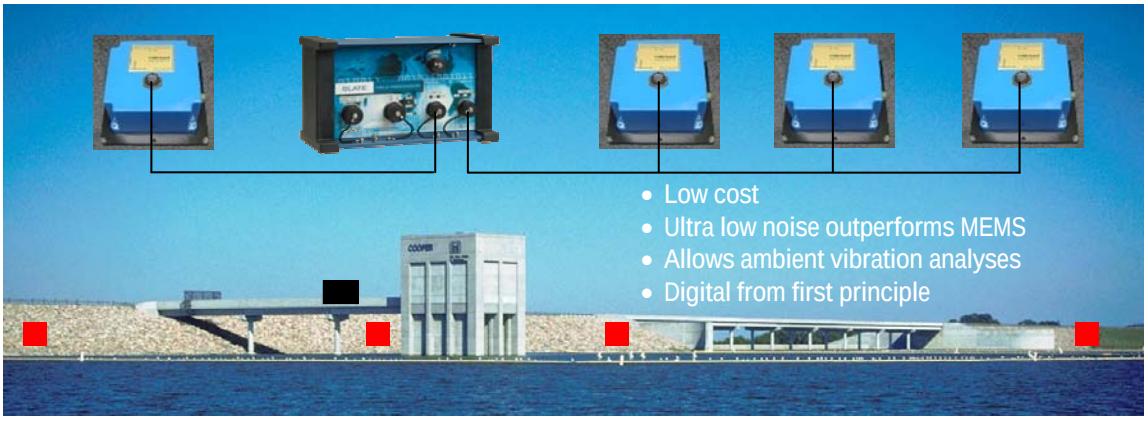
iDAMM w/ FOs

DAM Monitoring with Fiber Optic Communications



EQMet iDAMM for Dam Monitoring consists of up to eight 3-channel, 24-bit digital seismic accelerometers (TSA-100S-D24) interconnected via fiber optic cables to a central processing unit for common timing, triggering, storage and easy web-access to data and system configuration. The use of Fiber Optic cables for interconnection means your system has no lighting vulnerability, can traverse very long distances (up to 10km), and has reliable large bandwidth communication.

EQMet 's TSA-100S-D24 delivers three channels of linear acceleration at sample rates up to 1 kHz. Unlike silicon MEMS-based accelerometers, the TSA-100S delivers ultra-low noise performance, high linearity, and low hysteresis.

Customers around the world have confirmed the high-performance and ease-of-use of the TSA-100S-D24 digital sensor. If you are ready to collect high-fidelity accelerograph data for your next dam monitoring project, you are ready for the iDAMM system.

Benefits to You:

- Save time and money with a system that is easy to set up and use
- Record high quality data at a price that fits your budget
- Lower your station noise floors by 20-40 dB without blowing your budget
- Orders of magnitude more quiet
- Allows ambient vibration analyses
- Digital sensors can traverse long distances

Key Features:

- Ultra-high-linearity accelerograph
- Very low signal distortion
- 24-bit resolution
- Non-volatile memory (up to 64GB)
- Multiple data formats
- Multiple real-time streaming clients
- Many communications options
- Common software packages supported
- Optional GPS timing (< 900 ns jitter)

EQMet

EQMet
222 Vista Avenue
Pasadena, CA 91107
www.EQMet.com

Products manufactured in the USA

iDAMM Specifications

Central Recorder Hardware

Processor: 400MHz Intel PXA255 Xscale®

Memory: 256 Mbytes SDRAM

Storage: 1x Internal CF slot (up to 64 Gbytes)
1x SD card 4 GB
1x SD card field removable (optional)

Interfaces: 2x 10BaseT Ethernet ports
2x RS232 serial ports
1 x USB 1.1port (1 OTG/1 Host)
(optional)

Environ: -20 to +60°C (optional -30 to +70°C)

Central Recorder Middleware/Software

OS: MontaVista HardHat Linux v2.4.20

Type: Loaded with Kinemetrics limited edition Rockhound; open architecture user-extensible real-time data collection and processing software

Compatibility: Earthworm, Seedlink

Monitoring: Extensive State-of-Health monitoring; input and system voltages, internal temperature, internal humidity, and communication link diagnostics

Data Format: Kinemetrics EVT, miniSEED, SAC, COSMOS, MATLAB, SEISAN, ASCII

Physical Recorder

Enclosure: Rugged aluminum extrusion with MIL-SPEC type connectors designed for 1m drop and 1m temporary immersion (IP67)

Environment: Lead-free; RoHS, WEEG, and CE compliant

Protection: Transient and EMI/RFI protection on all connections

Display: System status LEDs for power, event

Power

Type: Internal switched power supply (100-250VAC 50/60Hz) and battery charger system

Battery: Optional external 12V, 35Ah or more

Autonomy: 24 hours (pending size of battery)

Recorder: 8-18 VDC 0.6W (typical)

Sensor: 9-24 VDC 3.4W (2.4W sensor, 1W digitizer)

Measurement

Type: Triaxial, force-balance accelerometer with capacitive displacement sensor, restoring coil and calibration coil

Range: +/-4g

Sensitivity: 5V/g differential, 2.5V/g single-ended

Input: 40V P-P at gain=1

Sample Rate: 50, 100, 200sps

ADC: 24bits sigma-delta
Dynamic range of 125dB from 0.1 to 40Hz integrated

Bandwidth: DC to 225Hz

Cross-axis: < 0.5% including misalignment

Offset: < 0.05g

Hysteresis: < 200 μg peak-to-peak with +/-1g excitation or
< 0.005% of full-scale

Non-linearity: < 0.015% total

THD: < -74dB total harmonic distortion

Anti-Alias: 144dB linear phase FIR standard minimum phase filter optional

Triggering

Type: IIR band-pass filter (three types available)

Threshold: Selectable from 0.01% to 100% full scale

Voting: Internal, external, and network trigger votes with arithmetic combination

Pre-event: Software selectable up to 500s

Post-event: Software selectable up to 65,000s

Timing

Time Base: TCXO digitally locked to GPS (optional)

Accuracy: < 1 μs of UTC with GPS
< 0.5 ms channel-to-channel synchronization without GPS

Specifications subject to change without notice

8/31/11