

xInc

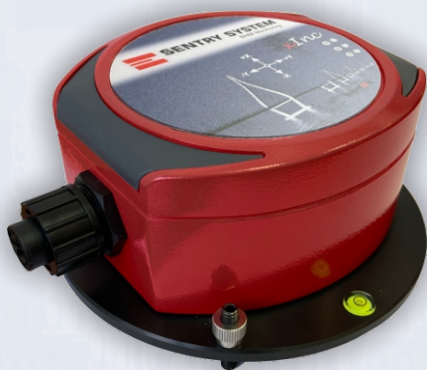
With I-Series Inclinometers



xInc

Key Features:

- Rugged aluminum enclosure with IP67 protection
- Real-time Data Transmission
- High-Precision with temperature compensation
- User configurable number of used channels for inclination.
- Optional acceleration channels
- Configurable via Voyager interface
- One or more units on different locations at single Voyager account
- Ethernet/Wi-Fi/DigiMESH® or GSM communication protocols
- Easy installation, wireless or using simple CAT5e cable. POE capability
- Ultra low power consumption
- Wide range of Operating Temperature: -40°C ~ 55°C



Ultimate Solution for SHM: The High-Precision Inclinometer

Ensure the stability and safety of your critical structures with **xInc**, the advanced inclinometer designed to provide accurate inclination data in real-time. Encased in a robust IP67 enclosure, **xInc** is engineered to thrive in the most challenging environments, making it an indispensable component of our Structural Health Monitoring system.

xInc seamlessly integrates into our Structural Health Monitoring system, transmitting inclination data in real-time to our central application, Voyager. Stay informed about the structural integrity of your assets with instant updates on any deviations. Enhance your risk management capabilities by setting threshold alarms in Voyager. Receive instant notifications when inclination levels surpass predefined limits, allowing for proactive intervention to prevent potential issues.

xInc is a versatile solution suitable for monitoring a wide range of critical structures, including: Dams, Bridges, Buildings, Wind Mills or special structures.

Monitoring inclination is essential for safeguarding the structural integrity of critical assets. Slight deviations in tilt can be indicative of underlying issues or impending structural failures. By deploying **xInc** as part of your Structural Health Monitoring system, you gain valuable insights into the real-time behavior of structures, allowing for timely maintenance and risk mitigation.

xInc Specifications

General		User Interface	
Sensor type	InclinometerAccelerometer	Informational LED	
Output Sampling	Configurable (1 to 1000)	System Configuration Panel	
Communication	Ethernet, Wi-Fi, GSM	Web Application Panel	
Storage	SD Card (optional)	Physical	
Streaming	Voyager (Real-Time)	Packaging	Rugged aluminum
Channels	User configurable (Inc/Acc)	Protection	IP66/IP67
Power		Weight	700g
Powering	From CAT5e data cable	Dimensions	130x120x65mm
Input Voltage	12-24 VDC or PoE	Environmental	
Power Cons.	1-2W (w/o sensor)	Operating Temp.	-40°C to 55°C
Sensor Power	Supplied from the unit	Humidity	90% non-condensing

Inclinometer (user selectable channels)

Range (options)	±10° in HP mode (±90° in LP mode)
Accuracy	±0.005°
Noise (In Band)	0.001°/VHz

Accelerometer (user selectable channels, option)

