DYTRAN 5340 USB TRIAXIAL ACCELEROMETER

The Dytran 5340 is a USB powered, DC triaxial vibration monitoring system designed for quick and easy field data collection.

The VibraScout™ Vibration Measurement System consists of a USB triaxial DC response accelerometer, 15-foot 4-pin to USB cable assembly, VibraScout Data Acquisition Software, and VibraScout Windows compatible Post Processor Software on CD (no license required). In addition to the vibration measurement system, the only required hardware is a personal computer and a USB port.

The Dytran model 5340 accelerometer features power from a PC bus, and as a result no additional external power supply is required. The software package supplied with each system allows for real time, three directional acceleration acquisition (including Static Inclination) along with real-time temperature monitoring. The standard USB protocol handles all the sensor communications with the PC and provides the following information: storage of acceleration and temperature information; real-time scrolling plots of acceleration data with display of min, max and mean; real-time logging of data to delimited file for importing into Excel; both auto and smart triggering modes; digital filters to improve signal/noise ratio; real-time data compression to Fast Fourier Transform (FFT); and many more.

Offered with a ±16g full scale range, the variable capacitance (VC) accelerometer combines an integrated VC chip in a hermetically sealed titanium housing weighing 17 grams, and is offered with a low-end frequency response down to DC (0 Hz) and an upper frequency range of 1,100 Hz. Units are rugged to 10,000g shock and operate from +3.8 to +6.0 VDC power.

The VibraScout™ Post Processor software is designed to provide a user with the tools to apply non-linear interpolation to resample raw data that is recorded with VibraScout™ software at higher frequencies to improve signal resolution. Data is valid up to 1.1 kHz after applying post processing. This mathematical interpolation is performed using the Whittaker-Shannon interpolation technique to reproduce the recorded real signals with proper amplitude.

Features of the VibraScout™ Post Processor software include: plot recorded data from the software; zoom and select a specific timeframe of recorded data for post processing; reproduce interpolated oversampled data to provide better resolution of vibration signals; multiple file types to export to including ASCII, time history .JPG files, TDMS binary files of time history data readable in Microsoft Excel, PSD and FFT plots in Joint Photographic file format; and display of recorded average temperature.

The VibraScout™ USB Vibration Measurement System was designed for a variety of low-to-medium frequency vibration applications where portability is critical including quick, easy in-field data collection; Noise, Vibration and Harshness (NVH); static angular measurements; ride quality; and vibration measurement and diagnosis of rotating machinery.

An Application Programming Interface (API) is available for customers who would like to build custom applications for the VibraScout. The API provides support for any .NET-compatible client applications. Custom application development is also available. Please contact Dytran directly for further information.

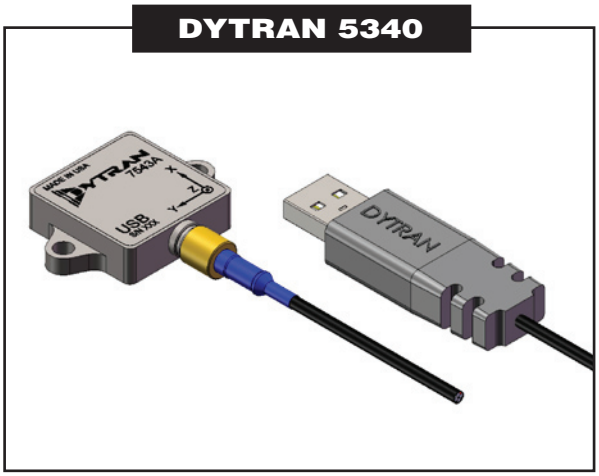
DEVICE FEATURES:

- **USB/MEMS Technology**
- **Embedded Microcontroller**
- **Hermetically Sealed**
- **DC Response**
- **Post Processor Included to Extend Frequency Response**
- **Temperature sensor**
- **Real-time acquisition and USB transfer of acceleration (including Static Inclination) and temperature data**
- **Built-in firmware handles USB communication and provides a number of unique STORAGE features**
- **Fast, efficient and cost effective**

SOFTWARE FEATURES:

- **Real-time scrolling plots of acceleration data with display of min, max, mean**
- **Plot features: zoom and pan, display of individual sample values, save to image file, printing**
- **Real-time display of X and Y axis inclination angles and temperature**
- **Real-time logging of data to delimited file for importing into spreadsheet**
- **Both auto and smart triggering modes**
- **Fast Fourier Transform Plots of all orthogonal channels**
- **API available as .NET dll**

DYTRAN 5340



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SPECIFICATIONS

PHYSICAL

WEIGHT, MAX	0.6 oz
CONNECTOR [2]	1/4-28 UNF
MATERIAL	Ti-6AI-4V

PERFORMANCE

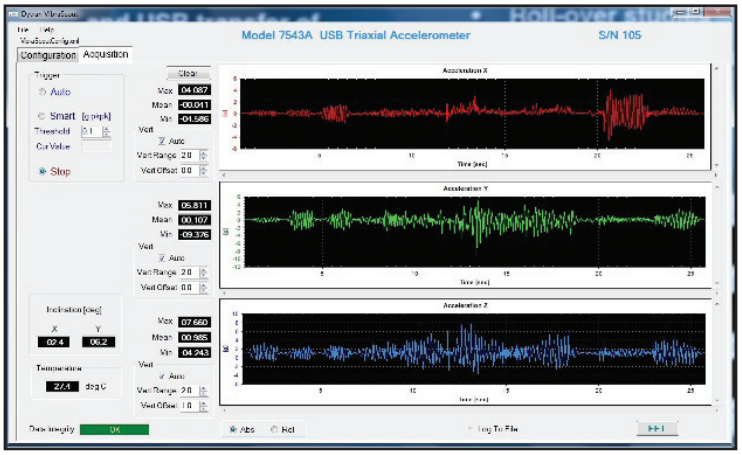
INPUT RANGE	±16 g
FREQUENCY RESPONSE	
±10%	0-500 Hz
(3dB), Nominal [3]	0-1100 Hz
FREQ. TOLL. OVER TEMP (0.5 DEG. C/MIN)	0.50%
OUTPUT NOISE, DIFFERENTIAL, TYPICAL	X,Y = 290; Z = 430 µ g rms/√ Hz
NON-LINEARITY, TYPICAL	0.5 % F.S.
CROSS AXIS SENSITIVITY, TYPICAL	1%

ENVIRONMENTAL

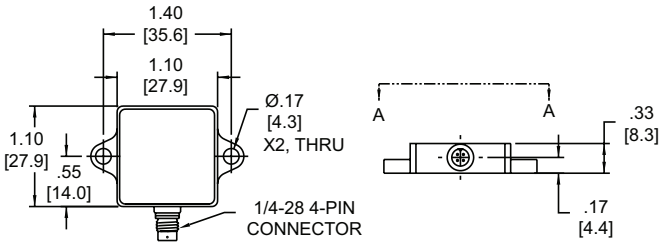
MAXIMUM MECHANICAL SHOCK	±10000 gpk
OPERATING TEMP. RANGE	-40 to +185 °F
SCALE FACTOR TEMP. SHIFT [1]	-56 to +56 ppm/°F
SEAL	Hermetic

ELECTRICAL

OPERATING VOLTAGE	3.8 to 6.0 VDC
POWER SUPPLY REJECTION RATIO, TYPICAL	44 dB



VibraScout Post Processor Software



VIEW A-A