

5. MINOR VOIDS, SCARS, SCRATCHES AND MOUNTING BLEMISH/WITNESS MARKS ON EXTERIOR SURFACES ARE ALLOWED DUE TO RESTRAINING AND HANDLING DURING TESTING, TRANSPORT OR PROCESSING. THESE APPEAR AS INDICATORS THAT DO NOT AFFECT FORM, FIT OR FUNCTION AS INTENDED BY DESIGN OR APPLICATION

4 MARKING DENOTES LOCATION OF SENSING ELEMENT'S CENTER OF MASS

3 SEE SHEET 2 TABLE FOR CABLE SPECIFICATIONS.

2. MATERIAL: TITANIUM ALLOY. WEIGHT: 45 GRAMS MAX, LESS CABLE.

1 PART NUMBER 7613AX-XX. "XX" DENOTES LENGTH IN FEET. SEE TABLE FOR LENGTH TOLERANCE

NOTES: UNLESS OTHERWISE SPECIFIED

UNLESS OTHERWISE SPECIFIED:  
INTERPRET DIM & 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.

ALL MACHINED SURFACES.  
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.

UNLESS OTHERWISE SPECIFIED:  
DIMENSIONS IN BRACKETS [ ] ARE IN  
MILLIMETERS TOLERANCES ARE:

DECIMALS	METRIC	ANGLES
.XX ±.03	.X ± 0.8	±1°
.XXX ±.010	.XX ±0.25	

APPROVALS		DATE
ORIG	LN	09/13/17
CHK	LN	8/1/18
APP	AS	8/14/19

DO NOT SCALE DRAWING

THIRD ANGLE PROJECTION  
USA

**DYTRAN**  
INSTRUMENTS, INC.  
Chatsworth, CA

**MASTER**  
ONLY IN RED

TITLE: **OUTLINE/INSTALLATION DWG,  
TRIAxIAL DC ACCELEROMETER,  
7613AX-XX SERIES**

SIZE <b>B</b>	CAGE CODE <b>2W033</b>	DWG NO <b>127-7613AX-XX</b>	REV <b>A</b>
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SCALE: 3:2

SHEET 1 OF 2

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3 12 CONDUCTOR CABLE

WIRE TYPE	EXTRUDED FEP INSULATION .006 WALL THICKNESS
TEMPERATURE	200°C
VOLTAGE	600 VOLTS
WIRE DIAMETER	.032 NOMINAL
SHIELD	38 AWG SILVER PLATED COPPER BRAIDED 95% COVERAGE 7E-16C36F/30B
JACKET	EXTRUDED WHITE FEP .010 WALL THICKNESS
CABLE DIA.	Ø .171, NOM
12 CONDUCTOR AWG	26-7/34 SILVER PLATED COPPER

2X FLAT WASHERS,  
MODEL 6754, SUPPLIED

2X MOUNTING SCREW, MODEL 69034A16 (8-32 x 1.0), SUPPLIED  
2X MOUNTING SCREW, MODEL 6687A1 (M4x0.7 X 25mm), SUPPLIED

RECOMMENDED MOUNTING PREPARATION:  
PREPARE FLAT MOUNTING SURFACE EQUAL TO OR BETTER THAN  
.001 TIR. TAP 8-32 UNRC-3B .200 MIN. (OR 2X M4 X 0.7-6g .20 [5.1] MIN.)  
RECOMMENDED TORQUE 10-12 LB-IN. (1.12-1.35 N-m).

DYTRAN  
7613AX-XX  
S/N XXXX

z  
y  
x

(2X .16  
[3.9])

1/4-28 UNF-2B

(1/4-28 UNF-2A)

(M6 X 1)

MOUNTING STUD, MODEL 6360,  
1/4-28 TO 1/4-28, SUPPLIED

STUD, MODEL 6691,  
1/4-28 UNF-2A TO M6 X 1, SUPPLIED

RECOMMENDED MOUNTING PREPARATION: MODEL 6360  
PREPARE MOUNTING SURFACE, Ø 1.25 [31.2] MIN, FLAT TO .001 TIR.  
TAP 1/4-28 UNF-2B ∇ .200 [5.1] MIN. TORQUE TO 12-15 Lb-in.

RECOMMENDED MOUNTING PREPARATION: MODEL 6691  
PREPARE MOUNTING SURFACE, Ø 1.25 [31.2] MIN, FLAT TO  
.001 TIR. TAP M6 X 1 ∇ .200 [5.1] MIN. TORQUE TO 12-15 Lb-in.



