

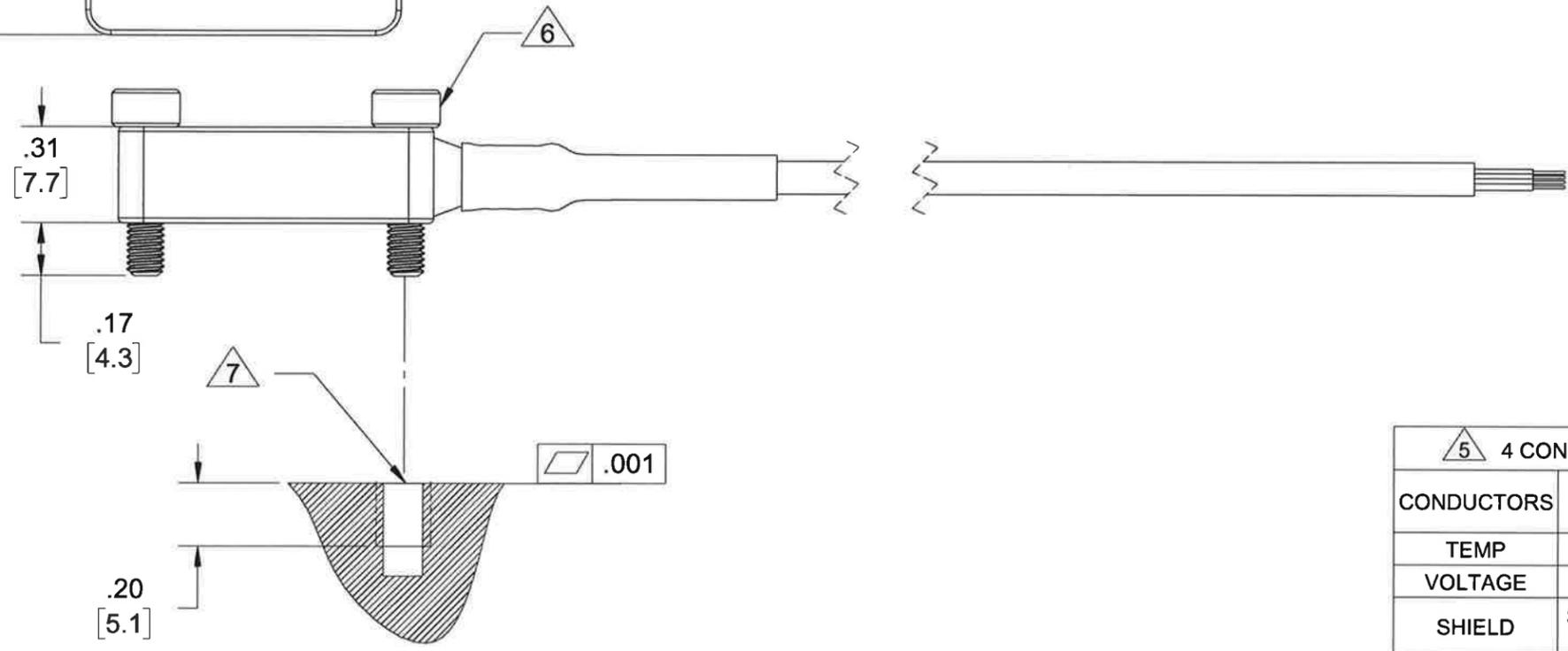
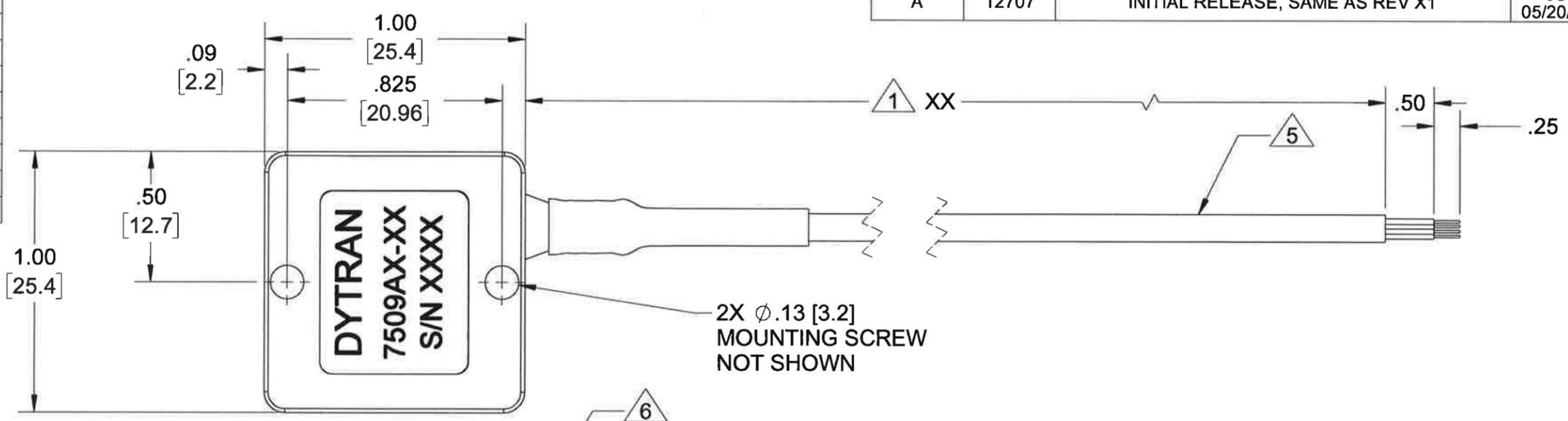
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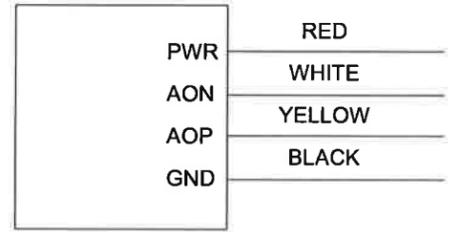
REVISIONS

