

PROPRIETARY AND CONFIDENTIAL

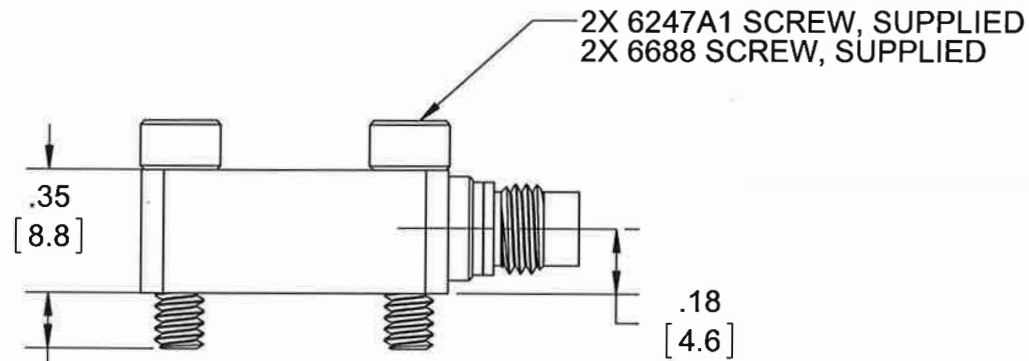
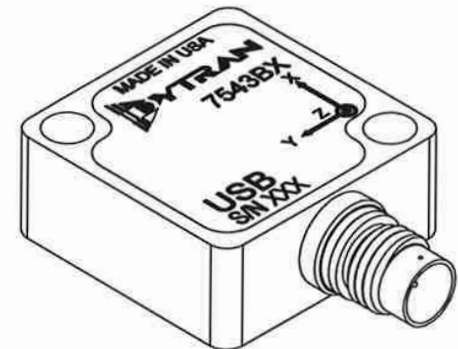
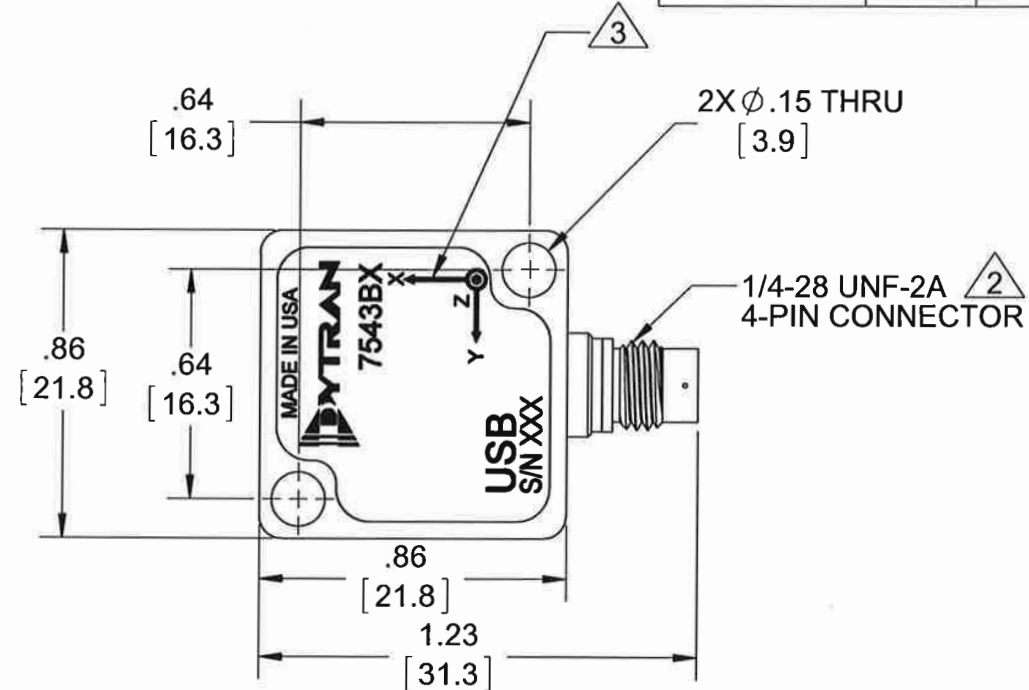
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MODEL	REV	ECN	DATE	RANGE
7543B1	A	10816	01/15/14	16G
7543B2	A	10816	01/15/14	200G

