**SPECTROTILT™-Dyna** — Single Axis Dynamic Electronic Inclinometer

The **SPECTROTILT™-Dyna** Single Axis Dynamic Electronic Inclinometer is a fully signal conditioned, single axis electronic inclinometer, designed specifically for dynamic applications. Featuring an impressive frequency response of over 10Hz, the **SPECTROTILT™-Dyna** can satisfy numerous applications where slower responding sensors are prohibited. Features include a +/-85 degree total sensing range, three standard output configurations (Analog / Digital* / 4-20mA), integral reverse polarity, over-voltage and EMI protection*, and an onboard temperature sensor, all mounted in a rugged die-cast aluminum alloy housing. In addition, the output of the **SPECTROTILT™-Dyna** is in arc-degrees (no sine conversion necessary), thereby simplifying system integration.

Designed to operate in the most physically demanding environments, this robust inclinometer is also ideal for numerous other applications. Extended operating temperature models of –50° to +125° C are also available.

*Note: Digital version output line not EMI protected! See Application Note SAN-220-xxxx for available communication protocols.

**Applications**

- **Mobile / Dynamic** (Vehicles, Robotics, Machine Automation, etc.)
- **Construction Equipment** (Boom Angle, Safe Load Indicators)
- **Road Graders and Pavers** (Blade Angle)
- **Antenna Position** (Satellite Dish Elevation Angle)

**General Specifications**

- **Input Voltage** ................. +7.5 to +32Vdc (unregulated)
- **Input Current** ................. 50mA (max.)
- **Output (scale factor, in arc-degrees)**
  - Analog Mode 28.2mV/°
  - Digital Mode 22.75counts/°
  - 4-20mA Mode 90.5uA/° (*consult factory for proper load!)
- **Null Output**
  - Analog Mode  +2.50Vdc
  - Digital Mode  0 Counts
  - 4-20mA Mode  12.00mA
- **Repeatability** ....................... 0.044 degrees
- **Resolution** ........................ 0.022 degrees
- **Total Range** ...................... +/-85 degrees
- **Linear Range** ...................... +/-80 degrees
- **Linearity**
  - 0 to 70 deg. ............. 0.1 degrees
  - 70 to 80 deg. ............. 0.5 degrees
  - 80 to 85 deg. ............. monotonic
- **Temperature Range**
  - operating ...................... -40° to +85° C (–50° to +125°C avail.)
  - storage ...................... -50° to +125° C
- **Temp. Coefficient of Null** ........ 0.008 deg./C°
- **Temp. Coefficient of Scale** .... 2% of reading
- **Frequency Response** ............ 13Hz
- **Settling Time** .................... 250mSec
- **Start-up Time** .................... 500mSec
- **Shock** ........................... 1,000g’s
- **Cable** ........................... 18’ long, 22 awg

**Physical Dimensions** **inches (mm)**

- **Top View**
  - Width (101.60)
  - Height (115.18)
  - Depth (22.86)
- **Side View**
  - Width (27.95)
  - Height (124.46)
- **Bottom View**
  - Width (1.56)
  - Height (1.56)

**Electrical Connections**

- Black = Ground (common)
- Red = +7.5 to +32Vdc input (unregulated)
- Brown = Analog Output (referenced to Ground)
- Green = 4-20mA Output
- White = (A) RS485 Output
- Blue = (B) RS485 Output

**Ordering Information**

<table>
<thead>
<tr>
<th>Output Type</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analog</td>
<td>SSY0247-HAS</td>
</tr>
<tr>
<td>Digital</td>
<td>SSY0247-HDS</td>
</tr>
<tr>
<td>4-20mA</td>
<td>SSY0247-HIS</td>
</tr>
</tbody>
</table>

SPECTRON SYSTEMS TECHNOLOGY INC.
595 OLD WILLETS PATH
HAUPPAUGE NY 11788
PHONE: 631 582-5600
FAX: 631 582-5671
wwwspectronsensors.com

Specifications are subject to change without notice!