

PROPRIETARY AND CONFIDENTIAL

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MODEL	REV	ECN	DATE	INPUT RANGE
7705A1	B	11048	09/04/14	±200g
7705A2	B	11048	09/04/14	±40g
7705A3	B	11048	09/04/14	±20g

REVISIONS

REV.	ECN	DESCRIPTION	BY/DATE	CHK	APPR
A	10745	INITIAL RELEASE	JS 01/24/14	DV	AS
B	11048	SEE ECN	EM 06/12/14	MH	<i>[Signature]</i>

D

D

C

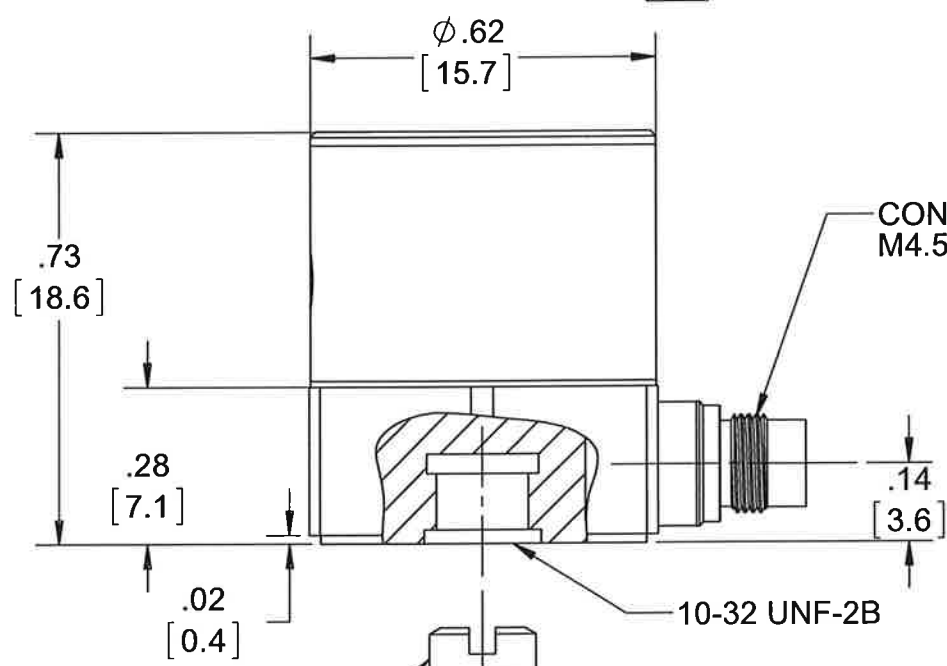
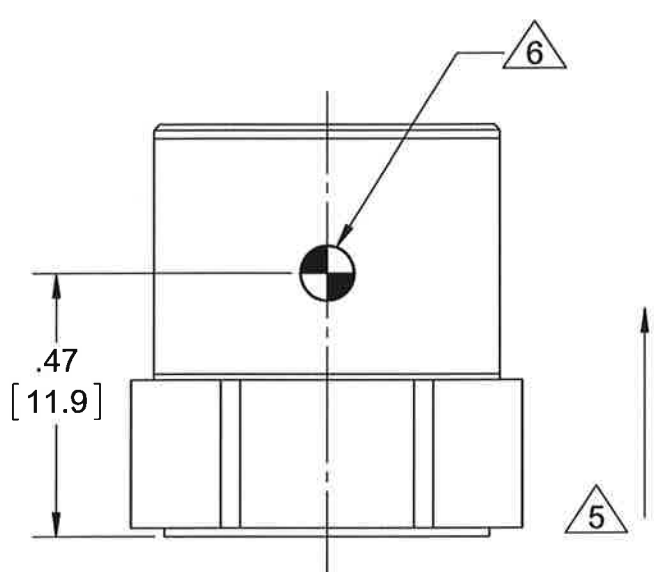
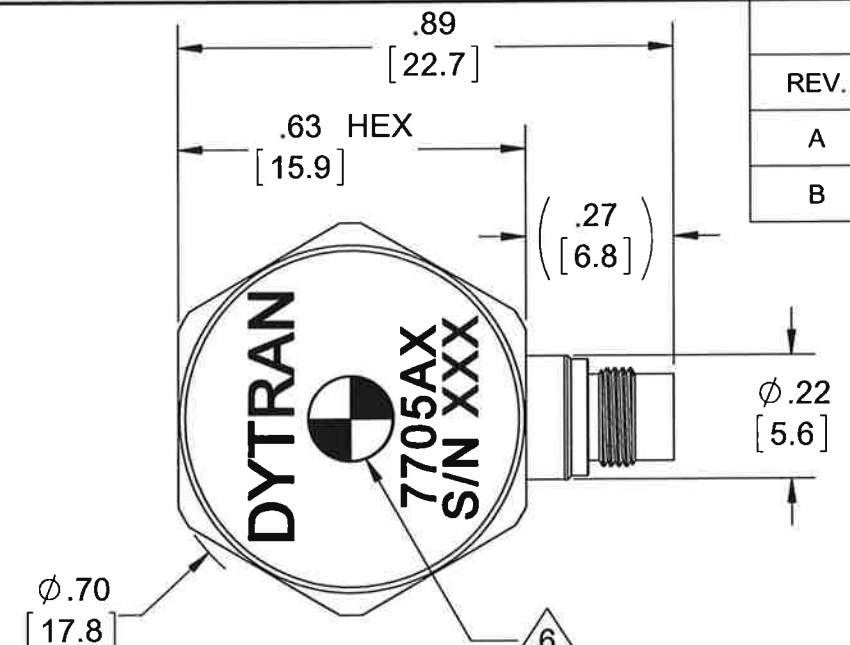
C

