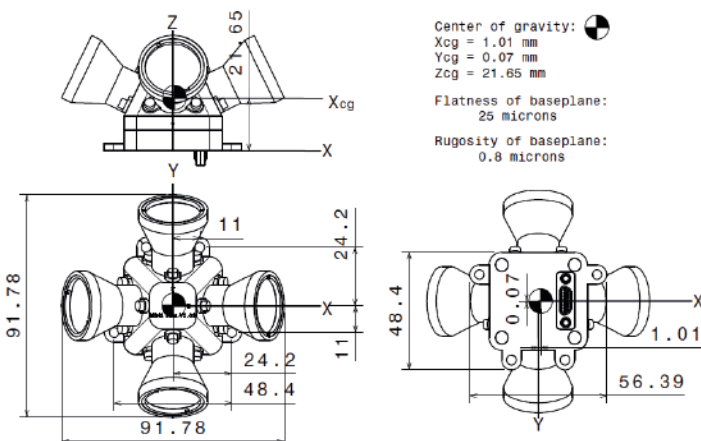


**ITAR FREE**

Space Qualified



## Mechanical Interface



## Description

Horizon Sensor for **Nano and Micro Satellites** (HSNS) of Solar MEMS is a Quad Thermopile sensor for Earth detection and Nadir vector determination. This device measures the infrared radiation from Space and from Earth **with 4 IR-eyes**, providing accurate and reliable detection and attitude determination.

HSNS is based on previous experience of Solar MEMS making attitude sensors and long research projects on IR sensing devices.

Every HSNS is characterized and **tested and includes a microcontroller for fast** integration with different options like UART or I2C protocols.

## Qualification Data and Flight Heritage

<b>Operating Temperature</b>	-30° to 70° Celsius
<b>Qualification</b>	30 kRad Total Ionizing Dose Space-grade components Space qualified microcontroller

## Technical Characteristics

<b>Sun sensor</b>	Horizon sensor
<b>FOV of each IR eye</b>	$\pm 2,5^\circ$
<b>Field of View</b>	$\pm 64^\circ$
<b>Accuracy</b>	<1 degree, 3sigma (EOL)
<b>Output rate</b>	10 Hz
<b>Power supply</b>	5V, 150 mW peak consumption
<b>Digital interface and connector</b>	UART or I2C, microD 15 pins
<b>Mechanical interface</b>	90 x 92 x 50 mm
<b>Mass</b>	120 g
<b>Housing</b>	Aluminum 6082 (Alodine 1200S and Anodized)
<b>Orbit</b>	LEO (Customization for different altitudes)
<b>Lifetime</b>	Designed for 3 years