

xSense

EXTERNAL SENSOR DIGITIZER

Extend the Core of Structural Intelligence
High-fidelity digitization for external sensors—synchronized, field-ready data that broadens your SHM insight beyond acceleration.

Why xSense

- Plug in third-party analog sensors (voltage, current, RTD) to expand what you measure.
- Synchronized networks via GPS or DigiSync® for sub-ms alignment.
- No data gaps: Store&Forward® + local SD/eMMC recording (MiniSEED).
- Modular ADC options to match sensor types and ranges.
- Rugged IP67 aluminum housing with mounting plate.
- Embedded web interface—setup, charts, diagnostics, OTA updates.

What makes it different

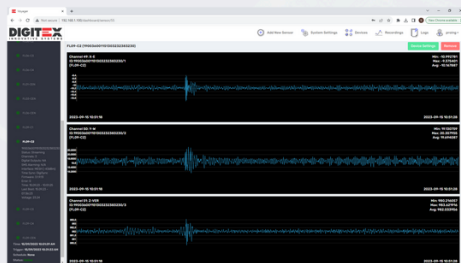
- One unit for displacement, strain, tilt, temperature, humidity, wind, pressure, and more.
- Flexible models: 16-bit up to 16 ch; 24-bit with mixed voltage/current; RTD-specific for PT100/PT1000.
- Clean signals at the source: anti-aliasing + software-selectable ranges.
- Runs standalone or as a synchronized node across distributed SHM.
- Ethernet standard; optional Wi-Fi, DigiMESH®, GSM/4G for any site topology.

Made for

Bridges • Buildings • Dams • Tunnels •
Pipelines • Mines/Industry • Research

How xSense fits your SHM

- Bring external phenomena into your model: digitize displacement, inclination, strain, temperature, humidity, wind, pressure.
- Deploy as a compact local digitizer or a synchronized network node alongside xWave®.
- Any link, any scale: CAT5e/PoE, Wi-Fi, DigiMESH®, optional GSM/4G—grow from one to hundreds of nodes.



Configure your unit

Comms to fit the site: Ethernet, Wi-Fi, DigiMESH®, optional GSM/4G.
Local logging: SD/eMMC for standalone or backup recording (MiniSEED).
Sampling: 1-1000 SPS for slow environmental trends or higher-rate dynamics.
Flexible triggering: thresholds, relative/absolute, voting with per-channel weights.
Time sync: GPS or DigiSync®—sub-ms network precision.
Power options: 9-28 V DC, PoE-compatible; optional ~12 h battery.
Works with xPlorer®, Voyager®, Nexus, Vista, and Observer software.

Outcome snapshot

- Add environmental & quasi-static context to vibration data—clean, comparable channels from day one.
- Continuous data through comms drops thanks to Store&Forward®.
- One workspace for teams: acquisition, storage, visualization in Voyager®.

Result: Faster diagnostics and richer models—without babysitting the network.

Your workflow with Digitex

- **Instrument:** mount, level, and power xWave; auto-discover in Voyager®.
- **Acquire:** stream in real time or log locally; sync with GPS/DigiSync®.
- **Analyze:** view trends/spectra; trigger events; export MiniSEED.
- **Act:** set alarms/notifications and share results with stakeholders.

Scale from a single unit to hundreds—daisy-chain or star topologies across structures.