B

B

A

A



CONNECTOR, 4-PIN M4.5 X 0.35

PIN 4 - GROUND

PIN 3 - N/C

KEY

PIN 1 - SIG OUTPUT

PIN 2 - POWER

RECOMMENDED MOUNTING PREPARATION:  
 PREPARE FLAT MOUNTING SURFACE,  $\phi .65$  [16.5] MIN, FLAT TO .001 TIR.  
 TAP 10-32 UNF-2B  $\nabla .200$  [5.1] MIN. TORQUE TO 10-12 Lb-in.

- 6 MARKING DENOTES LOCATION OF SENSING ELEMENT'S CENTER OF MASS
  - 5 ARROW INDICATES DIRECTION OF ACCELERATION FOR POSITIVE OUTPUT.
  - 4 MOUNTING STUD, 10-32, MODEL 6200, SUPPLIED.
  - 3 MATES WITH MODEL 6776AXX 4 PIN TO (2) BNC OR 6895AXX 4 PIN TO CUT OFF CABLE (XX = LENGTH IN FEET).
2. HOUSING/CONNECTOR MATERIAL: TITANIUM ALLOY.  
 1. WEIGHT: 20 GRAMS, MAX.
- 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.

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

APPROVALS	DATE
ORIG LN	08/29/13
CHK DV	01/28/14
APP AS	01/28/14

ALL MACHINED SURFACES:  $\sqrt{63}$   
 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.

DO NOT SCALE DRAWING

**DYTRAN** INSTRUMENTS, INC. **MASTERY** ONLY IF IN RED

TITLE: **OUTLINE/INSTALLATION DRAWING, 7705A SERIES**

SIZE <b>B</b>	CAGE CODE <b>2W033</b>	DWG NO <b>127-7705A</b>	REV <b>B</b>
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SCALE: 4:1 SHEET 1 OF 1

Model Number  
7705A2

## PERFORMANCE SPECIFICATIONS

DOC NO  
PS7705A2

### DUAL ELEMENT ACCELEROMETER

REV C, ECN 11319, 09/22/14



- DUAL ELEMENT TECHNOLOGY
- EXTENDED LOW FREQUENCY RESPONSE (0 Hz to 10kHz)
- HERMETICALLY SEALED

New type of accelerometer from Dytran Instruments Inc. combines the DC output of variable capacitance element with excellent high frequency response of piezoelectric sensor. Both outputs are electrically summed up and seamlessly superimposed on each other to provide the broadest frequency response from a single output pin.

#### PHYSICAL

Weight, Max.  
Mounting  
Connector Type  
Housing Material

ENGLISH		SI	
0.53	oz	15	grams
10-32 Tapped Hole		10-32 Tapped Hole	
4-pin, M4.5X0.35		4-pin, M4.5X0.35	
Titanium		Titanium	

#### PERFORMANCE

Sensitivity,  $\pm 10\%$  [1]  
Acceleration Range  
Frequency Response,  $\pm 10\%$   
Resonance Frequency  
Linearity [2]  
Transverse Sensitivity  
Output Noise, Broadband, Max.  
Phase shift mismatch, Max  
Absolute phase shift, Max [3]  
Base Strain  
Bias Offset Max

