

Calibration, accelerometer, earth gravitation, 502.01

Main Characteristics

- Vibration transducer calibration from 0.1 Hz to 5 Hz
- Calibration of most vibration transducer :
 - piezoelectric charge accelerometer
 - ICP piezoelectric accelerometer
 - piezovelocimeter
 - capacitive accelerometer
 - piezoresistive accelerometer

Introduction

The VibraSens PC based automated low frequency accelerometer system provides calibration between 0.1Hz and 5 Hz by earth's gravitation. It consists of a specifically design testing machine, a PC and a 12 bit two channels 200 kS/s data acquisition card. Its operational software is based on National Instrument Labview.

Description

The accelerometer is continuously rotated and is subjected to a sinusoidally varying earth's gravitation acceleration. A proximito extract the speed signal. The software calculates after filtering the RMS output of the accelerometer which is divided by the earth acceleration.

Filtering technique

Filtering technique is important as the signal is low between 0.1Hz and 0.5Hz. We have used the speed signal from the proximito to design a tracking filter that enable us to get a clean signal from the accelerometer.

Data Storage and output

The system automatically generates a report of the test. The user can then print or saved it in Acrobat PDF format.

Ordering information

To order, specify part number :

502.01 Calibration, accelerometer, earth gravitation



Specifications

Principle

Calibration by earth's gravitation

Electrical Input

type

Charge for piezoelectric transducers (single ended or differential)
 Voltage with constant current supply (ICP type)
 Current input with constant voltage supply
 Voltage for velocity transducer (velocity coil)
 Voltage for piezoresistive or capacitive accelerometer

Frequency range

Accelerometers 0.1Hz to 5Hz
 Velocimeters : 0.1Hz to 5Hz

Max transducer weight

..... 500 g

Accuracy

Absolute errors are as follows :

0.10Hz-5Hz 5 %