CE • ISO • Calibration certificate

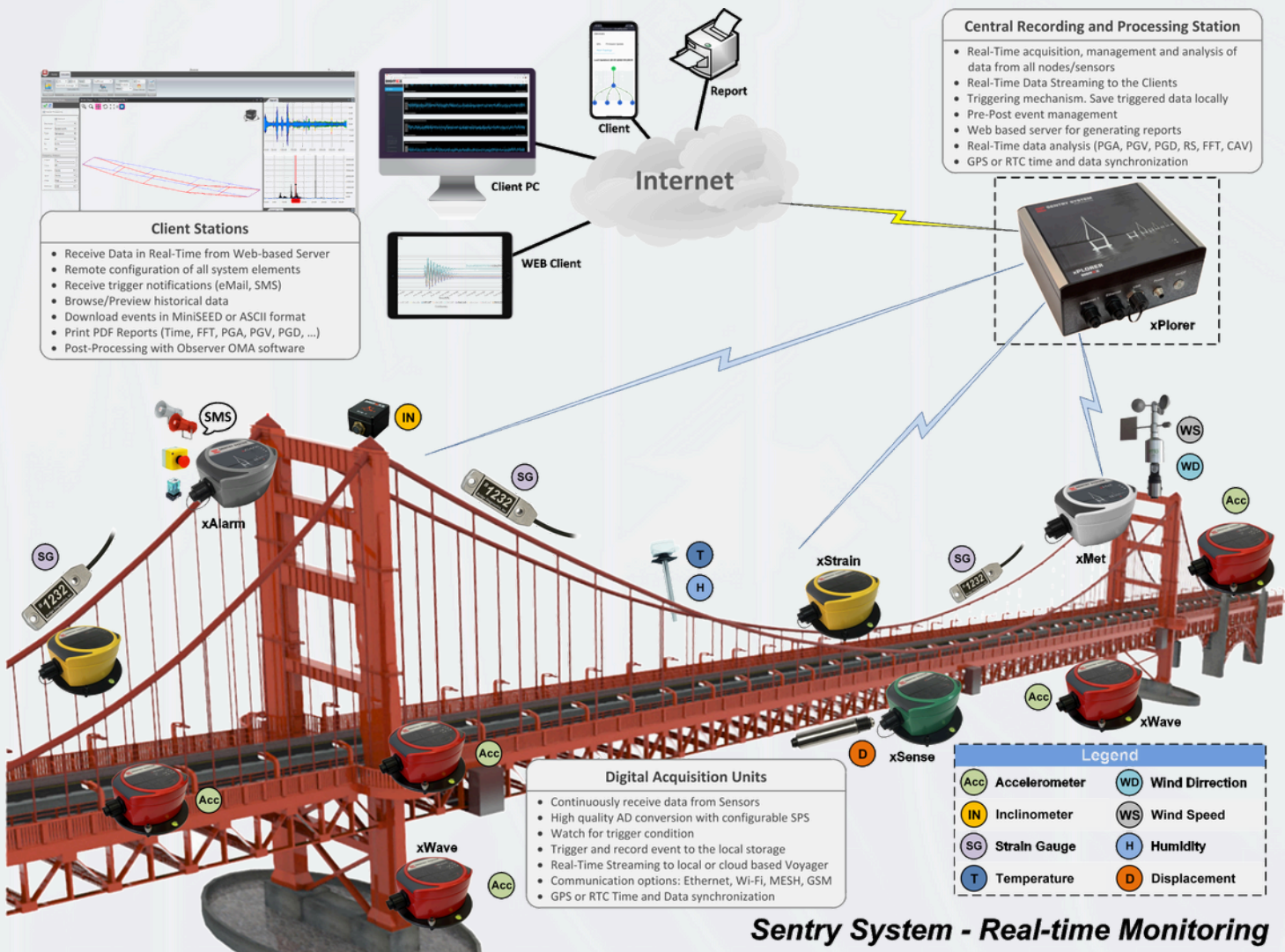
DISTRIBUTED SYSTEM OVERVIEW

xDAS® is Digitex Systems' distributed Structural Health Monitoring (SHM) solution, designed to instrument large and complex structures with networks of intelligent sensors. By combining multiple digital acquisition units, xDAS provides a scalable, modular, and reliable way to capture the dynamic response of structures in real time. From bridges and dams to skyscrapers, tunnels, pipelines, and industrial facilities, xDAS delivers the 'pulse' of any structure continuously, enabling operators to assess safety and performance instantly.

The system integrates seamlessly with Digitex's Voyager® software running on xPlover® or in the cloud, providing centralized acquisition, storage, and analysis. Each xDAS node digitizes sensor data directly at the source, ensuring noise-free transmission over Ethernet, Wi-Fi, DigiMESH®, or low-cost CAT5 cabling. The modular architecture allows hundreds of units to be combined in daisy-chain or star topologies, making it ideal for projects of any scale.

DISTRIBUTED SYSTEM MEMBERS

The Distributed Sentry System family of products consists of several units that can be installed as standalone devices or as part of a complete SHM deployment: **xPlover** – Central Acquisition and Processing Unit, **xWave** – Digital Accelerometer Unit, **xSense** – Voltage Sensor Digitizer Unit, **xStrain** – Bridge Sensor Digitizer Unit, **xGeo** – Digital Geophone Unit, **xInc** – Digital Inclinator Unit, **xMet** – Weather Station Gateway, **xAlarm** – Digital Alarming Unit.



ABOUT DIGITEX

Digitex is a company specialized in design and development of real 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.