

Tilt sensors intended for remote areas



Columbia Research Laboratories has developed a family of electronic tilt sensors based on force balance accelerometer technology intended for applications such as platform stabilization, surface mapping, and measuring tilt angles in remote locations. These low cost, high performance, extremely accurate sensors produce a high level, low impedance output proportional to the sine of the tilt angle. All models feature unique damping and desensitization circuitry that allows tilt measurements in strong vibration and shock environments. These inclinometers are self-contained requiring no additional signal conditioning in most applications.

The basic model is the SI-701B which is available in ranges from $\pm 15^\circ$ to $\pm 90^\circ$, features a 5 terminal pin electrical interface and is well suited for many OEM and industrial applications. The model SI-701BC offers the same electrical features but uses a 4 pin connector electrical interface. High performance versions of these sensors are available, models SI-701BHP and SI-701BHPC. These sensors use Columbia's patented HP suspension system which provides added accuracy, ruggedness and operating ranges of $\pm 5^\circ$ up to $\pm 90^\circ$. This series of units are housed in anodized aluminum case material and weigh 4 oz. (113.4 Gm). They are environmentally sealed, operate at ± 12 to ± 15 VDC in temperatures ranging from $- 50^\circ$ to $+ 85^\circ\text{C}$.

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