

Riser Acceleration Monitor & Logger

The Model ADL-536 Acceleration Monitor and Logger is a highly reliable, proven instrumentation package developed by FSI to measure displacements of risers, pipelines, and other structures. As deployments continue to go ever deeper, it has become critical that riser responses to vortex induced vibrations (VIV) and drilling-induced vibrations (DIV) be monitored for fatigue analysis. The ADL-536 provides a robust, easy-to-deploy, and cost-effective method to ensure safe and profitable operations of field resources.

The ADL-536 is designed to precisely measure and record both acceleration and inclination sensor data. Additionally, the unit has extra-large memory capacity of 256 MB for extended deployments. Real-time and post mission data I/O is available by way of RS-232 or RS-485 serial links. Optionally, FSI can provide the units integrated with acoustic modem telemetry.

Lightweight, compact and rugged, these units are simple to deploy and retrieve. Attachment to risers can be done pre- or post-deployment. Innovative ROV-deployable clamps facilitate instrument handling. The unit is equipped with an external connector to provide for optional processing of 5 additional channels of analog data with 12 bit resolution. This capability will allow input of sensor measurements such as strain gauges or load cells and other desired parameters. Contact your FSI representative or the factory directly for further information on customized settings, telemetry options, and additional sensors for the FSI ADL-536 Riser Acceleration Monitor and Logger.

FEATURES

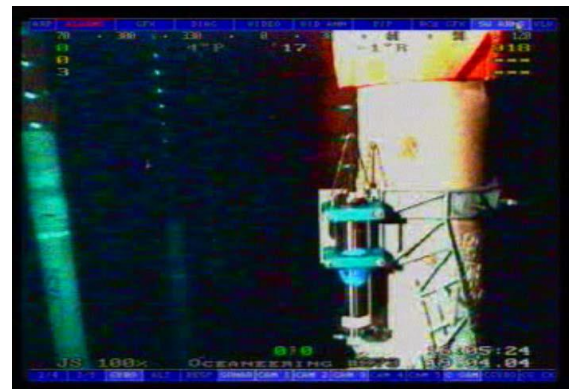
- Three axis acceleration and 2 axis inclination sensors for analysis of VIV, DIV, and other stress events
- Processor control allows flexible datalogger programming
- Accurate real-time clock for data synchronization
- Easy to implement interface with acoustic modem for real-time data acquisition
- 3000 meter operating depth standard, deeper operation optional

APPLICATIONS

- VIV and DIV analysis studies
- Underwater structure motion monitoring for stress analysis
- Real-time stress data acquisition during oil flow line installations
- Data provides information on structural response to stress inducing events



ADL-536



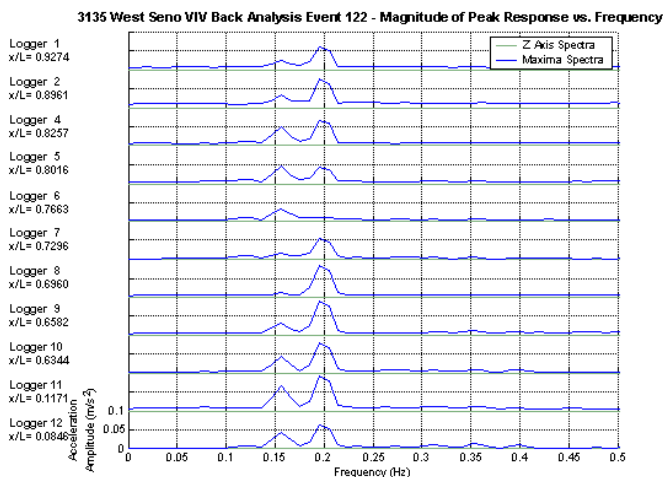
ADL-536 shown
clamped to a riser

SPECIFICATIONS

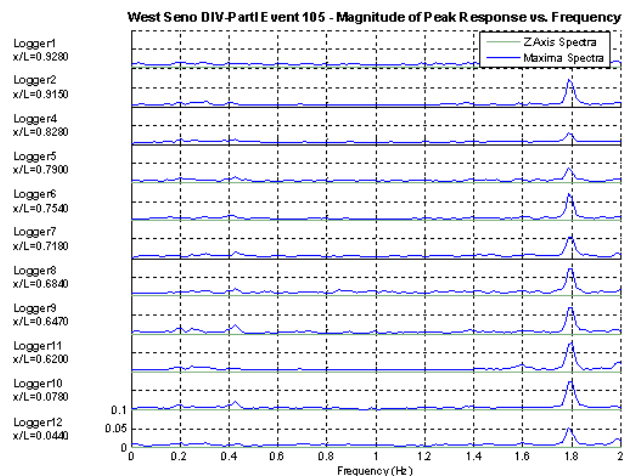
SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

3 Axis Accelerometer Sensor:	Input Range: ± 1 g Sensitivity: 1 V/g Bandwidth: DC - 50 Hz
2 Axis Inclination Sensor:	Linear Angular Range: $\pm 20^\circ$ Full Angular Range: $\pm 78^\circ$ Sensitivity: 35 mV/ $^\circ$ Resolution: 0.01 $^\circ$
Optional Pressure Sensor:	Full Scale Pressure: 1500 psi standard, Other pressures optional Accuracy: .1% full scale Resolution: .1% full scale
Optional Temperature Sensor:	Temperature Range: -2 to 40 $^\circ$ C Accuracy: 0.5 $^\circ$ C Resolution: 0.05 $^\circ$ C
Processor:	PIC Microcontroller
Internal Memory:	256 MB (additional memory optional)
Real-Time Clock Drift:	± 5 ppm
Serial Communication:	RS-232, RS-485, or CMOS
Sample Rate:	30 Hz (User selectable)
Telemetry:	Optional, integrated real-time acoustic modems
Power Supply:	External power input 6 to 15 VDC
Operating Life:	240 hours continuous with standard alkaline battery
Depth Rating:	3000 meters standard, deeper depths optional
Pressure Housing:	316 SS, Titanium optional
Dimensions:	8.25 cm diameter x 53.34 cm long 3.25 in. diameter x 21 in long
Weight:	In air: 5.72 kg; 12.6 lbs. In water: 3.27 kg; 7.2 lbs.

Sample VIV Data



Sample DIV Data



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