

THE FUTURE OF BRIDGE MONITORING IS DIGITAL

Five reasons to choose digital Structural Health Monitoring



1 RELIABLE DATA QUALITY FROM SENSOR TO SYSTEM

Digitization at the sensor keeps data accurate over long cable runs and reduces electromagnetic interference.

2 MICROSECOND-ACCURATE SYNCHRONIZATION

All sensors operate on a common time base with microsecond-level synchronization, enabling accurate modal analysis and reliable detection of structural changes.

3 FASTER INSTALLATION WITH LESS INFRASTRUCTURE

A single cable carries both power and data within each digital sensor chain, reducing cabling, installation effort and commissioning time.

4 SCALABLE FOR FUTURE MONITORING NEEDS

The modular architecture allows to add sensors and scale the monitoring system as requirements evolve.

5 COMPREHENSIVE STRUCTURAL INSIGHT

Combined acceleration, strain, inclination, crack, temperature and environmental data support a comprehensive assessment of structural behavior.



Simple and durable installation using Kistler glued mounting adapters



Multi-sensor set-up with acceleration and strain measurements

Digital SHM versus traditional analog SHM

Less complexity. Better data. More confidence.

Digital SHM	Traditional analog SHM
Digitization directly at the sensor	Analog signals transmitted over long cable distances
Microsecond-level synchronization across all channels	Synchronization limited by system architecture
Single cable for power and data	Complex cabling and larger equipment cabinets
Daisy-chain topology for simpler installation	Each sensor requires its own cable over the entire length
No signal degradation over long cable distances	Signal quality can deteriorate with cable length
Plug-and-play, scalable architecture	Expansion requires additional wiring and configuration
Synchronized, high-quality data for advanced analysis	Multi-sensor data correlation can be challenging



Prewired and preconfigured cabinet, ready to use

EXPERIENCE THE FUTURE OF BRIDGE MONITORING.

Visit the Digital SHM demonstration site in Winterthur or contact Kistler for a consultation.



kistler.com/digitalbridgemonitoring

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