

# sensor & calibration tips



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## Welcome to issue #19-

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

#### Cable tips for small sensors

On extremely small ICP accelerometers consider using ultra fine 36 AWG wire for the signal cable to eliminate measurement error from cable forces. If available, consider the solder terminal connector option for the sensor to allow easy field repair when there is a failure of such fine gauge cable.

### 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 #15](#) -  
Interpreting calibration results;  
Discharge time constant

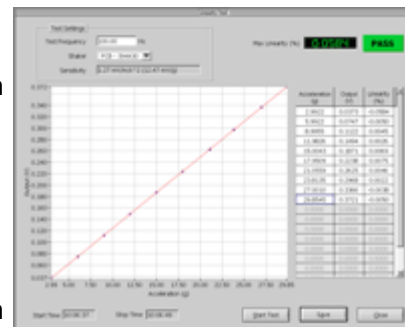
[sensor & cal tips #16](#) -  
New developments in accel cal;  
Introduction to industrial accels

[sensor & cal tips #17](#) -  
Improving your accel calibration

## Why is my 1G or 10G calibration good at 100+ G?

(article written by Bob Sill and Mike Lally)

Another common question I hear, "Is my accelerometer calibration valid for an acceleration level other than what I calibrated at?" The common reason for the question is that automated accelerometer calibration systems traditionally calibrate the various frequency choices at constant acceleration levels like 1G or 10G, yet users can be using the sensors in ranges of hundreds, thousands or tens of thousands of G's. The answer for most accelerometers is a definite yes, although it is useful to examine the definition of its full scale range...



[Click to read more about calibration linearity](http://www.modalshop.com/test_calibration.asp?ID=245)  
([http://www.modalshop.com/test\\_calibration.asp?ID=245](http://www.modalshop.com/test_calibration.asp?ID=245))

## Measurement considerations on 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...

reference measurement at low frequencies; ICP® options

[sensor & cal tips #18](#) - Why calibrate; Accelerometer selection considerations

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

[Click to read more about measurement considerations](http://www.modalshop.com/test_calibration.asp?ID=246)  
([http://www.modalshop.com/test\\_calibration.asp?ID=246](http://www.modalshop.com/test_calibration.asp?ID=246))

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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