50	mV/g	5.1	mV/m/s <sup>2</sup>
$\pm 40$	Gpeak	$\pm 392$	m/s <sup>2</sup> peak
0 to 10,000	Hz	0 to 10,000	Hz
>38	kHz	>38	kHz
1	% F.S.	1	% F.S.
<3	%	<3	%
0.002	Grms	0.0196	m/s <sup>2</sup> rms
+/-2	degrees	+/-2	degrees
+/-5	degrees	+/-5	degrees
0.0004	g/ $\mu\epsilon$	0.0039	m/s <sup>2</sup> / $\mu\epsilon$
0.2	g's	1.96	m/s <sup>2</sup>

#### ENVIRONMENTAL

Maximum Mechanical Shock  
Bias Temperature Shift, Max  
Bias Calibration Error  
Operating Temperature  
Thermal Coefficient  
Seal

5,000	Gpeak	49,050	m/s <sup>2</sup>
56	(ppm of span)/°F	101	(ppm of span)/°C
1.5	% of span	1.5	% of span
-60 to +250	°F	-51 to 121	°C
0.06	%/°F	0.12	%/°C
Hermetic		Hermetic	

#### POWER

Compliance Voltage  
Current Range  
Output Bias Voltage, Typical  
Output Impedance, Nom.  
Power Supply Rejection Ratio

+5 to +28	VDC	+5 to +28	VDC
5 to 10	mA DC	5 to 10	mA DC
2.45	VDC	2.45	VDC
1	$\Omega$	1	$\Omega$
>65	dB	>65	dB

#### This family also includes:

Model	Sensitivity (mV/g)	Range (Gpeak)	Maximum Shock (Gpeak)	Noise Broadband (grms)
7705A1	10	$\pm 200$	5,000	0.008
7705A3	100	$\pm 20$	5,000	0.0008

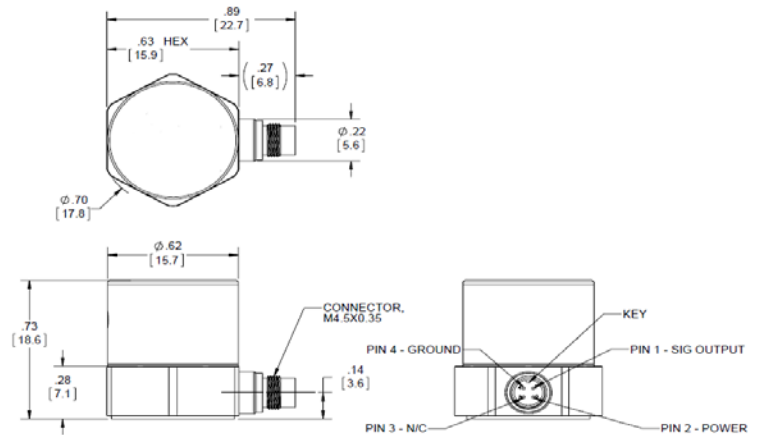
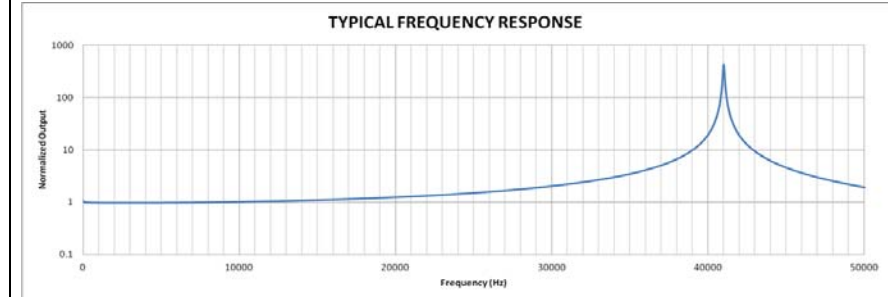
Refer to the performance specifications of the products in this family for detailed description

#### Supplied Accessories:

- 1) Accredited calibration certificate (ISO 17025)
- 2) Model 6200 mounting stud (10-32 to 10-32) Qty. 1
- 3) Model 6693 mounting stud (10-32 to M5) Qty. 1

#### Notes:

- [1] Measured at 100Hz, 1 Grms per ISA RP 37.2.
- [2] Measure using zero-based straight line method, % of F.S. or any lesser range.
- [3] 0 to 1000Hz
- [4] In the interest of constant product improvement, we reserve the right to change specifications without notice.



Units on the line drawing are in inches, units in brackets are in millimeters. Refer to 127-7705A for more information.



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