

# sensor & calibration tips



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Your one-stop sound & vibration shop

## Greetings!

### Welcome to issue #16-

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!

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### Tip of the Month

#### Calibrating Industrial Accelerometers

In many cases, like trending of machine vibration, industrial accelerometers may only need to be amplitude verified at a single frequency point. For this simple single point calibration you should consider either a 1g hand held exciter like the PCB 699A02 or self contained single frequency source/reference/calibrator combinations like the TMS 9100C.

### Quick Links

[NCSL](#)  
[IMEKO](#)  
[NIST](#)  
[PTB](#)

[NAPT](#)  
[NIST uncertainty guideline](#)  
[Wiki on uncertainty](#)

[Industrial Vibration Sensors](#)  
[Vibration Institute](#)

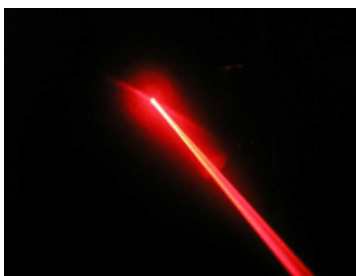
[The Modal Shop website](#)  
[PCB Piezotronics website](#)

### Newsletter Archive

[sensor & cal tips #12](#) - Flight Test Accels; Random Uncertainty

[sensor & cal tips #13](#) -

### New developments in accelerometer calibration



This month we'll take a break from discussing world of calibration standards and interpretation of calibration data... Here's a quick update on the latest developments in accelerometer calibration.

Considering that optical techniques are becoming more and more commonplace in the sensing industry, we have observed that they also provide some extraordinary benefits when used as references for accelerometer calibration. The Modal Shop and PCB have developed two new optical methods/systems: one for extending low frequency calibration capability... and another for further simplifying and expediting laser primary calibration.

[Click to read more about developments in accel calibration](http://www.modalshop.com/test_calibration.asp?ID=232)  
([http://www.modalshop.com/test\\_calibration.asp?ID=232](http://www.modalshop.com/test_calibration.asp?ID=232))

### Introduction to industrial accelerometers



The basics of acceleration sensing for the plant floor come from the same measurement/laboratory grade instruments we have been using for years. However, the packaging of industrial accelerometers

differs significantly from their laboratory style heritage. At the core of an industrial style accelerometer is still a piezoelectric crystal. Piezoelectric (PE) accelerometers have become the defacto standard for machinery and process vibration for a number of reasons...

[Click to read more about industrial accelerometers](http://www.modalshop.com/test_calibration.asp?ID=233)  
([http://www.modalshop.com/test\\_calibration.asp?ID=233](http://www.modalshop.com/test_calibration.asp?ID=233))

ESS Accelerometer considerations;  
Relative motion in calibration

[sensor & cal tips #14](#) -  
Proficiency in calibration; Sensor  
considerations for NVH

[sensor & cal tips #15](#) -  
Interpreting calibration results;  
Discharge time constant

[Archived sensor & cal tips](#) - all the back  
issues

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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