REV.	ECN	DESCRIPTION	BY/DATE	CHK	APPR
A	12707	INITIAL RELEASE, SAME AS REV X1	JS 05/20/16	LA	LW

MODEL NO	RANGE
7509A1-XX	±2g
7509A2-XX	±5g
7509A3-XX	±10g
7509A4-XX	±25g
7509A5-XX	±50g
7509A6-XX	±100g
7509A7-XX	±200g
7509A8-XX	±400g



ACCELEROMETER



SCHEMATIC DIAGRAM

5	4 CONDUCTOR, SHIELDED CABLE
CONDUCTORS	30 AWG 7/38 SILVER PLATED COPPER
TEMP	-65°C (-85°F) TO +200°C (+392°F)
VOLTAGE	600 VOLTS
SHIELD	SILVER PLATED COPPER BRAID, 90% MIN COVERAGE
JACKET	FEP, BLACK, .006/.015 WALL
DIAMETER	.105 MAX

- 7 MOUNTING RECOMMENDATIONS: PREPARE FLAT MOUNTING SURFACE EQUAL OR BETTER THAN .001 TIR. (TAP 4-40 UNC-2B ∇ .200 MIN.) RECOMMENDED TORQUE 6-8 LB-IN.
 - 6 MOUNTING SCREW DYTRAN MODEL 6868 (2X) & 6688 (2X) SUPPLIED.
 - 5 CABLE, 4 CONDUCTORS, SHIELDED. SEE TABLE FOR SPECIFICATIONS.
 - 4. HOUSING MATERIAL: ALUMINUM ALLOY, ANODIZED, COLOR: BLUE.
 - 3. OPERATING TEMPERATURE: -67°F TO +257°F (-55°C TO +125°C).
 - 2. WEIGHT, LESS CABLE: 13 GRAMS MAX.
 - 1 PART NUMBER: 7509AX-XX, (XX DENOTES FEET IN LENGTH).
- 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.

