

# CENTROTECNICA

*stress to ensure*

*Exclusive procedure developed by Centrotecnica to measure the sensitivity deviations of the sensitivity of accelerometers as a function of operating temperature.*

## ACCELEROMETERS CALIBRATION ACCORDING TO TEMPERATURE

ACCREDITED  
LABORATORY

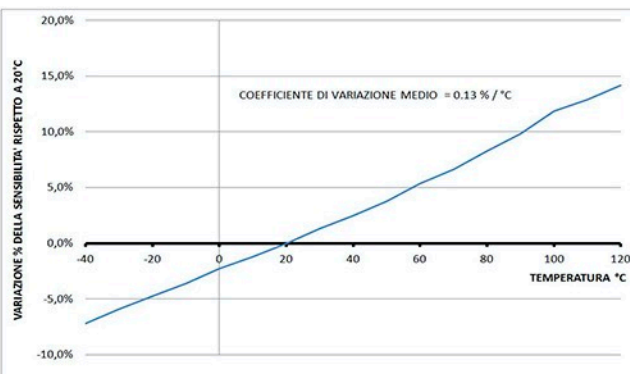


LAT N° 111



Vibration profiles  
for calibration:  
9.81 m/s<sup>2</sup> at 80 or 160 Hz

Temperature range:  
da -40 °C a +140 °C



| Temperatura °C | Freq Hz | Sensibilità mV/(m/s <sup>2</sup> ) | Incert |
|----------------|---------|------------------------------------|--------|
| -40            | 80      | 9.72                               | ±3%    |
| -30            | 80      | 9.85                               | ±3%    |
| -20            | 80      | 9.97                               | ±3%    |
| -10            | 80      | 10.09                              | ±3%    |
| 0              | 80      | 10.23                              | ±3%    |
| 10             | 80      | 10.34                              | ±3%    |
| 20             | 80      | 10.47                              | ±3%    |
| 30             | 80      | 10.61                              | ±3%    |
| 40             | 80      | 10.73                              | ±3%    |
| 50             | 80      | 10.87                              | ±3%    |
| 60             | 80      | 11.03                              | ±3%    |
| 70             | 80      | 11.17                              | ±3%    |
| 80             | 80      | 11.34                              | ±3%    |
| 90             | 80      | 11.50                              | ±3%    |
| 100            | 80      | 11.71                              | ±3%    |
| 110            | 80      | 11.82                              | ±3%    |
| 120            | 80      | 11.95                              | ±3%    |

**CENTROTECNICA** has dedicated two years to the development of an exclusive system that allows to vary the temperature during the calibration of the accelerometer. The results obtained are allowing to study and understand the behavior of the of accelerometers subjected to work during climatic cycles with temperature variations.

The purpose of this service is to know the real sensitivity of the accelerometers as a function of their operational temperature.

This information is often not even available to accelerometer manufacturers, yet **over a temperature range of -40°C to +140°C it is not uncommon to find sensitivity deviations in the order of tens of percentage points.**

There are many reasons to know the actual temperature sensitivity data, among the main ones:

- Avoid using an accelerometer that is unreliable based on expected climatic conditions and thus subjecting a sample to a substantially different test than the one planned.
- Avoid overstressing a specimen during testing caused by decreasing accelerometer sensitivity as temperature decreases.

This service is intended for laboratories that perform combined vibration + temperature testing.

**For info or RFQs, pls contact us at: [info@ctecnica.it](mailto:info@ctecnica.it) - phone: +39(0)255305888**