

PROPRIETARY AND CONFIDENTIAL

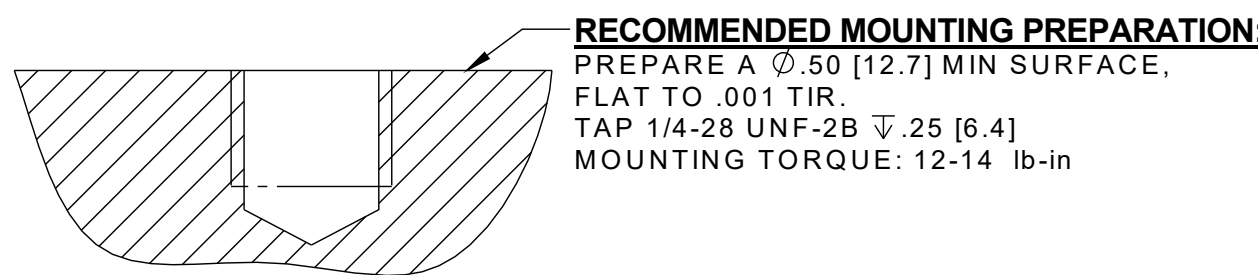
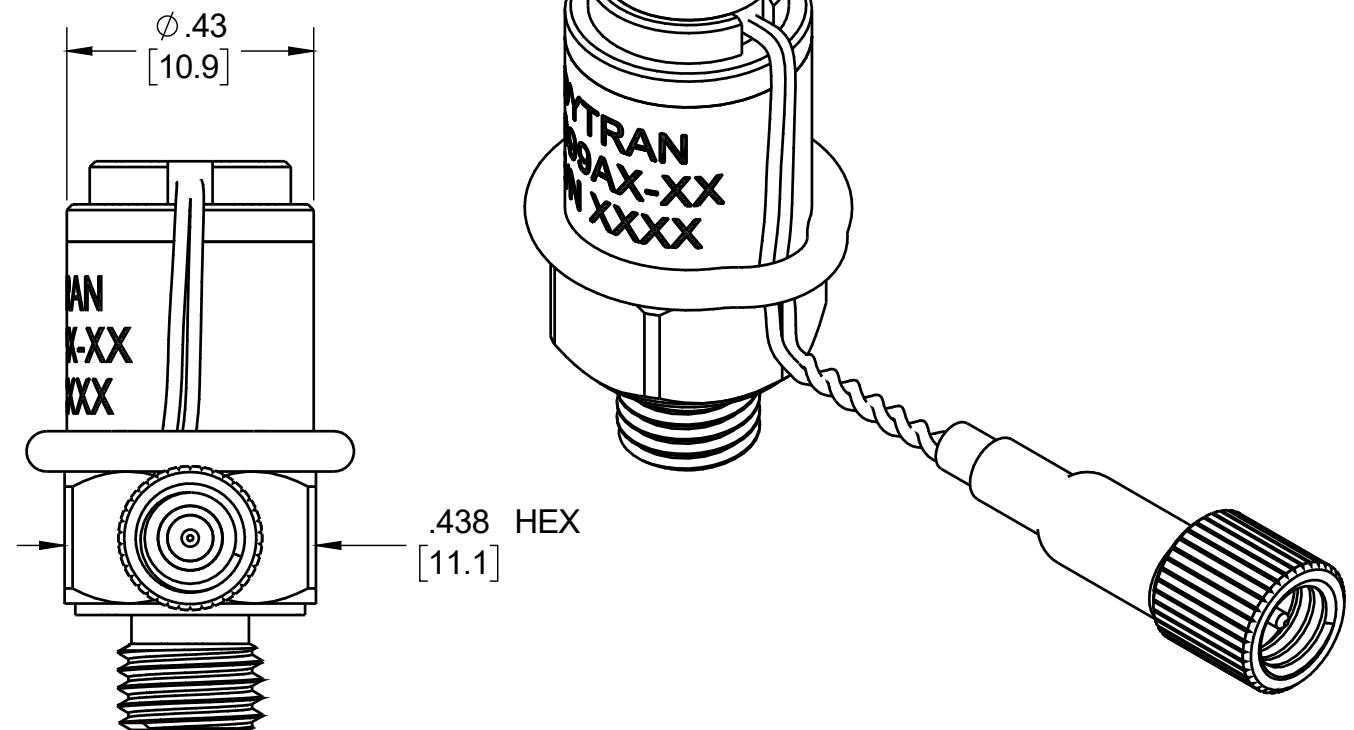
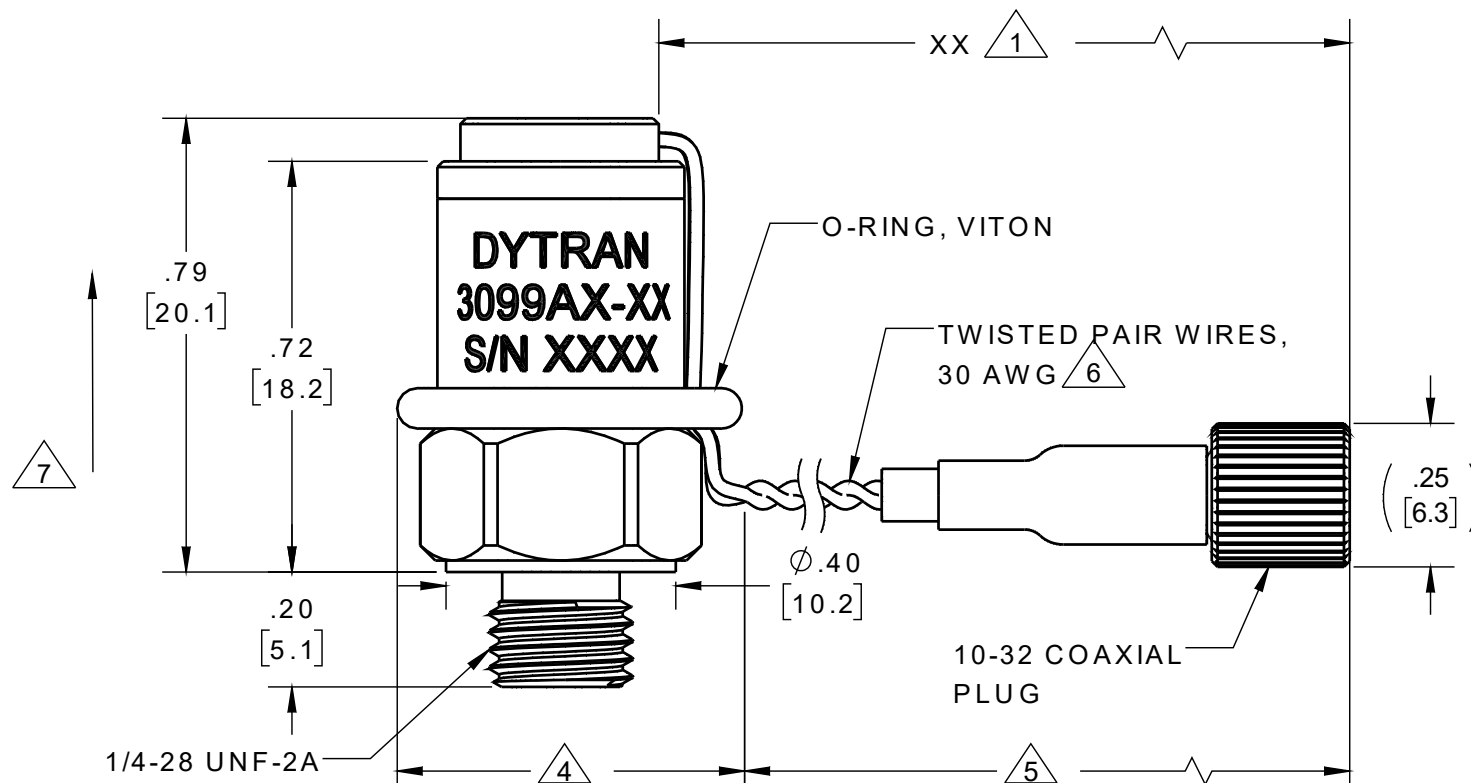
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CABLE LENGTH TOLERANCE	
≤1FT	+1/ -0 IN
>1 FT - 5 FT	+2/ -0 IN
> 5 FT - 10 FT	+4/ -0 IN
>10 FT - 25FT	+6 / -0 IN
>25 FT	+5% / -0%

