

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	AS

D

D

C

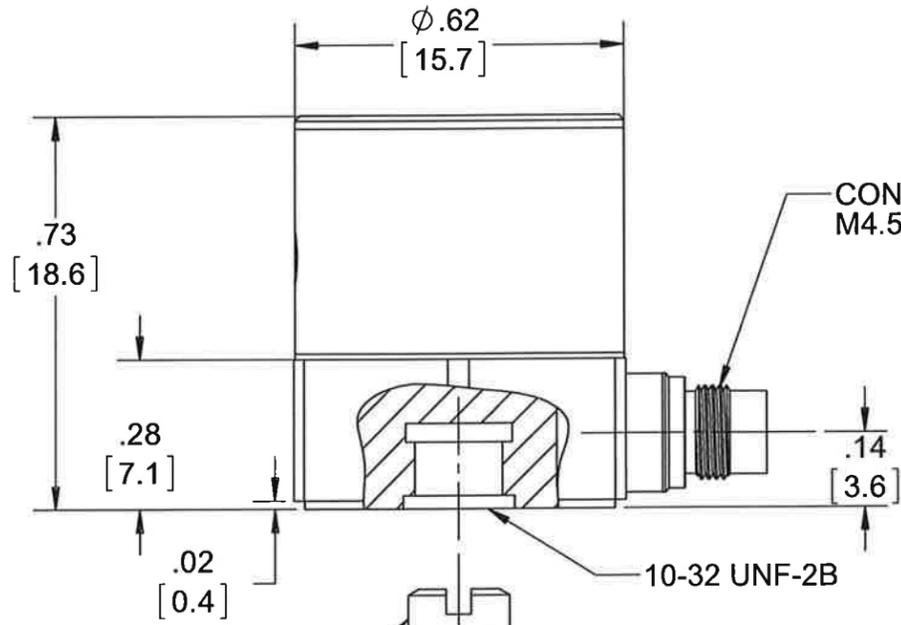
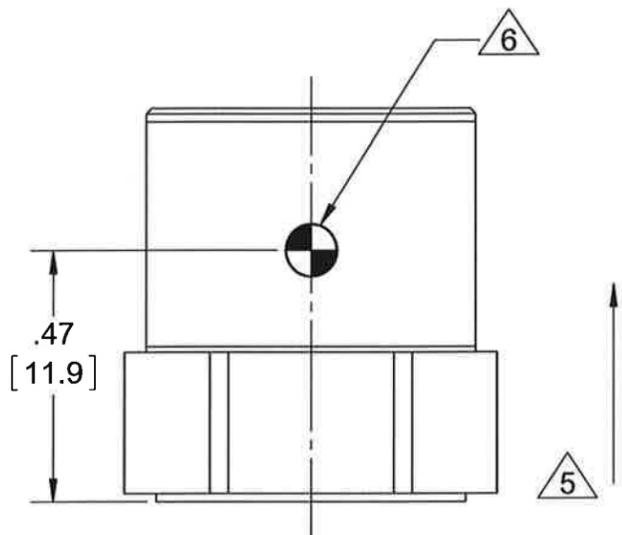
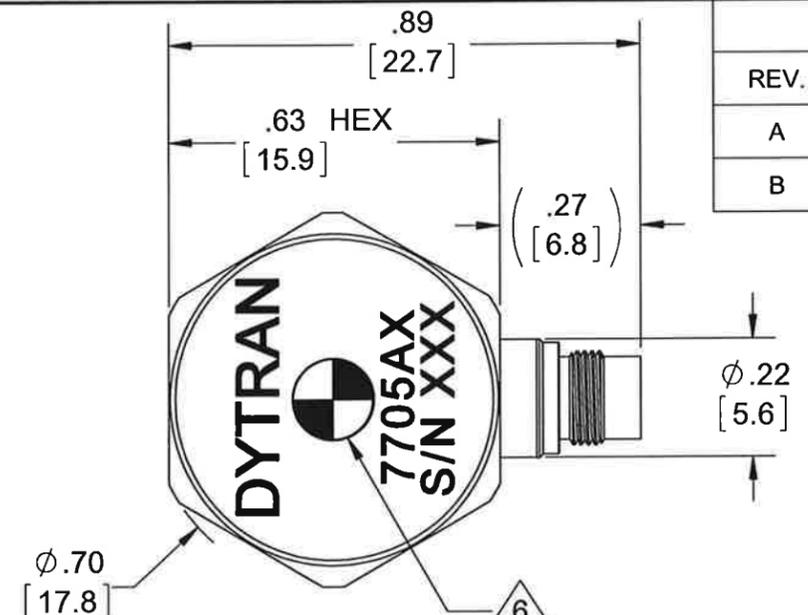
C

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.** **MASTER 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>
SCALE: 4:1		SHEET 1 OF 1	



