

## KEY FEATURES

Low Noise

State-of-the-Art Accelerometer

Sensitivity & Offset Stable

## APPLICATIONS

Free Field Reference

Building Arrays

Structural Monitoring

Site Response

Aftershock Studies

**The Trimble® 147A-01/03 High Resolution Accelerometer is a triaxial force-balance accelerometer that converts acceleration signals into voltage signals to measure various low frequency and ultra-low frequency motion.**

The 147A-01/03 accelerometer uses a state-of-the-art force balance feedback technique to make up for the mechanical characteristic limitations of conventional accelerometers. This overcomes the shortcomings of nonlinear distortion and threshold of sensitivity of elastic measuring parts.

The advanced features of the 147A-01/03 accelerometer include high sensitivity, large linear range, high resolution, and high dynamic range.

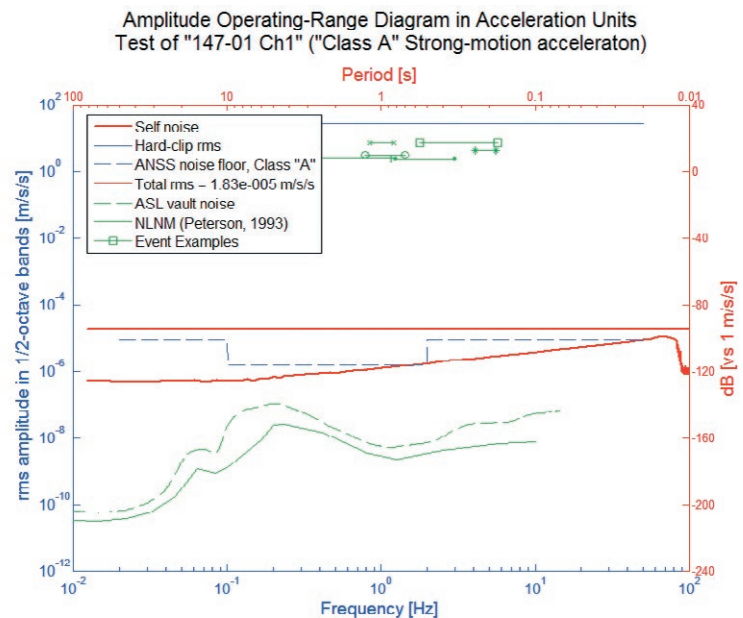
The 147A-01/03 accelerometer has DC response.

The 147A-01/03 Low Noise model is +/- 4g full scale and provides excellent dynamic range, which is useful when used with 24-bit digitizers like the 130-MC Multi-Channel Recorder and 130S Series Data loggers. High sensitivity, large linear range, high resolution, and high dynamic range make the 147A-01/03 model best suited for free field applications such as micro zonation, site response, earthquake monitoring, and more.

The 147A-01/03 housing is sealed to meet IP67 standards for watertight integrity. Mounting is accomplished with a single bolt, and 3 point leveling.



The chart below is a graphic presentation of the sensor amplitude operating range via the ANSS method.



## Mechanical

Dimensions . . . . . 4.9 W x 5.3 L x 3.85 H inches (12.5 x 13.5 x 9.8 cms)  
 Height without connector 3.25 inches (8.25 cms)  
 Weight . . . . . 4.4 lb (2 Kg)  
 Watertight Integrity . . . . . IP67  
 Shock . . . . . Survives a 1 meter drop on any axis

## Environmental

Operating Temperature . . . . . -4°F to 140°F (-20°C to 60°C)  
 Storage Temperature . . . . . -40°F to 185°F (-40°C to 85°C)  
 Humidity . . . . . 0 – 100% not-condensing

## Power

Average Power . . . . . <0.6W  
 Power Supply . . . . . +9 to +18 VDC

## Electrical

Full-scale Range . . . . . ±4g  
 Full-scale Output . . . . . ±10V differential, 20 VPP  
 Sensitivity . . . . . 2.5 V/g

## Performance

Self-Noise . . . . . <1 µm/s/s  
 Dynamic Range . . . . . >145 dB (DC to 2Hz)  
 Linearity . . . . . <0.1%  
 Frequency Response . . . . . DC – 100Hz  
 Damping . . . . . 0.7  
 Self-test Response . . . . . Logic level input will produce  
 consistent g level output  
 Lightning Protection . . . . . Built-in surge protection  
 Cross Axis Sensitivity . . . . . <1%  
 Hysteresis . . . . . <0.1% of full-scale  
 Thermal Drift . . . . . ≤600 µg/°C

## ORDERING INFORMATION

97499-00 : . . . . . 147A-01/03 : Accelerometer, Triaxial, Sealed,  
 Low Noise, Hi-Res  
 98082-00 : . . . . . Accelerometer Cable, 147A to 130 DAS, 33 ft (10m)  
 98082-50 : . . . . . Accelerometer Cable, 147A to 130 DAS, 50 ft (15m)  
 98082-100 : . . . . . Accelerometer Cable, 147A to 130 DAS, 100 ft (30m)  
 98082-150 : . . . . . Accelerometer Cable, 147A to 130 DAS, 150 ft (46m)  
 98082-200 : . . . . . Accelerometer Cable, 147A to 130 DAS, 200 ft (61m)  
 98082-250 : . . . . . Accelerometer Cable, 147A to 130 DAS, 250 ft (76m)

Specifications subject to change without notice

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