REVISIONS

REV	ECN	DESCRIPTION	BY/DATE	CHK	APPR
A	15957	INITIAL RELEASE	KG 01/07/21	RA-SEE PDM	LN-SEE PDM

MODEL	SENSITIVITY	RANGE
3099A5-XX	0.05 mV/g	±60,000 g
3099A6-XX	0.1 mV/g	±50,000 g
3099A7-XX	0.2 mV/g	±25,000 g



SINGLE CONDUCTOR WIRE, TWISTED PAIR	
WIRE	30-7/38 SILVER PLATED COPPER
WIRE INSULATION	PTFE-POLYTETRAFLUROETHYLENE
WIRE #1	RED, SIG/PWR
WIRE #2	WHT, GND
INSULATION DIAMETER	Ø.024 NOMINAL
SHIELD	UNSHIELDED
JACKET	NONE
OPERATING TEMP.	-76 °F TO +392 °F [-60 °C TO +200 °C]
VOLTAGE	250 V RMS

- 7 ARROW INDICATES DIRECTION OF ACCELERATION FOR POSITIVE OUTPUT
- 6 SEE TABLE FOR CABLE SPECIFICATIONS
- 5 OPERATING TEMPERATURE: -76 °F TO +392 °F [-60 °C TO +200 °C]
- 4 OPERATING TEMPERATURE: -10 °F TO +250 °F [-12 °C TO +121 °C]
- 3. HOUSING MATERIAL: TITANIUM
- 2. WEIGHT, MAX. (LESS CABLE): 8 GRAMS
- 1 MODEL NUMBER: 3099AX-XX, "XX" DENOTES CABLE LENGTH IN FEET. SEE TABLE FOR CABLE TOLERANCE.

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.

DECIMALS		METRIC		ANGLES
.XX ±.03	.X ±.08	.XX ±.025		±1°
.XXX ±.010				

APPROVALS		DATE
ORIG	KG	08/27/20
CHK		
APP		

DO NOT SCALE DRAWING

THIRD ANGLE PROJECTION  
USA

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

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

TITLE: **OUTLINE/INSTALLATION DWG, HIGH SHOCK, MECHANICALLY FILTERED, 10-32 PLUG, 3099A5-XX SERIES**

SIZE	CAGE CODE	DWG NO	REV
B	2W033	127-3099A5-XX	A

SCALE: 3:1 SHEET 1 OF 1

<b>Model Number</b> 3099A5-XX	<b>PERFORMANCE SPECIFICATION</b>	<b>DOC NO</b> PS3099A5-XX
<b>SHOCK ACCELEROMETER, IEPE</b>		REV A, EGN 15957, 01/07/21



- MECHANICALLY & ELECTRICALLY FILTERED
- INTEGRAL CABLE W/ 10-32 CONNECTOR
- CASE ISOLATED

**This family also includes:**

Model	Sensitivity (mV/g)	Measurement Range (g pk)	Maximum Shock (g pk)	Temperature (°F)
3099A6-XX	0.1	±50,000	±100,000	-10 to +250
3099A7-XX	0.2	±25,000	±50,000	-10 to +250

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

**Supplied Accessories:**

- 1) Accredited calibration certificate (ISO 17025)

**Notes:**

- [1] All specifications are at room temperature unless otherwise specified.
- [2] Measured at 100Hz, 10 g RMS per ISA RP 37.2
- [3] Measured using zero-based straight line method, % of F.S. or any lesser range.
- [4] Do not apply power to this system without current limiting, 20 mA MAX. To do so will destroy the IC amplifier
- [5] In the interest of constant product improvement, we reserve the right to change specifications without notice. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts.

**PHYSICAL**

Weight, Max. (Less Cable)  
Mounting Provision  
Integral Cable  
Connector  
Material  
Element Style

ENGLISH		SI	
Weight, Max. (Less Cable)	0.28 oz	8 grams	
Mounting Provision	1/4-28 UNF-2A	1/4-28 UNF-2A	
Integral Cable	Twisted Pair, PTFE	Twisted Pair, PTFE	
Connector	Coaxial 10-32 Plug	Coaxial 10-32 Plug	
Material	Titanium	Titanium	
Element Style	Quartz	Quartz	
	Planar Shear	Planar Shear	

**PERFORMANCE**

Sensitivity, ±20% [2]  
Measurement Range  
Frequency Range, ±3dB  
Resonant Frequency  
Linearity [3]  
Broadband Resolution  
Maximum Transverse Sensitivity  
Strain Sensitivity

