



GeoCloud Laser Extensometer

The GeoCloud Laser XT3 is an accurate, field-ready laser device suitable for monitoring structural displacements. It is one of a new generation of efficient, battery-powered, radio-equipped, digital sensors.

Applications

- Monitoring pillars, bridge decks, retaining walls, tunnel profiles for deformation.
- Monitoring structural movements at sites that are difficult or dangerous to access.
- Monitoring rotation with its built-in 3-axis tiltmeter.

Advantages

Remote measurements: The Laser XT3 performs its measurements at a distance. It does not interfere with construction activities.

Easy Installation: The Laser XT3 easy to install and requires almost no maintenance.

Precise: Few instruments can match the resolution and repeatability of the Laser XT3.

Self-Configuring Communications: GeoCloud sensors automatically optimize communication paths to the gateway.

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

GeoCloud Compatible: The GeoCloud provides access to data wherever there is an internet connection. It works with browsers on PCs, tablets, and smartphones. The GeoCloud operates 24 hours a day, automating processing measurements, checking for alarms, and generating graphs, reports, and alerts.

Laser Extensometer Specifications

Sensor: Laser Class 2, 655 nm (visible red).

Range: 165 feet from natural surface target, 330 feet from white target, 500 feet from reflective target.

Resolution: 0.004 inch.

Repeatability: ± 0.006 inch.

Battery life: 10 years at 1 hour reporting interval, 8 years at 30 minute reporting interval, including acting as a relay.

Environmental: IP68 at 1m for 24 hours, -10°C to $+50^{\circ}\text{C}$ for full functionality of laser, -25°C to $+85^{\circ}\text{C}$ for tiltmeter.

Dimensions: 3.5 x 3.5 x 2.4 inch high.

Integrated Tiltmeter Specifications

Sensors: 3 MEMS sensors to measure tilt in three axes.

Range: $\pm 90^{\circ}$ in each axis.

Resolution: 0.0001° .

Repeatability: $\pm 0.0005^{\circ}$.

Communications Specifications

Protocol: Proprietary, IEEE802.15.4 compliant.

Frequency: 2400-2485 MHz ISM Band. FCC Approved.

Max Transmit power: 6.5 dBm.

Max Antenna Gain: 2.2 dBi.

Range: 980 feet point to point. Can be extended with nodes acting as relays.

Gateway to Internet: Cellular.

