

Pulse

DIGITAL ACCELEROMETER UNIT

Personal-Grade, Pro Reliability

Compact, low-power tri-axial acceleration for home/small-building monitoring—simple to install, always synchronized.

Why Pulse

- Affordable entry into permanent SHM without sacrificing reliability.
- Tri-axial MEMS acceleration + optional temperature/humidity/pressure.
- Ethernet/Wi-Fi connectivity; Store&Forward® prevents data loss.
- DigiSync® timing keeps all sensors aligned across the home/site.
- Web UI for quick setup, live charts, logs, and OTA updates.

What makes it different

- 20-bit ADC digitization with low in-band noise for clean baselines.
- Optional DXTags: add up to 5 Bluetooth environmental tags (15 extra channels).
- Lightweight, compact form factor with simple two-screw mounting.
- Runs quietly for months—designed for unattended operation.

Made for

Homes & apartments • Small public buildings • Campus labs & teaching • Pilot installations • Light-industrial rooms

How xPlorer Home fits your SHM

- Place multiple Pulse units around the structure; xPlorer Home aligns time, records continuously, and serves live charts and reports.
- Correlate vibration with environment (T/RH/pressure) to explain day-night and seasonal effects.



Configure your unit

Comms: Ethernet or Wi-Fi; optional PoE.

Timing: DigiSync® (sub-ms).

Sampling: 1 / 50 / 100 / 200 sps (200 default).

Data: Continuous streaming; Store&Forward® buffering.

Sensors: Tri-axial acceleration; optional T/RH/pressure; up to 5 DXTags.

Power/Enclosure: 5 V DC; low power; ABS housing; simple two-screw mount.

Env.: -20...+60 °C; 0-90% RH (non-condensing)

Outcome snapshot

- Clean, time-aligned vibration channels with environmental context.
- Minimal installation effort; quiet, low-power operation.
- Seamless with xPlorer Home for live view, notifications, and reports.

Result: Professional-grade insight for everyday spaces—faster decisions, fewer site visits, and peace of mind.

Your workflow with Digitex

- **Instrument:** mount each Pulse; power and join network.
- **Acquire:** in xPlorer Home or our cloud, confirm DigiSync® and sampling.
- **Analyze:** watch live waveforms/spectra; trend daily/weekly baselines; export when needed.
- **Act:** set thresholds/notifications; send automated PDF reports.
- **Scale:** add DXTags for multi-point environment and more Pulse units room-by-room.

