

## **Advanced Instrumentation for Field Testing**

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The resonant frequency of vibration of a tensioned steel wire is proportional to the strain or tension in the wire. This fundamental relationship is utilized in a variety of configurations for the measurement of strain, load, force, pressure, temperature, and tilt.

Vibrating wire sensors are well known for their long-term stability. The advantage of vibrating wire sensors over more conventional types lies mainly in the sensor output which is a frequency rather than a voltage. Frequencies can be transmitted over long (>2000 m) cables without appreciable degradation of the signal caused by variations in cable resistance which can arise from water penetration, temperature fluctuations, contact resistance, or leakage to ground. This factor, coupled with the elegance and ruggedness of Geokon designs results in sensors which exhibit excellent long-term stability and which are ideally suited for long-term measurements in adverse environments.

Instruments manufactured by Geokon are used primarily for monitoring the safety and stability of civil and mining structures such as dams, tunnels, mine openings, foundations, piles, embankments, retaining walls, slopes, subway systems, underground powerhouses, bridges, culverts, pipelines, shafts, slurry wall excavations, braced excavations, tiebacks, nuclear waste repositories, ground water remediation schemes and the like.

Geokon manufactures a complete line of geotechnical instruments including extensometers, piezometers, strain gages, crackmeters, jointmeters, load cells, settlement sensors, pressure cells, inclinometers, dataloggers and many other custom items made to order.

Geokon is committed to providing its customers with out-standing products and services that meet or exceed quality expectations. As a result, Geokon has been awarded ISO 9001:2000 registration from both ANSI-RAB, USA and UKAS of Great Britain.