LS-G6-INC15

Wireless Tiltmeter

For long-range, remote readings in geotechnical monitoring

Measuring inclinations with tiltmeters is essential for the success of many projects: from controlling building response during a tunneling project, over analyzing settlements, to tracking changes in the inclination of structures such as bridge piers or historical monuments and dams, to monitoring landslides including berms in open pits.

The Loadsensing Tiltmeter is a low-power, long-range wireless data unit and inclinometer in a single, compact box. It measures tilt in two (biaxial) perpendicular axes in the plane of the base and combines a highly precise MEMS sensor plus the radio transmission network by Loadsensing, Worldsensing's leading wireless monitoring system. One gateway can support several nodes in the same network.

The tiltmeter's ability to provide accurate measures with long-range wireless communication and extended battery life sets this inclinometer apart from other comparable products in the market.

It can also be used as a standalone logger for manual monitoring and can be easily configured and connected with a USB cable and an Android phone.

APPLICATIONS
Remote tilt monitoring from retaining and building walls
Landslide monitoring
Bridge pier monitoring
Structural load monitoring
Ground subsidence
FEATURES
HARDWARE
Datalogging and tilt monitoring in a compact box
High accuracy and repeatability
Long battery life (> 5 years @ 1h sampling rate)
-40°C to 80°C (-40°F to 175°F) operating range
Reduced size (140 x 120 x 61 mm)
SOFTWARE
User-friendly Android configuration app at no extra cost
Web browser software
Standard CSV download, FTP push and API access
ADVANTAGES
Highly accurate and reliable biaxial tilt sensor
Long-range communications (up to 15km/9miles)
Low-power, long battery life (over 5 years)
Robust, small and weather-proof box for harsh environments
Easy configuration

The wireless tiltmeter features a range of up to 15km/9miles and over 5 years battery life in line with the rest of the Loadsensing product line.

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/ Specifications

SPECIFICATIONS		
GENERAL		
Battery life – sampling rate 5 min	> 1 years	Life time estimations based on a model considering Barcelona temperature profile
Battery life – sampling rate 1 h	> 5 years	
Battery life – sampling rate 6 h	> 8 years	
Battery type	2 x 3.6V C-Size (recommended Saft LSH 14)	
Sampling rate	30 seconds to 1 day	
Configuration software	Android App	
SENSOR		
Type	MEMS (Micro-Electro-Mechanical) Inclinometer	
Range	± 15º	
Accuracy (± 5º)	0.03% FS / 0.004º	
Accuracy full range	0.17% FS / 0.025º	
Resolution	0.001°	
Repeatability	0.005°	
Axes	Two (biaxial)	
Temperature sensor resolution	0.1 ºC	
Temperature sensor accuracy	±0.5 ºC	
MEMORY		
Reading capacity	200,000 readings	
MECHANICAL		
Box dimensions (WxLxH)	100x100x61 mm	
Overall dimensions	150x120x61 mm (excluding antenna)	
Operating temperature	-40ºC to 80ºC (-40ºF to 175ºF)	
Weather protection	IP67	
External antenna	100 mm length (including connector)	
Box material	Aluminium alloy	
RADIO		
Range open sight	15km	
Range with obstacles	> 1km	
Maximum link budget	151 dB	
Configuration	Star (no repeaters needed)	

WORLD SENSING

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