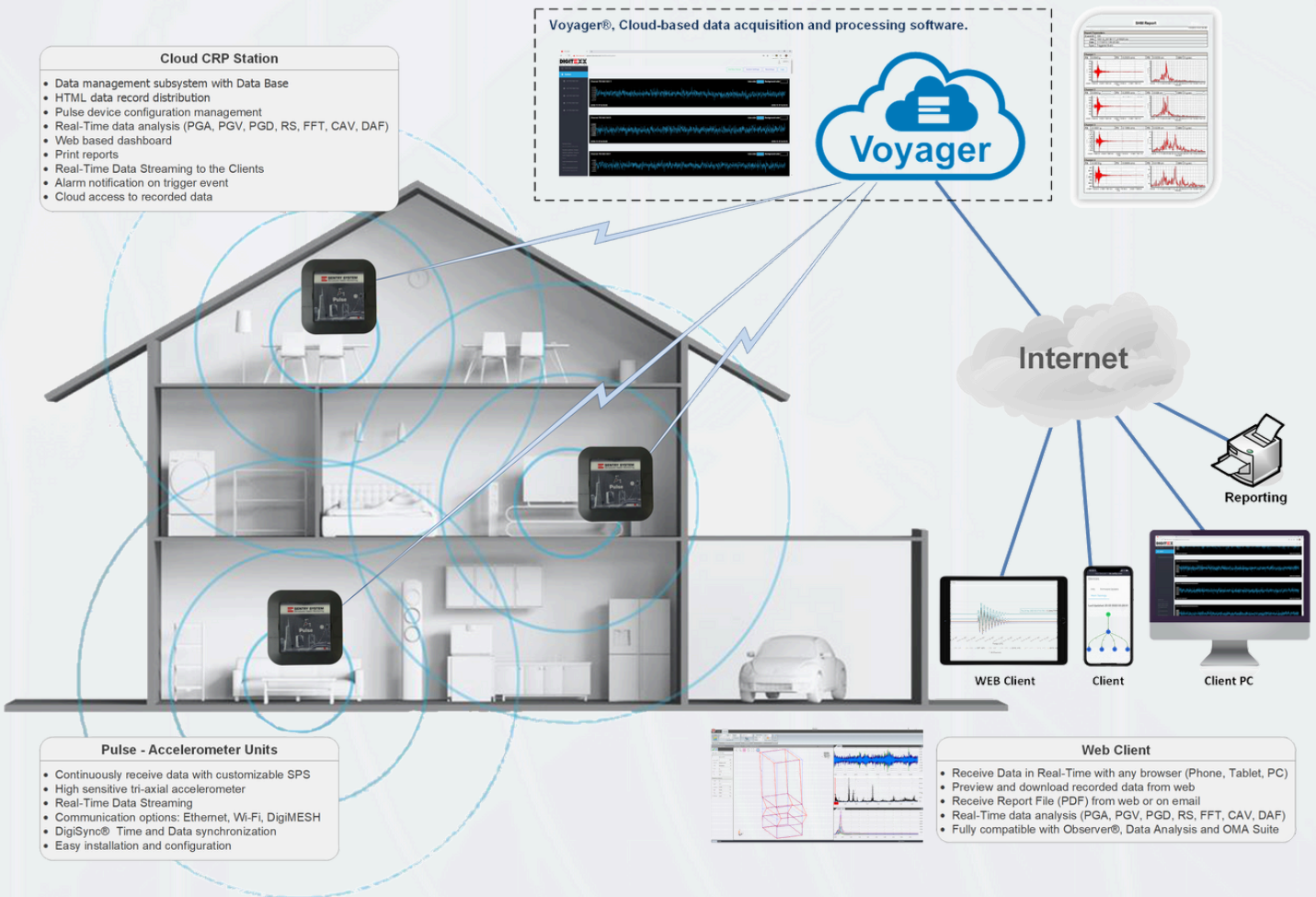
CE • ISO • Calibration certificate

PERSONAL SYSTEM OVERVIEW

Personal SHM is Digitex Systems' home/small-building solution centred on xPlorer Home with Pulse sensors. The hub acquires, time-aligns (DigiSync®), and continuously records vibration from multiple rooms, buffering events with pre/post windows so nothing is missed. Setup is browser-based; live charts, notifications, and automated PDF reports keep you informed without a PC. Low-power, quiet hardware runs unattended for months, delivering clean, comparable data for routine monitoring, quick post-event checks, and learning/teaching use. Designed as an entry-level yet professional SHM platform, pSHM pairs the xPlorer Home central station with Pulse accelerometers to offer a practical balance of functionality and cost. The system provides continuous recording with ring-buffer retention, event-based captures with pre/post time, and browser-based visualization and data download. Compared with enterprise Sentry System families (xDAS, xCAS), pSHM uses sensors with lower sensitivity and simplified environmental protection, and enables a curated subset of Voyager® functions that are most relevant to residential and light-commercial monitoring.

PERSONAL SYSTEM MEMBERS

The Personal Sentry System family consists of units that can be installed as standalone devices or as part of a complete Personal SHM deployment: **xPlorer Home** - central acquisition & processing unit; **Pulse** - personal digital accelerometer sensors placed around the home or small facility; **Client Apps** - web/mobile viewing, configuration, and reporting.



Sentry System with Pulse - Real-time Structural Health Monitoring

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.