



SAVER™ 9X30

The SAVER 9X30 is Lansmont's most powerful environmental recorder. The added performance and capability of this compact, self-powered data recorder has never been matched. The range of comprehensive data collection provides the unique ability to characterize and visualize targeted environments. The 9X30 assures the best resolution for those tasked with defining, characterizing, and clearly understanding their respective transport, distribution, and in-use environments.

This instrument provides the ability to capture up to nine dynamic channels of data (3 internal and 6 external), while also recording temperature, humidity and atmospheric pressure (altitude).

The 9X30 continuously measures up to thirty days of shock (impact/drop), vibration, temperature, humidity, and atmospheric pressure conditions. Optional embedded GPS hardware allows for the capture of location information every time an event is recorded. SaverXware displays mapped summary data, user selected by amplitude, date, time, and even instrument speed. The data can also be exported to Google Earth, providing powerful spatial awareness of recorded events including event amplitude, represented by proportionally sized (altitude) event ID tags.

SAVER 9X30; unrivaled performance and unlimited potential from such a small, self-powered portable measurement device.

SAVER™ 9X30 applications:

- Define product's in-use environmental characteristics.
- Capture time history and frequency data to replicate in a laboratory.
- Verify existing and create new test standards based on actual measurements.
- Define a packaged product's transportation hazards and characteristics.
- Improve package performance.
- Maximize risk management procedures.
- Define "normal" and "abnormal" shipping conditions.
- Audit transit environments to identify carrier handling practices.
- Assess transport liability.
- Optional embedded GPS hardware pinpoints all event locations.



PHYSICAL

Envelope Size:	4.99 x 4.90 x 1.69 in (127 x 124 x 43 mm).
Volume:	41.2 in ³ (675 cm ³).
Case Material:	6061-T6 aluminum.
Weight:	2.04 lbs (1 kg).
Mounting:	Four holes for #6 screws. Mounting bars recommended.
Environmental:	Weather-resistant.
Power:	Two lithium or alkaline 9V batteries.

DATA RECORDING

A/D Resolution:	16 bits.
Instrument Noise Floor:	0.02 Grms typical at 500 Hz bandwidth.
Dynamic Range:	80 dB typical.
Sample Rates:	50 to 10,000 samples per second per channel.
Triggering:	Signal threshold and/or timer based recording.
Continuous Record Time:	Up to 30 days using lithium batteries. Up to 15 days using alkaline batteries.

MEMORY

Memory Size:	128 MB.
Memory Type:	FLASH.
Data Retention:	Retains data even when batteries are exhausted.

COMMUNICATIONS

Interface:	USB 1.1 and 2.0 compatible.
Data Rate:	400 KB per second typical

TEMPERATURE

Measurement Range:	-40 to +60°C (-40 to +140°F).
Measurement Accuracy:	±0.5°C from +5 to +40°C. ±1.5°C from -40 to +60°C.
Communication Temperature Range:	0 to +60°C.
Operating Temperature:	Using lithium batteries: -40 to +60°C (-40 to +140°F) Using alkaline batteries: -20 to +54°C (-4 to +130°F)

HUMIDITY

Measurement Range:	5% to 95% RH, non-condensing.
Measurement Accuracy:	±2% from 10% to 90% RH at 25°C. ±3% from 5% to 95% RH at 25°C.

ATMOSPHERIC PRESSURE

Measurement Range:	10 to 1100 mbar.
Measurement Accuracy:	±4 mbar from 750 to 1100 mbar at 25°C.

CONTROLS AND INDICATORS

Controls:	Run / Stop button.
LED Indicators:	Green: Run. Red: Alarm condition. Yellow: Stop. Green: USB cable attached.

INTERNAL CHANNELS

Accelerometer Type:	Tri-axial piezoelectric.
Acceleration Ranges:	5, 10, 20, 50, 100, and 200 g full scale.
Channel Filter Type:	4-pole, low-pass.
Filter Frequencies:	10, 20, 25, 50, 100, 200, 250 and 500 Hz.
3 dB Frequency Response:	0.4 Hz to filter maximum.
Measurement Accuracy:	±5% with nominal variations in temperature and frequency.

EXTERNAL CHANNELS

Number of Channels:	6.	
Input Modes:	Charge (Acceleration). Voltage.	
Channel Filter Type:	4-pole, low-pass.	
Filter Frequencies:	10, 20, 25, 50, 100, 200, 250, 500, 1000, 2000, and 2500 Hz.	
Charge Mode	Accelerometer Type:	Piezoelectric.
	Input Sensitivity:	0.3 to 30.0 pC/g.
	Acceleration Ranges:	5, 10, 20, 50, 100, and 200 g full scale.
	3 dB Response:	0.4 Hz to filter maximum.
Voltage Mode	Measurement Accuracy:	±5% with nominal variations in temperature and frequency.
	Input Range:	±5 volts.
	Input Coupling:	AC or DC.
	3 dB AC Response:	0.4 Hz to filter maximum.
	3 dB DC Response:	DC to filter maximum.
	Measurement Accuracy:	±1% with nominal variations in temperature and frequency.

OPTIONAL EMBEDDED GPS

Antenna:	External with SMA connector and magnetic mount.
Data Acquisition:	GPS position recorded with every event.
Run Time:	100 hours of vehicle movement on lithium batteries. 50 hours of vehicle movement on alkaline batteries. GPS turns off when instrument is not moving.