GeoCloud Wireless Crackmeters

Crackmeters are used to monitor movement at joints and cracks in concrete structures or rock. GeoCloud wireless crackmeters consist of a displacement sensor connected to GeoCloud wireless node. The node powers the sensor, digitizes measurements, and transmits them to an cellular gateway. Typical applications include:

- Monitoring joints to provide early warning of performance problems
- Monitoring joints and cracks in structures that could be affected by nearby construction activities.
- Monitoring cracks in structures that have experienced seismic activity.
- Monitoring locations that are difficult to access.

Advantages

High Performance: Wireless crackmeters provide high resolution, high precision, low noise measurements.

Internet or Local Access: The cellular gateway transmits measurements to the internet, where they can be accessed by an internet browser. The USB gateway provides on-site access via a tablet.

Versatile Mounting Options: A variety of mounting options are available. Typically the crackmeter is installed between two anchors installed on opposite sides of a crack.

Self-Configuring Communications: The GeoCloud nodes optimizes communication paths to the gateway automatically. This greatly improves reliability and power consumption when line of sight is not available or is blocked temporarily.

Cable-Free: GeoCloud crackmeters provide their own power and transmit measurements by radio, entirely eliminating the cost of cables, cable protection, cable maintenance, and visits by a technician.

GeoCloud Services: GeoCloud provides access to data wherever there is an internet connection. GeoCloud services operate 24 hours a day, processing measurements, checking for alarms, and generating graphs, reports, and alerts.

The wireless crackmeter provides high resolution measurements and a battery life of 10 to 12 years.

Crackmeter Node

Excitation: 2.5V, 100mA max.

Resolution: 0.0015% of full scale.

Noise Level: 0.005% of full scale.

Crackmeter Sensor

Sensor: Linear potentiometer.

Range: 1-inch. Other ranges available.

Dimensions: 1.5 x 6 inch long.

Hardware

Battery life: 10 to 12 years with data transmissions at 25-minute intervals.

Environmental: IP68 at 2 m for 24 hours,-40°C to +85°C.

Dimensions: 3.5 x 3.5 x 2.8 inches high, excluding antenna.

Communications

Protocol: Proprietary Senceive FlatMesh networking protocols, IEEE802.15.4 compliant. FCC approved.

Gateway to Internet: Cellular.