- **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  
Housing

Type  
Material

ENGLISH		SI	
Weight, Max.	0.51 oz	14.5	grams
Mounting	10-32 Tapped Hole	10-32 Tapped Hole	
Connector	4-pin, M4.5X0.35	4-pin, M4.5X0.35	
Housing	Titanium	Titanium	

**PERFORMANCE**

Sensitivity, ±10% [1]  
Acceleration Range  
Frequency Response, ±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

Sensitivity, ±10% [1]	100 mV/g	10.2	mV/m/s <sup>2</sup>
Acceleration Range	±20 g's peak	±196	m/s <sup>2</sup> peak
Frequency Response, ±10%	0 to 10,000 Hz	0 to 10,000	Hz
Resonance Frequency	>38 kHz	>38	kHz
Linearity [2]	1 % F.S.	1	% F.S.
Transverse Sensitivity	<3 %	<3	%
Output Noise, Broadband, Max.	0.001 Grms	0.0098	m/s <sup>2</sup> rms
Phase shift mismatch, Max	+/-2 degrees	+/-2	degrees
Absolute phase shift, Max [3]	+/-5 degrees	+/-5	degrees
Base Strain	0.0004 g/με	0.0039	m/s <sup>2</sup> /με
Bias Offset	0.2 g's	1.96	m/s <sup>2</sup>

**ENVIRONMENTAL**

Maximum Mechanical Shock  
Bias Temperature Shift, Max [3]  
Bias Calibration Error  
Operating Temperature  
Thermal Coefficient  
Seal

Maximum Mechanical Shock	5,000 Gpeak	49,050	m/s <sup>2</sup>
Bias Temperature Shift, Max [3]	56 (ppm of span)/°F	101	(ppm of span)/°C
Bias Calibration Error	1.5 % of span	1.5	% of span
Operating Temperature	-60 to +250 °F	-51 to 121	°C
Thermal Coefficient	0.06 %/°F	0.12	%/°C
Seal	Hermetic	Hermetic	

**POWER**

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

Compliance Voltage	+5 to +28 VDC	+5 to +28	VDC
Current Range	5 to 10 mA DC	5 to 10	mA DC
Output Bias Voltage, Typical	2.5 VDC	2.5	VDC
Output Impedance, Nom.	1 Ω	1	Ω
Power Supply Rejection Ratio	>65 dB	>65	dB

**This family also includes:**

Model	Sensitivity (mV/g)	Range (Gpeak)	Maximum Shock (Gpeak)	Noise Broadband (grms)
7705A1	10	±200	5,000	0.004
7705A2	50	±40	5,000	0.002

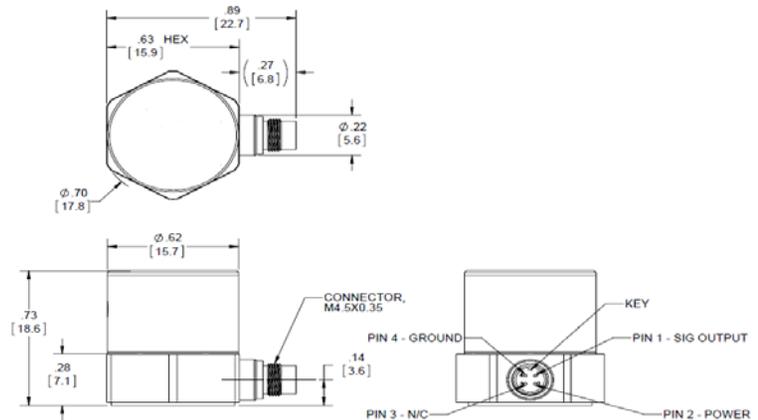
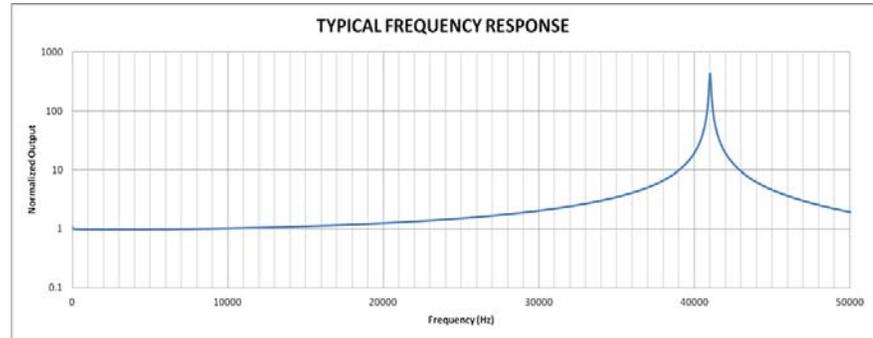
Refer to the performance specifications of the products in this family for detailed description

**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.

