



9140 SERIES

PORTABLE VIBRATION CALIBRATION SYSTEM

- Battery-powered system is designed for travel in the field
- Portable Vibration Calibrator is packaged in rugged Pelican Storm Case™
- Users are fully trained on system operation in a few hours
- Bring the calibration lab onsite to your sensors

TYPICAL APPLICATIONS

- Accredited Calibrations in the Field or Lab
- Fulfill Internal Quality Requirements of Your Organization
- Immediate, On-Site Pre- and Post-Test Sensor Validation
- Sensor Calibration and Validation at Point of Installation

PORTABILITY, RELIABILITY, USABILITY

The Portable Vibration Calibration System 9140 Series brings the calibration laboratory onsite to your sensors. Calibrate vibration sensors with portability and automation, with confidence in the results, the future availability of the data, and the ability to withstand the scrutiny of ISO 17025 metrology requirements.

The 9140 Series combines two world class measurement platforms – the Portable Vibration Calibrator Model C9110D-T and the Precision Sensor Calibration Workstation Model 9155D. The Portable Vibration Calibrator offers ruggedness and reliability for vibration sensor calibration in some of the toughest testing environments. 9155D software delivers laboratory-style control, automation, and databasing of measurements.

Portable Vibration Calibration Systems enable travel from one site to another, keeping the test sensor in immediate proximity of the test article or monitoring location. Software automates the calibration process, performing a frequency or amplitude sweep with a mouse click. Test setups are stored in the 9155D Windows® software which directly controls the Calibrator. Likewise, test results transmit directly from Calibrator to PC. 9155D Software manages and recalls test and configuration data.

Systems in the 9140 Series have been designed to address the requirements for ISO 17025 accreditation for the user. This includes periodic system verification, documentation of test equipment, and of course the test sensor's test parameters, pass/fail criteria, and results.

| SYSTEM SPECIFICATIONS | |
|---|--|
| Sensor Types | Acceleration, Velocity |
| Sensor Operation Types | ICP (IEPE), Charge |
| Additional Sensor Operation Types | Voltage Output ^[1] , Differential Charge ^[1] , Piezoresistive ^[1] , Capacitive ^[1] |
| Frequency Range | 5 to 10 000 Hz ^[2] |
| Measurement Uncertainty (k < 2) at Reference Frequency 100 Hz | 1.5% ^[3] |
| Maximum Acceleration | 10 g pk |
| Test Types | Frequency Sweep, Amplitude Sweep ^[4] |
| Calibration Data Management | Microsoft Access® |
| Calibration Certificate Management | Microsoft Excel® |
| Measurement Units Supported | Metric, English |
| Standards Compliance | ISO 16063-21 (2003) |
| Max Frequency Points | 200 |
| Max Pass/Fail Criteria (per Axis) | 8 Total: 6 Frequency Response, 1 Sensitivity @ Reference Frequency, 1 Non-linearity |
| Reference Frequency | User Definable |

| SYSTEM CONFIGURATIONS | |
|-----------------------|---|
| K9140D10 | Complete kit of C9110D-T Portable Vibration Calibrator, Windows laptop PC with complete software configuration, verification sensor, 003C03 sensor cable, and specialized USB connection cable. |
| K9140D | Includes C9110D-T Portable Vibration Calibrator, 9100-USB00 USB Cable, verification sensor with cable, and software. Customer installs software on customer supplied Windows PC. |
| K9140-SW | 9155D Calibration Software and specialized USB connection cable. Requires customer's Windows PC paired with a 9110D, C9110D, or C9110D-T Portable Vibration Calibrator. ^[5] |
| 9100-USB00 | Spare USB connection cable ^[6] |

- [1] Signal conditioning for these Sensor Operation Types are not included. However, they are supported in software.
- [2] With 100 gram payload.
- [3] See K9140D10 specification sheet (PS-0175) for full uncertainty matrix.
- [4] Linearity
- [5] PVC requires firmware 7.0 or higher for compatibility.
- [6] **Warning:** Always use TMS 9100-USB00 USB cable. Other USB-A to USB-A cables may be available from retail or online sources, but these cables may present significant risk of damage to the USB port on either the PC or PVC.



The Portable Vibration Calibrator Model C9110D-T was designed for use in energy, industrial, and military depot calibration environments. As the heart of the 9140 Series, the C9110D-T is a reliable and precision device proven to serve as a work horse in any vibration calibration program.

The Precision Sensor Calibration Workstation Model 9155D software benefits from decades of metrology lab and production line use and innovation. Acquire data, determine results, document entire tests, save/recall data, and generate reports required for accredited calibration services with software used by laboratories around the globe. With 9155D software, you don't have to worry about your data quality or accessibility.