	ENGLISH	SI
Sensitivity, ±20% [2]	0.05 mV/g	0.005 mV/m/s <sup>2</sup>
Measurement Range	±60,000 g pk	±588,600 m/s <sup>2</sup> pk
Frequency Range, ±3dB	10 to 10,000 Hz	10 to 10,000 Hz
Resonant Frequency	> 10.5 kHz	> 10.5 kHz
Linearity [3]	> 120 kHz	> 120 kHz
Broadband Resolution	± 1 %	± 1 %
Maximum Transverse Sensitivity	1.0 g RMS	9.81 m/s <sup>2</sup> RMS
Strain Sensitivity	5 %	5 %
	0.0005 g/με	0.0049 m/s <sup>2</sup> /με

**ELECTRICAL**

Supply Current Range [4]  
Compliance Voltage Range  
Output Impedance, Typ.  
Output Bias Voltage  
Discharge Time Constant  
Warm up time (within 10% of Bias)  
Electrical Filter  
Ground Isolation

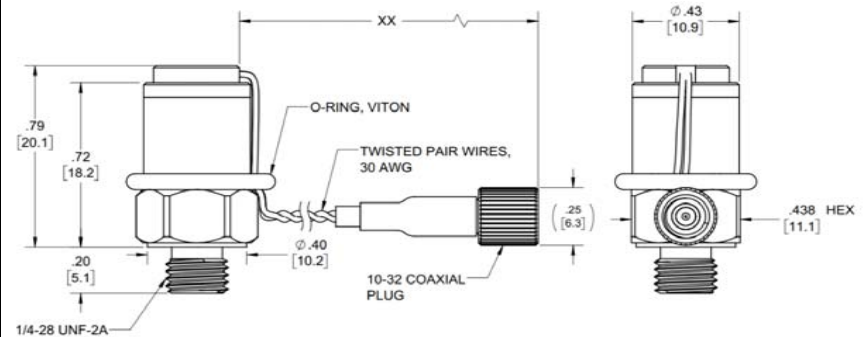
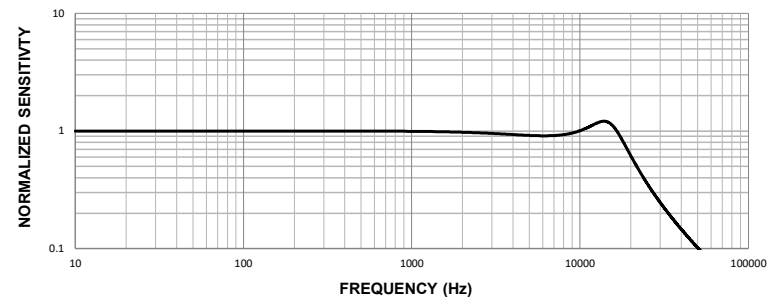
	ENGLISH	SI
Supply Current Range [4]	2 to 20 mA	2 to 20 mA
Compliance Voltage Range	+18 to +30 VDC	+18 to +30 VDC
Output Impedance, Typ.	100 Ω	100 Ω
Output Bias Voltage	7.0 to 12.0 VDC	7.0 to 12.0 VDC
Discharge Time Constant	1.0 to 2.0 sec	1.0 to 2.0 sec
Warm up time (within 10% of Bias)	< 8 sec	< 8 sec
Electrical Filter	Two Pole	Two Pole
Ground Isolation	7 kHz	7 kHz
	>10 MΩ	>10 MΩ

**ENVIRONMENTAL**

Maximum Shock  
Temperature Range, Sensor  
Temperature Range, Integral Cable  
Coefficient of Thermal Sens.  
Seal

	ENGLISH	SI
Maximum Shock	±120,000 g pk	±1,177,200 m/s <sup>2</sup> pk
Temperature Range, Sensor	-10 to +250 °F	-12 to +121 °C
Temperature Range, Integral Cable	-76 to +392 °F	-60 to +200 °C
Coefficient of Thermal Sens.	0.03 %F	0.05 %C
Seal	Hermetic	Hermetic

**TYPICAL FREQUENCY RESPONSE**



Units on the line drawing are in inches, units in brackets are in millimeters. Refer to 127-3099A5-XX for more information.



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