Welcome to Issue #88

Welcome to 2015! Each new year brings opportunities to better serve our customers, along with new ideas for business improvement. Here at The Modal Shop, we are dedicated to Total Customer Satisfaction and part of that is helping out in any way we can, including sharing our technical expertise. The objective of "Dynamic Sensors & Calibration Tips" is to give you ideas on how to test and calibrate more efficiently and help you lead your company toward even greater success. If you have questions you would like to have answered, or suggestions for topics you'd like to see covered, please contact me at **mike.lally@modalshop.com**.

Join Our Mailing List!

View our profile on LinkedIn

Follow us on twitter

Like us on Facebook

Tip of the Month: When Using An Optical Reference Standard...

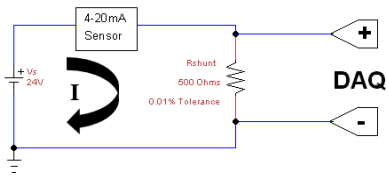
When using an optical low-frequency reference standard, it is essential that the body of the exciter does not move as a result of the recoil forces of the armature. It is therefore important to affix the shaker to a very sturdy structure, such as a concrete sub-floor.

Technical Exchanges

IMAC XXXIII
February 2-5, 2015
Orlando, FL

NCSLI Technical Exchange Half-Day Seminar
The Modal Shop, Inc.
8 am - 12 pm
February 12, 2015
Raleigh, NC

How to Calibrate Your 4-20mA Current Loop Vibration Sensors
By Bryan Butsch, Engineer

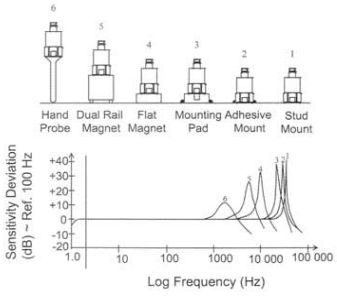


The operation of 4-20mA current loop vibration sensors is quite different from a typical ICP® or charge type of vibration transducer. ICP sensors operate with a DC constant current power source and a dynamic AC voltage output signal proportional to the motion applied to the sensor. In turn, 4-20mA current loop vibration sensors operate with a DC constant voltage source and produce a DC current proportional to the motion applied. Because of the differences in power and output signal type, as well as the output range of the 4-20mA current loop vibration sensor, additional considerations apply in order to properly calibrate these types of sensors...

Click to read full article.
modalshop.com/calibration.asp?ID=1033

The Science of Accelerometer and Sensor Mounting
By Patrick Timmons
Dynamic Calibration Systems Engineer

In this month's article, we will address a few points on mounting types, mounting techniques, and how these can affect calibration results. Although we are addressing the result as it pertains to calibration, the same mounting



Dynamic Sensors & Calibration Techniques Seminar
The Modal Shop, Inc.
10 am - 3 pm
March 3, 2015
Los Angeles/Torrance, CA

Dynamic Sensors & Calibration Techniques Seminar
The Modal Shop, Inc.
10 am - 3 pm
March 5, 2015
San Jose, CA

Measurement Science Conference
March 18-20, 2015
Anaheim, CA

Quick Links

PTB
NIST
ISO TC 108 - Mechanical vibration, shock and condition monitoring
ISO TC 108/SC 3 - Use and calibration of vibration and shock measuring instruments
ISO TC 108/SC 6 - Vibration and shock generating systems
SAVE (Formerly SAVIAC)
Vibration Institute
Equipment Reliability Institute (ERI)
TMS Video Channel
Learn More Calibration

Previous Newsletters

Dynamic Sensors & Calibration #87
How Do You Calibrate the Calibration System?;Eddy Current Probes Produce An Alarming Trend

Dynamic Sensors & Calibration #86
How Does Test Level Affect Sensitivity?; Calibrating Bently Nevada Velomitors with ICP Signal Conditioning

Select Newsletter Articles by Topic

Function and Structure of Accelerometers

Similarities Between Charge and ICP Operation

Selecting Accelerometers for Mechanical Shock

Master List of Topics (T.O.C.)

PCB Group Companies

The Modal Shop Systems & Service Website
PCB Piezotronics Sensor Website

phenomenon can also affect the results of accelerometer test data.

When mounting an accelerometer, there are several different options, each with their own pros and cons. In calibration, we typically stray towards the use of threaded studs or adhesives, but there are also flat magnetic, dual rail, hand probes, isolation bases and others. So why do we prefer to calibrate using stud mounting or adhesives?...

Click to read full article.
modalshop.com/calibration.asp?ID=1032

Blast from the Past: Measurement Considerations for Small Structures

Most dynamics people think of structural testing as the system vibration study of large structures like automobiles, aircraft or civil structures. However, the ever increasing push for smaller, lighter, and more powerful in the mobile electronics world (phones, disk drives, subnotebooks, etc.) creates a unique set of challenges for structural test engineers. First and foremost is often simply finding space to locate a response accelerometer! This article discusses a number of other specialized measurement considerations for ultra-small or ultra-light test structures...

Click to read full article.
modalshop.com/calibration.asp?ID=246

Thanks for joining us for another issue of "Dynamic Sensors & Calibration Tips". As always, please speak up and **let us know what you like**. We appreciate all feedback: positive, critical or otherwise. Take care!

Sincerely,

Michael J. Lally
The Modal Shop, Inc.
A PCB Group Company
mike.lally@modalshop.com

IMI Monitoring Website
Larson Davis Acoustics Website
PCB Load & Torque Website
SimuTech FEA Website
Accumetrics Website