DWG NO 127-7543B SH 1 REV A

REVISIONS

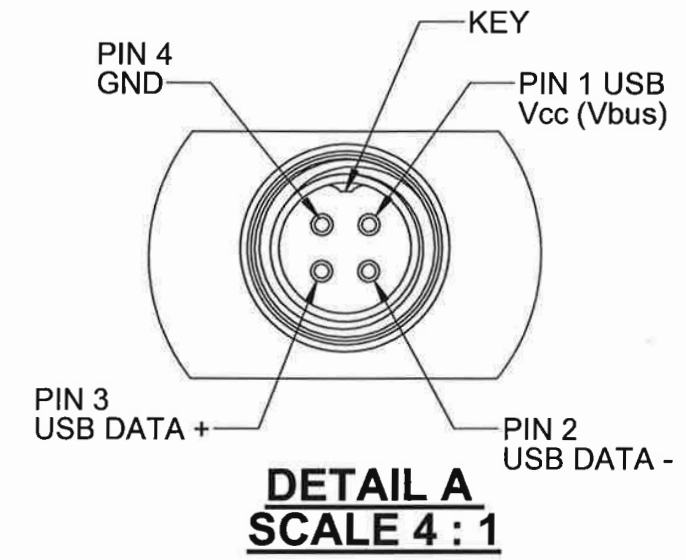
REV.	ECN	DESCRIPTION	BY/DATE	CHK	APPR
A	10816	INITIAL RELEASE	RA, 07/23/14	EM	[Signature]



2X 6247A1 SCREW, SUPPLIED  
2X 6688 SCREW, SUPPLIED

2X 6247A1 MOUNTING 6-32 X .25 MIN DEEP  
OR  
2X 6688 MOUNTING M3X 0.5 X .25 MIN DEEP

ENSURE SURFACE FLATNESS BETTER THAN .001 TIR MOUNTING TORQUE: 6-8 Lb-in



- 3 ARROW INDICATES DIRECTION OF ACCELERATION FOR POSITIVE OUTPUT.
- 2 MATES WITH DYTRAN CABLE P/N 6330AXX.

1. WEIGHT: 13 GRAMS, MAX

NOTES: UNLESS OTHERWISE SPECIFIED

<p>UNLESS OTHERWISE SPECIFIED: INTERPRET DIM &amp; TOL PER ASME Y14.5M - 1994. REMOVE BURRS. COUNTERSINK INTERNAL THDS 90° TO MAJOR DIA. CHAM EXT THDS 45° TO MINOR DIA. THD LENGTHS AND DEPTHS ARE FOR MIN FULL THDS. DIMENSIONS APPLY AFTER FINISHING.</p> <p>ALL MACHINED SURFACES: <sup>63</sup>✓ TOTAL RUNOUT WITHIN .005. BREAK SHARP EDGES .005 TO .010. MACHINED FILLET RADII .005 TO .015. WELDING SYMBOLS PER AWS A2.4. ABBREVIATIONS PER MIL-STD-12.</p>	<p>UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES DIMENSIONS IN BRACKETS [ ] ARE IN MILLIMETERS TOLERANCES ARE:</p>		<p><b>DYTRAN INSTRUMENTS, INC.</b> Chatsworth, CA</p> <p><b>MASTER ONLY IF IN RED</b></p>		
	<p>DECIMALS .XX ±.03 .XXX ±.010</p>	<p>METRIC .X ±0.8 .XX ±0.25</p>			<p>ANGLES ±1°</p>
	<p>APPROVALS</p>		<p>DATE</p>		<p>TITLE: <b>OUTLINE/INSTALLATION DRAWING, TRIAXIAL USB, 7543B SERIES</b></p>
	<p>ORIG RA</p>	<p>DATE 1/13/14</p>	<p>CHK EM</p>	<p>DATE 7/23/14</p>	
<p>APP [Signature]</p>	<p>DATE 7/31/14</p>	<p>THIRD ANGLE PROJECTION USA</p>	<p>SCALE: 2:1</p>		
<p>DO NOT SCALE DRAWING</p>		<p>SIZE B</p>	<p>CAGE CODE 2W033</p>	<p>DWG NO 127-7543B</p>	<p>REV A</p>
				<p>SCALE: 2:1</p>	<p>SHEET 1 OF 1</p>

172-0186 REV A

Model Number  
7543B1

**PERFORMANCE SPECIFICATION**

DOC NO  
PS7543B1

**USB TRIAXIAL ACCELEROMETER**

REV A, ECN 10816, 07/23/14



- USB/MEMS TECHNOLOGY
- EMBEDDED MICROCONTROLLER
- HERMETICALLY SEALED
- DC RESPONSE

**Device Features:**

Dytran model 7543B1 is a unique and innovative solution for fast and cost effective data acquisition. The only addition that is required is a personal computer and it is ready to take data. Model 7543B1 is USB powered, so no additional external power supply is required. The software package supplied with each sensor allows for real time, three directional acceleration acquisition along with temperature data and inclination data. The standard USB protocol handles all the sensor communications with the PC and provides the following information: storage of the acceleration and temperature information, storage of X & Y inclination data, real-time scrolling plots of acceleration data with display of min, max, mean, real-time logging of data to delimited file for importing into spreadsheet, both auto and smart triggering modes, digital filters to improve signal/noise ratio, real-time data compression to FFT, and many more.