63/

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 ±0.8			±1°
.XXX ±.010	.XX ±0.25			

APPROVALS		DATE
ORIG	JS	01/11/16
CHK	LA	5/24/16
APP	LW	5/25/16

DO NOT SCALE DRAWING

DYTRAN INSTRUMENTS, INC. MASTER ONLY IF IN RED
Chatsworth, CA

TITLE: **OUTLINE/INSTALLATION DRAWING, 7509AX-XX SERIES**

SIZE	CAGE CODE	DWG NO	REV
B	2W033	127-7509AX-XX	A

SCALE: 1:4 SHEET 1 OF 1



- VARIABLE CAPACITANCE ACCELEROMETER
- DIFFERENTIAL MODE
- DC RESPONSE
- TEFLON CABLE JACKET

ENGLISH	SI
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PHYSICAL					
Weight, Max.		0.5	oz	13	grams
Cable	Type	Integral		Integral	
Mounting	Thru Holes	2 X Ø.13	in	2 X Ø3.3	mm
Material		Aluminum, Anodized		Aluminum, Anodized	

PERFORMANCE					
Input Range		±50	g	±490.5	m/s ²
Frequency Response, ±3dB		0-1200	Hz	0-1200	Hz
Sensitivity Differential, ±10% [1]		80	mV/g	8.2	mV/m/s ²
Output Noise, Differential, Typ.		50	µg rms/√Hz	491	µm/s ² /√Hz
Non-Linearity, Max. [3]		0.5	% F.S	0.5	% F.S
Transverse Sensitivity, Max.		3	%	3	%
Scale Factor Calibration Error, Max.		1	%	1	%
Zero Measured Output		±50	mV	±50	mV

ENVIRONMENTAL					
Maximum Mechanical Shock		5000	gpk	49050	m/s ² peak
Bias Temperature Shift, Max. [2]		111	(ppm of span)/°F	200	(ppm of span)/°C
Bias Calibration Error, Max		.5	% of span	.5	% of span
Operating Temperature Range		-67 to +257	°F	-55 to +125	°C
Scale Factor Temperature Shift [2]		-111 to 111	ppm/°F	-200 to 200	ppm/°C
Seal		Epoxy		Epoxy	

ELECTRICAL					
Output Common Mode Voltage, Typ.		2.45	VDC	2.45	VDC
Output Impedance, Nom.		90	Ω	90	Ω
Operating Voltage		+5 to +28	VDC	+5 to +28	VDC
Operating Current (AOP & AON open)		7 to 10	mA DC	7 to 10	mA DC
Power Supply Rejection Ratio		>65	dB	>65	dB
Case Isolated		30	MΩ	30	MΩ

This family also includes:

Model	Input Range (g)	Frequency response (Hz)	Sensitivity Differential, ±10% (mV/g)	Max.Shock (gpk)	Noise Differential (µg rms/√Hz)
7509A1-XX	± 2	0-300	2,000	2000	7
7509A2-XX	± 5	0-400	800	2000	12
7509A3-XX	± 10	0-600	400	5000	18
7509A4-XX	± 25	0-900	160	5000	25
7509A6-XX	± 100	0-1400	40	5000	100
7509A7-XX	± 200	0-1750	20	5000	200
7509A8-XX	± 400	0-2000	10	5000	400

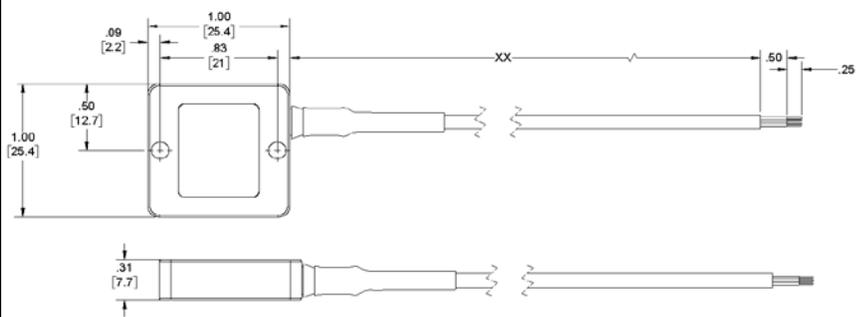
Refer to the performance specifications of the products in this family for detailed description.

Supplied Accessories:

- 1) Accredited calibration certificate (ISO 17025)
- 2) Two mounting screws model # 6868, 4-40 X .50"
- 3) Two mounting screws model # 6688, M3x0.5 X 12mm

Notes:

- [1] Single ended sensitivity is half of values shown.
- [2] Over the rated temperature range.
- [3] -90% to +90% of Full Scale.
- [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, dimensions in brackets [] are in millimeters. Refer to 127-7509AX-XX for more information.