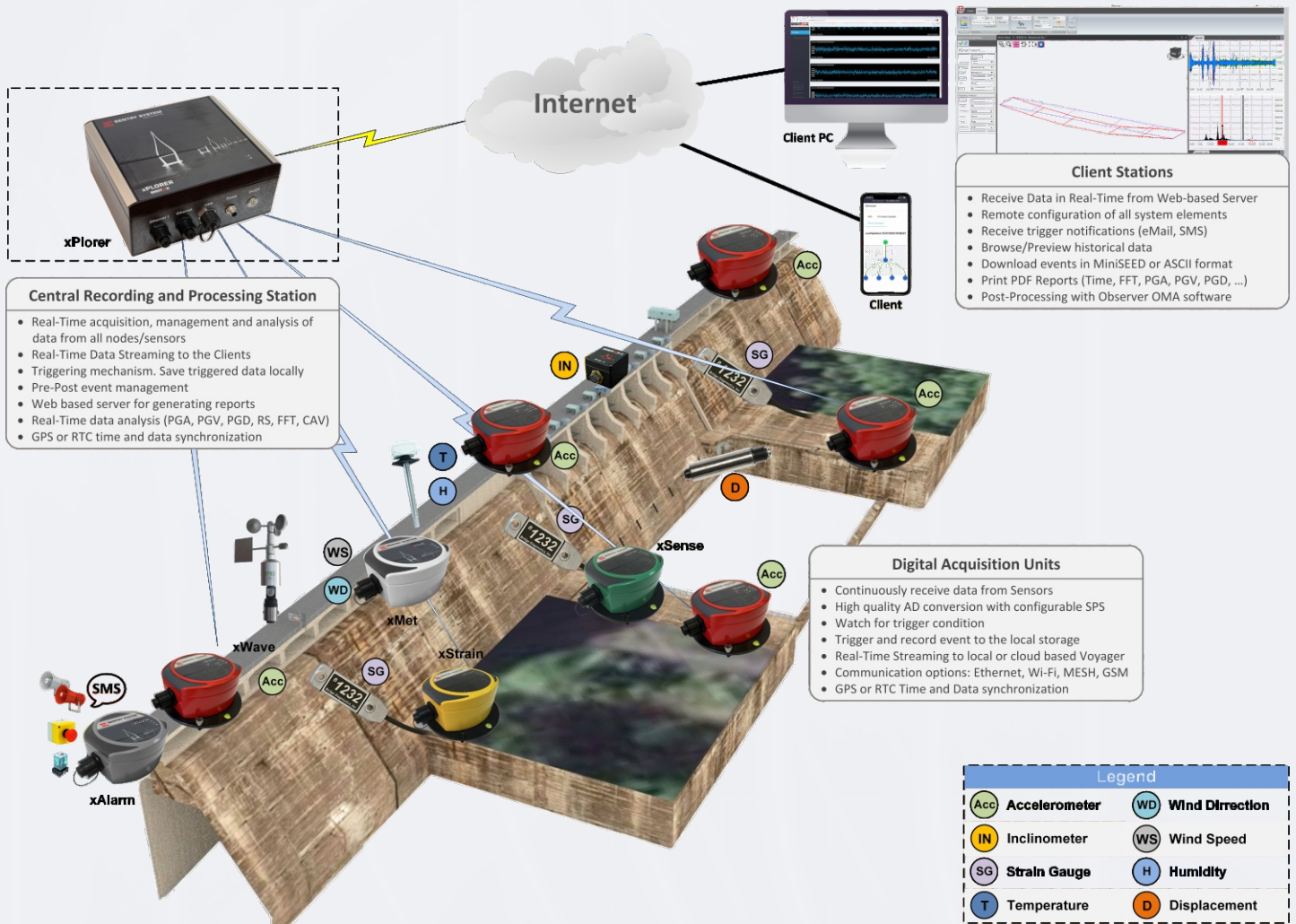
Range (options)	±1.2g/±2.4g (selected mode)
Noise (In Band)	32μ/VHz (lower, on all channels)

Real Time Monitoring System Architecture

The Digitex monitoring system is based on a highly efficient, multithreaded software design that allows the system to acquire data from a large number of xDAS units, monitor and condition this data, and distribute it, in real time, over the Internet to multiple remote locations.

Sensors on the structure continuously send out data to the system. If an event such as an earthquake occurs, pre-assigned thresholds of drift are exceeded in one or multiple locations, thus triggering the recording and analyzing of data (including pre-event memory). Once an event is recorded, the system notifies a list of users (via e-mail) and uploads the event via FTP to another site.

Using the "quick analysis" capability of the Digitex system, various measures of the monitored system's response can be distributed to multiple locations and displayed in real time. The system can cross correlate data, plotting useful information about the interaction between the dynamic loads on the structure and its modal characteristics. It can be used for a rapid (rough) estimation of the dominant structure mode being observed in the selected time window, as well as an estimator of the corresponding structure damping parameters.



Sentry System - Real-time Monitoring

About Digitex

Digitex is a company specialized in design and development of real time structural health monitoring systems for a variety of industries and applications including: bridges, tall buildings, campuses, windmills, oil rigs and more. Digitex's innovative solution for ambient vibration measurements and quick health assessment of structures is jointly developed and validated with our partners and advisors from the Universities. When properly configured, the Digitex system is capable of measuring and responding to both natural and man-made events such as: earthquakes, wind, explosions and accidental heavy impacts.

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