Dual-axis Accelerometer

Key Specs

- ±2 g measuring
- Dual axis
- Tilt sensor
- Acceleration sensor

- The Accelerometer is a low cost, low power, complete dual-axis accelerometer with signal conditioned voltage outputs. The output signals are analog voltage proportional to acceleration. The Accelerometer is capable of measuring both positive and negative accelerations to at least ±2 g.
- The Accelerometer can measure both static accelerations, such as gravity and dynamic accelerations (vibrations etc). The ability to measure static accelerations, allows the Accelerometer to be used as a tilt sensor.
- The Accelerometer can be connected directly to the Handyscope series 3 and higher. Two BNC connectors provide the output for the measuring data and the 25 pins D-Sub is used to supply power for the electronics in the Accelerometer.
- The sensor of the Accelerometer is a surface-micromachined polysilicon structure built on top of the silicon wafer. Polysilicon springs suspend the structure over the surface of the wafer and provide a resistance against acceleration forces. Deflection of the structure is measured using a differential capacitor that consists of independent fixed plates and central plates attached to the moving mass. The fixed plates are driven by 180° out of phase square waves. Acceleration will deflect the beam and unbalance the differential capacitor, resulting in an output square wave whose amplitude is proportional to acceleration. Phase sensitive demodulation techniques are then used to rectify the signal and determine the direction of the acceleration.

Hardware specifications Dual-axis Accelerometer

Dual-axis Accelerometer	
Connectors	2 x BNC 25 pins D-Sub
Sensitivity	167 mV/g
Power supply	1 mA from extension connector
Cable length	2.5 meter (98 inch)
Dimensions	30 mm width 17 mm height 70 mm length
Weight	243 gram (8.6 ounce)
Color	Gray