

# SPECTROTILT™ - *Ratiometric Electronic Inclinometer*

The SPECTROTILT™ *Ratiometric Electronic Inclinometer* is a fully signal conditioned, single axis tilt sensor. By combining a proprietary glass/ceramic hybrid electrolytic tilt sensor, with custom electronics, the SPECTROTILT™ rivals both the performance of higher priced sensors, and the cost of less capable solutions. Features include a +/-70 degree total sensing range, ESD and EMI protection, aluminum housing, all in a hermetically sealed package.

Designed to operate in the most physically demanding environments, this robust inclinometer is also ideal for numerous other applications. Standard options include vertical or horizontal mounting configurations, and a choice of output levels (scale factor). The viscosity of the fluid inside the sensing element can be altered, to decrease susceptibility in high vibration environments. Custom sensing ranges, cable length/type and connectors are also available.



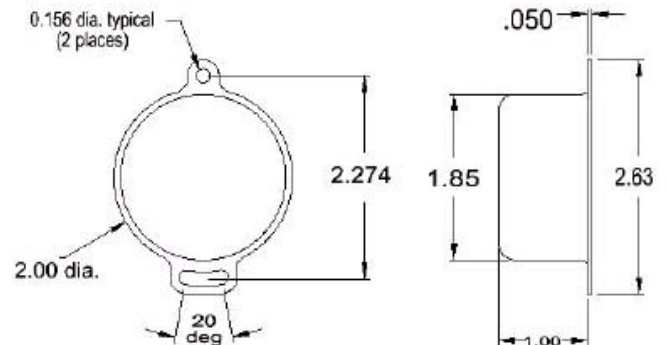
## Applications

- *Construction Equipment* (Boom Angle, Safe Load Indicators)
- *Road Graders and Pavers* (Blade Angle)
- *Wheel Alignment* (Caster and Chamber measurement)
- *Antenna Position* (Satellite Dish Elevation Angle)

## General Specifications

Input Voltage ..... +5 to +15Vdc (regulated)  
 Input Current ..... 0.5mA  
 (nom.) Output (+/- 1%, @ +9Vdc input)  
     • standard ..... +30mV/°  
     • high scale factor ..... +45mV/°  
 Null Output ..... ≈ Supply  
 Repeatability ..... 0.05 degrees  
 Resolution ..... 0.001 degrees  
 Linear Range ..... +/-60 degrees  
 Total Range ..... +/-70 degrees  
 Linearity  
     • 0 to 10 deg. .... 0.1 degrees  
     • 10 to 60 deg. .... 1% of reading  
     • 60 to 70 deg. .... monotonic  
 Temperature Range  
     • operating ..... -40° to +70° C  
     • storage ..... -55° to +80° C  
 Temp. Coefficient of Null ..... 0.008 deg./C°  
 Temp. Coefficient of Scale ..... 0.1% / C°  
 Start-up Time ..... <1 second  
 Weight ..... 80 grams

## Physical Dimensions (inches)



• *vertical mounting shown!*

## Electrical Connections

Black = Ground  
 Red = +5 to +15Vdc (regulated)  
 Yellow = Output signal (referenced to Ground)

## Ordering Information

Part Number	Description
SSY0185-HRS	Horizontal mount, standard scale factor (30mV/° @ 9Vdc)
SSY0185-HRH	Horizontal mount, high scale factor (45mV/° @ 9Vdc)
SSY0185-VRS	Vertical mount, standard scale factor (30mV/° @ 9Vdc)
SSY0185-VRH	Vertical mount, high scale factor (45mV/° @ 9Vdc)

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