sensor & calibration tips

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Greetings!

Welcome to issue #14-

If you are new to our newsletter, please enjoy this short communication, share it with a colleague and have a look at the archive links below where you'll find all the back issues with their wealth of information. We're glad to have you on board!

Join Our Mailing List!

Tip of the Month

Accelerometer Health

Measuring an ICP® sensor's bias voltage is a simple check of sensor operation that confirms the integrity of the transducer's electrical circuitry, which includes the sensing crystal. Just "T" the signal at the signal conditioner input into a scope or meter and measure the corresponding DC voltage. The result is typically in the 7 to 12 VDC range.

Quick Links

NCSL
IMEKO
NIST
PTB

NAPT
NIST uncertainty guideline
Wiki on uncertainty

The Modal Shop website
PCB Piezotronics website

Newsletter Archive

sensor & cal tips #11 - Mechanical Shock Accelerometer; More Uncertainty Contributors

sensor & cal tips #12 - Flight Test Accels; Random Uncertainty

Proficiency in Calibration

Throughout the past few months, we've discussed various contributors to the overall measurement uncertainty of a calibration system. At the end of the uncertainty analysis, it is desirable to test our conclustions to uncover potential errors or oversights and to also learn where improvements can be made. This brings us to the topic of proficiency testing. (Sometimes this is also called: round-robin testing or inter-laboratory comparison.)

Click to read more about proficiency in calibration
(http://www.modalshop.com/test_calibration.asp?ID=225)

Sensor Considerations in Automotive Modal Analysis for NVH

(Adapted from PCB Piezotronics article originally appearing in Automotive Testing Technology International, May 2008)

Classical and operating modal analysis are important tools for understanding and optimizing dynamic automotive structural behaviors, leading to stronger and safer automobiles; lighter construction yield; improved fuel consumption and performance, ride quality, handling, and NVH. From the measured vibration data and modal analysis, engineers are able to construct dynamic models of vehicles and substructures. The dynamic models predict resonant frequencies, damping values and deflection patterns for each mode of vibration. Frequency ranges of interest may be sub-one hertz to a few hertz in terms of ride handling and from 10 hertz to 500 hertz for full vehicle operating data and

sensor & cal tips #13 -
ESS Accelerometer considerations;
Relative motion in calibration

Archived sensor & cal tips - all the back issues

body-in-white modal tests.

Click to read more about sensor considerations
(http://www.modalshop.com/test_calibration.asp?ID=226)

We appreciate your interest and are glad to be providing you regular information to help with your dynamic testing and calibration needs. If you have any questions you would like answered or have a topic you would like to see covered, please contact us and we'll be glad to help out.

Sincerely,

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Forward email