TITLE:  
OUTLINE/INSTALLATION DWG,  
TRIAxIAL DC ACCELEROMETER,  
7613AX-XX SERIES

SIZE B	CAGE CODE 2W033	DWG NO 127-7613AX-XX	REV A
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SCALE: 2:1 SHEET 2 OF 2

Model Number 7613A4-XX	PERFORMANCE SPECIFICATION			DOC NO PS7613A4-XX
		TRIAXIAL VARIABLE CAPACITANCE ACCELEROMETER		REV B, ECN 14672, 11/30/18



- VARIABLE CAPACITANCE TECHNOLOGY
- DIFFERENTIAL MODE
- HERMETICALLY SEALED
- DC RESPONSE

ENGLISH	SI
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## PHYSICAL

Weight, Max (Less Cable)

Integral Cable [1]

Material

## Sensing Technology

1.6	oz	45	grams
Flying leads		Flying leads	
Titanium Alloy		Titanium Alloy	
MEMS		MEMS	

## PERFORMANCE

Input Range

Frequency Response, (±5%)  
(±3dB)

Resonant Frequency

Sensitivity Differential,  $\pm 5\%$  [2]

Output Noise, Differential ,Typ  
Non-Linearity, Max [2]

Cross Axis Sensitivity, Max

±25	g	±245.3	m/s <sup>2</sup>
0 - 500	Hz	0 - 500	Hz
0 - 1400	Hz	0 - 1400	Hz
>3000	Hz	>3000	Hz
20	mV/g	2	mV/m/s <sup>2</sup>
25	μg rms/√ Hz	245	μm/s <sup>2</sup> /√ Hz
0.5	% F.S	0.5	% F.S
3	%	3	%

## ENVIRONMENTAL

Maximum Mechanical Shock (0.1 ms)

Bias Temperature Shift ,Max [4]

Bias Calibration Error, Max

Operating Temperature Range

Seal

±5000	gpk	±49050	m/s <sup>2</sup> peak
111	(ppm of span)/°F	200	(ppm of span)/°C
4	% of span	4	% of span
-67 to +257	°F	-55 to +125	°C
Hermetic		Hermetic	

## ELECTRICAL

Output Common Mode Voltage, Typ

Output Impedance,Nom

Operating Voltage

Operating Current, Max. (Each Axis)

## Power Supply Rejection Ratio

2.5	VDC	2.5	VDC
1225	$\Omega$	1225	$\Omega$
$\pm 3$ to $\pm 11$	VDC	$\pm 3$ to $\pm 11$	VDC
13	mA DC	13	mA DC
>65	dB	>65	dB

**This family also includes:**

Model	Input Range (g)	Frequency Response (Hz) +/-3dB	Sensitivity Differential, ±5% (mV/g)	Max.Shock (0.1ms)	Noise Differential (µg/√Hz)
7613A1-XX	±2	0-400	250	2000	7
7613A2-XX	±5	0-500	100	2000	12
7613A3-XX	±10	0-1000	50	5000	18
7613A5-XX	±50	0-2000	10	5000	50
7613A6-XX	±100	0-2500	5	5000	100
7613A7-XX	±200	0-3000	2.5	5000	200
7613A8-XX	±400	0-4000	1.25	5000	400

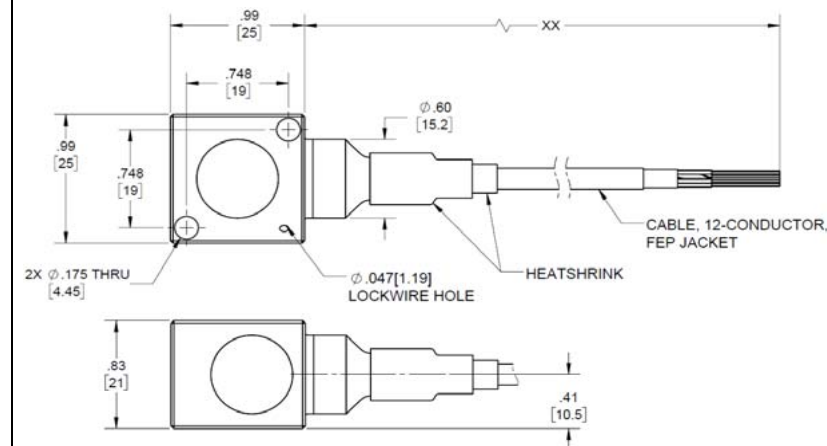
Refer to the performance specifications of the products in this family for detailed description.

**Supplied Accessories:**

- 1) Accredited calibration certificate (ISO 17025)
- 2) Mounting stud, Model 6360, 1/4-28 UNF-2A, Qty 1
- 3) Mounting stud, Model 6691, 1/4-28 UNF-2A to M6 X 1, Qty 1
- 4) Mounting screws, Model 69034A16, 8-32 x 1.0, Qty. 2
- 5) Mounting screws, Model 6687A1, M4x0.7 x 25mm, Qty. 2
- 6) Flat washers, Model 6754, Qty. 2

**Notes:**

- [1] 12-conductor, 26AWG, White FEP Jacket  
[2] Single ended sensitivity is half of values shown. (Ref. at 100 Hz)  
[3] -90% to +90% of Full Scale.  
[4] Over the rated temperature range.  
[5] In the interest of constant product improvement, we reserve the right to change specifications without notice.



Units on the line drawing are in inches. Refer to 127-7613AX-XX for more information.



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