



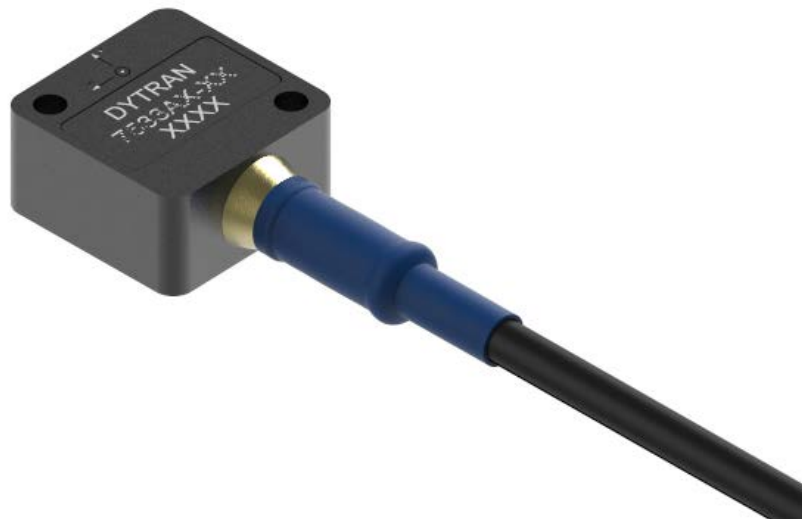
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OG7533A
REV A, ECN 10098, 07/11/13
REV B, ECN 12745, 06/08/16

OPERATING GUIDE

SERIES 7533A

TRIAxIAL DC ACCELEROMETER



SUPPLEMENTAL OPERATING GUIDE SERIES 7533A ACCELEROMETER

INTRODUCTION

Dytran 7533A series is simple and extremely affordable solution for your measurement needs. 7533A series does not require any special equipment to start taking data, it comes ready for operation. Wide range of ranges and sensitivities is available to suit different needs.

OPERATION

Series 7533A accelerometer modules produce an analog voltage output which varies with acceleration. The sensitive axis is designated on the housing, with positive acceleration defined as a force pushing on the respective side of the package. The signal output rides on top of a common mode voltage of approximately 1.5 volts. At zero acceleration the output voltage is nominally 1.5 volts DC; at \pm full scale acceleration the output voltage varies with each model.

CABLE LENGTH CONSIDERATIONS

7533A series comes with an integral 80 inch cable length. Extension to this cable length can be used, but one must verify that the voltage supply provides enough voltage so it assures fixed **4 volts** minimum at the beginning of the integrated cable. Any cable modifications will void the calibration certificate. Sensor must be calibrated with the final cable configuration.

Cable lengths of up to 15 meters (50 feet) can be used with the 7533A accelerometer. For lengths longer than 15 meters, we recommend you check each individual installation for oscillation by tapping the accelerometer and watching the differential output for oscillation in the 20kHz to 50kHz region. If no oscillation is present, then the cable length being used is acceptable. From the standpoint of output current drive and slew rate limitations, the 7533A series is capable of driving over 600 meters (2000 feet) of its cable type but at some length between 15 and 600 meters, each device will likely begin to exhibit oscillation.

SELF-TEST FEATURE

The accelerometers of this family feature the self-test regime. Refer to 127-7533A drawing in order to find the self-test wire. Subjecting this wire to the constant 3.3VDC (± 0.2 VDC) potential will create an electrostatic field inside of the sensing element of the sensor and will provoke an artificial constant output. The actual value of the artificial output may vary from sensor to sensor. The presence of any output designates an operational unit.

After the potential is removed from the self-test wire, the output will go to zero. During a measurement the self-test wire can be either grounded or left open.

INSTALLATION

This accelerometer is designed to be mounted using two M2 mounting screws, model 6675, provided with each accelerometer.

Select a smooth surface area at least $3/4$ in² and clean off all oil, debris and any contaminants or foreign matter that would preclude good contact between mating surfaces. This is important for best frequency response.

Drill and tap two M2x0.4 mounting ports on prepared surface in accordance with instructions on drawing 127-7533A, provided.

The selected (or prepared) mounting area should be flat to within .001 in TIR for best frequency response.

MAINTENANCE AND REPAIR

Should you experience a problem with your system, contact the Dytran factory for technical assistance in analyzing and trouble shooting the problem. If the product must be returned for evaluation and/or repair, you will be given an RMA (returned materials authorization) number and instructions for returning the instrument to the factory. Do not return the instrument without first obtaining this authorization to return.