

Welcome to Issue #75

Annyeong! ("Hello" in Korean.) This is the last "Dynamic Sensors & Calibration Tips" of 2013. It's been a great year here with much growth and many new team members. We hope it has been a great year for you as well. We are looking forward to bringing you more technical articles in 2014, so please [let us know what you want us to write about!](#) Send us any technical questions you have and we will get you answers from the experts at The Modal Shop and the metrology community. Have a great holiday season and we'll be back with you next year!

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Tip of the Month: What to Look for When Selecting a Pressure Actuator

Pressure sensors are most often calibrated over the amplitude range of the sensor (rather than the frequency range, as with accelerometers). For this reason, pressure calibration systems are typically selected by matching the full scale amplitude of the calibrator to the full scale amplitude of the sensors to be tested. After providing your list of pressure sensors to an application engineer, he or she will be able to recommend the best fit calibration system for you.

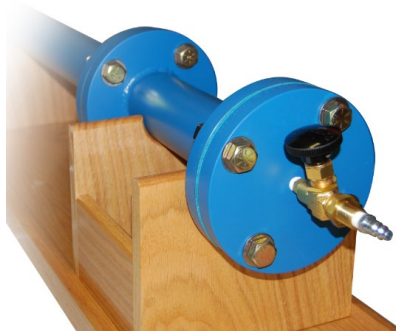
Technical Exchanges
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Accelerometers for Health & Usage Monitoring Systems
 By Ing. Carmine Salzano, Ph.D, International Aerospace & Defense Manager, PCB Piezotronics
 [Originally published at the 5th DSTO International Conference on Health & Usage Monitoring]

Health and Usage Monitoring Systems (HUMS) are gaining wide acceptance as an effective predictive maintenance strategy in helicopters and some fixed wing aircraft. Due to the large number of critical flight safety systems on aircraft, particularly rotating systems on helicopters, vibration monitoring technology is effective in the detection and prevention of catastrophic mechanical failures. HUMS started more than 15 years ago, as a safety system and has evolved into a front-line strategy for reduction of aircraft maintenance costs. The key benefits associated with HUMS systems include...

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Shock Tubes and Dynamic Pressure Characterization



K9901C Instrumented Shock Tube for Pressure Sensors

A number of national metrology institutes including NIST, LNE and NPL have added the capability to conduct research on dynamic pressure characterization via the well-known shock tube apparatus. For decades, PCB Piezotronics has operated this type of pressure actuator in-house for quick rise time, high-speed

pressure sensors like those used in gas turbines and

February 3-6
Orlando, FL

[Measurement Science Conference \(MSC\)](#)
March 10-14
Long Beach, CA

[SAE World Congress & Exhibition](#)
April 8-10
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[ISO TC 108/SC 3](#) - Use and calibration of vibration and shock measuring instruments
[ISO TC 108/SC 6](#) - Vibration and shock generating systems
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Load Cells: Overview & Design; World's Longest-Running Vibration Monitoring System

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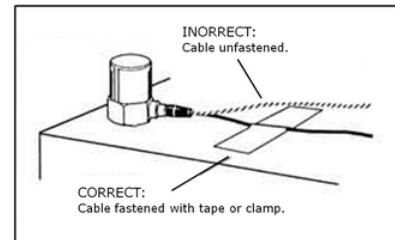
internal combustion engines. The shock tube pressure apparatus is especially useful in that it characterizes dynamic pressure sensors in both amplitude and frequency response. At the latest dynamic standards meeting in Seoul, Korea last month, the ISO/TC 108/SC 3 committee decided...

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modalshop.com/calibration.asp?ID=901

Blast From the Past: How Long Should An Accelerometer Cable Last ? By James F. Lally, Co-Founder of PCB Piezotronics

"How long should a cable last?" This is the question often asked by test engineers making vibration measurements. In the past, we've discussed the Trouble with Data Acquisition Cables. Length of life adds a new dimension to the conversation. So... should a cable last 2 minutes, 2 hours, 2 years or longer?



The answer: It depends a great deal upon proper care when installing the cable and the operating environment. As a test engineer, you may be able to come up with an estimated life expectancy based on your experience with defined measurement parameters, operating environment and installation procedures used in your specific application...

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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,



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