



Greetings!

Welcome to Issue #64

With the new year comes resolution to do better, along with new ideas for business success. 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 Sensor & Calibration Tips* is to give you ideas on how to test and calibrate more efficiently and help lead your department toward more success. If you have questions you would like answered or suggestions for topics you'd like to see covered, please contact me at mike.lally@modalshop.com.

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Tip of the Month: What are TEDS Sensors?

What are TEDS sensors (aka SmartSensors)? How do they work? What are they good for? This [TEDS technical note](#) explains in plain simple terms what TEDS technology is all about and it applies to ICP® (IEPE) accelerometers.

Technical Exchanges

[NCSLI Technical Exchange](#)

February 6-7
Charlotte, NC

[FREE Technical Seminar on Accelerometer Calibration](#)

February 8
Charlotte, NC

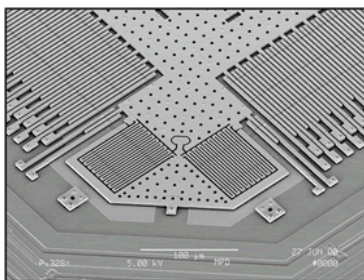
[IMAC XXXI Conference](#)

February 11-13
Garden Grove, CA

[FREE Dynamic Sensors & Calibration Technical Seminars](#)

February 14
Del Mar, CA

Accelerometer Calibration Simplified By Michael Lally



Recently, I read an article titled "Motion Sensors De-Mystified" which talks about the basics of MEMS accelerometers and rate sensors. The topic of simplification got me thinking about the perceived complexities of

accelerometer calibration, along with the mystery that goes with sending off your hardworking accelerometer to the "cal lab" for its "annual checkup." This month we'll cover a quick Q&A for the [top 5 calibration questions](#) we hear from customers...

[Click to read full article](#)

www.modalshop.com/calibration.asp?ID=801

Why Proper Mounting Is Essential to Calibration By Marco Peres

A calibration laboratory was having a hard time calibrating a particular accelerometer. The sensor's specification, according to the manufacturer's website, indicated a sensitivity value of 100 mV/g ($\pm 10\%$) and a frequency response up to 6500 Hz ($\pm 10\%$). The initial calibration results at the reference frequency (100 Hz) were good and a sensitivity value of 99.97mV/g was measured, really close to the sensor's nominal sensitivity. Surprisingly enough, [the sensor would repeatedly fail its frequency response calibration](#) as seen below...but why?

February 15
Torrance, 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 Vault](#)
- [Learn More Calibration](#)

Previous Newsletters

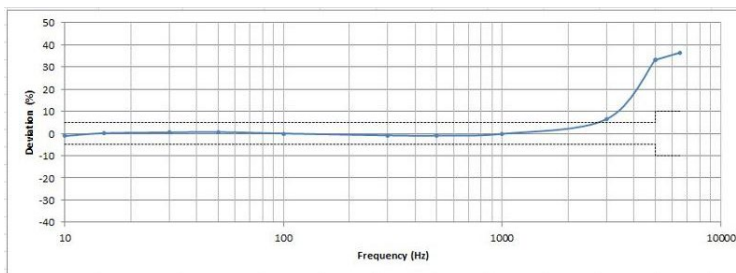
- [Dynamic Sensor & Calibration Tips #63](#) - Explaining Uncertainty; Video - Calibration Tutorial
- [Dynamic Sensor & Calibration Tips #62](#) - Temperature Effects in Calibration; Shock & Vibration Calibration of Accelerometers

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 website](#)
- [PCB Piezotronics website](#)
- [IMI website](#)
- [Larson Davis website](#)
- [PCB Load & Torque website](#)
- [SimuTech website](#)

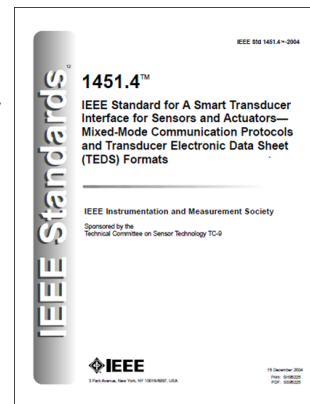


[Click to read more](#)

www.modalshop.com/calibration.asp?ID=800

Blast from the Past: Got Your TEDS On?

Have you ever... stared at your accelerometer (with its arcane model number neatly etched), only to wonder about the useful information like: What's the high or low frequency point? What's the exact sensitivity? Or when was this last calibrated? Without reflecting on sanity, you wish, "...if only this little guy could talk." Well, it turns out that now they can. Sensors with Transducer Electronic Data Sheet (TEDS) capability provide a standardized means for various types of sensors to "tell" the data acquisition system (or test personnel) their specifications on demand. At the International Modal Analysis Conference (IMAC) in Orlando this year, The Modal Shop's Structural Test Product group manager, Mr. Marco Peres, gave a talk about the history and current status of the TEDS in the dynamic sensor industry. While estimates of the number of TEDS accelerometers in service are approaching 200,000 units, there are many test professionals who are still learning...



[Click to read more](#)

www.modalshop.com/calibration.asp?ID=269

Thanks for joining us for another issue of Dynamic Sensor & 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,

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