

V-Link®-LXRS®

High Cycle Vibration and Function Test

Overview

A specific application of interest required that the V-Link®-LXRS® survive 2.52×10^8 cycles in a 0-5G peak environment.

A V-Link®-LXRS® was installed on our shaker table with an external power source and precision signal generator connected to one of the analog inputs. The signal generator was configured to output 1.5 V zero-to-peak sinusoidal at 50Hz (Figure 1).

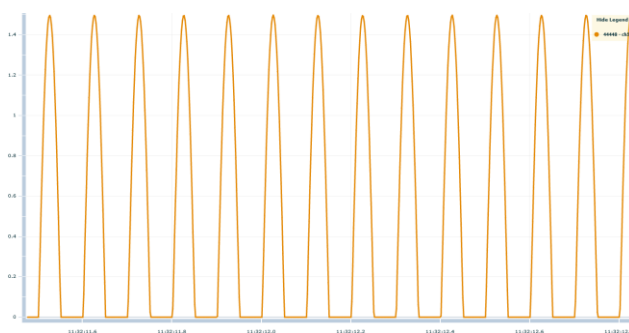


Figure 1: V-Link®-LXRS® Measured Analog Signal

The shaker table was configured to run a sine-on-random vibrations profile. From 10-1000 Hz, the vibrations energy was 0.001 G²/Hz random noise. A 10G peak sinusoidal input was inserted at 500Hz over the random noise. This profile, run for 140 hours continuous, equated to 2.52×10^8 cycles at twice the acceleration loading of the above application.

Results

The V-Link®-LXRS® test unit ran without failure until test completion. The V-Link®-LXRS® also underwent approximately 1.80×10^6 additional cycles during several test setup evolutions. There was no change in the measured signal during the duration of the test.

This particular test was accomplished with a LORD MicroStrain® standard [V-Link®-LXRS®](#) wireless analog input sensor node. Using a signal generator creating a sinusoidal input, amplitudes were measured with the V-Link®-LXRS® in converted input voltage.

Support

LORD MicroStrain® support engineers are always available to expand on this subject and support you in any way we can.