**This family also includes:**

Model	Input Range (g)	Frequency response (Hz)	Non-Linearity (%F.S)	Max Shock	Noise Differential ( $\mu\text{g}/\text{Hz}$ )
7543B2	200	1,100	0.5	10000	5375

Refer to the performance specifications of the products in this family for detailed description.

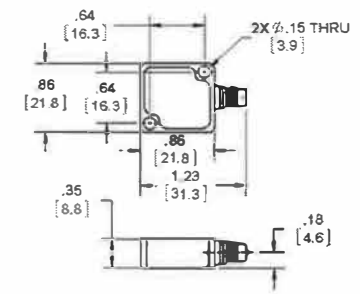
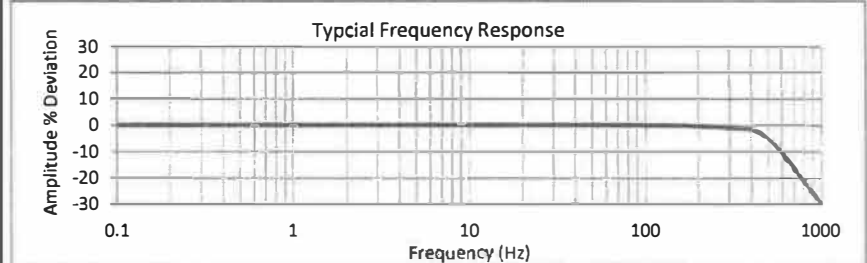
**Supplied Accessories:**

- 1) Accredited calibration certificate (ISO 17025)
- 2) Mounting screw model 6247 (English), qty 2 and 6688 (Metric), qty2

**Notes:**

- [1] Over the rated Temperature Ramp Rate .
- [2] Mates with Dytran cable assembly 6330AXX ("XX = Length in FT)
- [3] Accelerometer bandwidth is 1.1KHz.
- [4] In the interest of constant product improvement, we reserve the right to change specifications without notice.
- [5] DC cal with respect to Earth G field, AC cal Measured at 100Hz 1Grms per ISA RP 37.2
- [6] Minimum computer requirements: RAM:1GB, HDD:40GB, Win XP-8 (32/64bit), USB2.0

	ENGLISH		SI	
<b>PHYSICAL</b>				
Weight, Max	0.5	oz	13	grams
Connector [2]	1/4-28UNF		1/4-28UNF	
Material	Ti-6Al-4V		Ti-6Al-4V	
<b>PERFORMANCE</b>				
Input Range	16	g	$\pm 157$	$\text{m/s}^2$
Frequency Response, +/- 10%	0 - 500		0 - 500	
Frequency Response (3dB), Nominal [3]	0 - 1100	Hz	0 - 1100	Hz
Freq. Tol. Over Temp (0.5 Deg C/min)	0.50	%	0.50	%
Output Noise, Typical	x,y = 3.6; z = 5.4	mg rms/ $\sqrt{\text{Hz}}$	x,y = 36; z = 53	$\text{mm/s}^2/\sqrt{\text{Hz}}$
Non-Linearity, Typical	0.5	% F.S	0.5	% F.S
Cross Axis Sensitivity, Typical	1	%	1	%
<b>ENVIRONMENTAL</b>				
Maximum Mechanical Shock	$\pm 10000$	gpk	$\pm 98100$	$\text{m/s}^2$ peak
Operating Temperature Range	-40 to +185	$^{\circ}\text{F}$	-40 to +85	$^{\circ}\text{C}$
Scale Factor Temperature Shift [1]	-56 to +56	ppm/ $^{\circ}\text{F}$	-100 to +100	ppm/ $^{\circ}\text{C}$
Seal	Hermetic		Hermetic	
<b>ELECTRICAL</b>				
Operating Voltage	3.8 to 6.0	VDC	3.8 to 6.0	VDC
Power Supply Rejection Ratio, Typical	44	dB	44	dB



Units on the line drawing are in inches. Refer to 127-7543B for more information.



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