

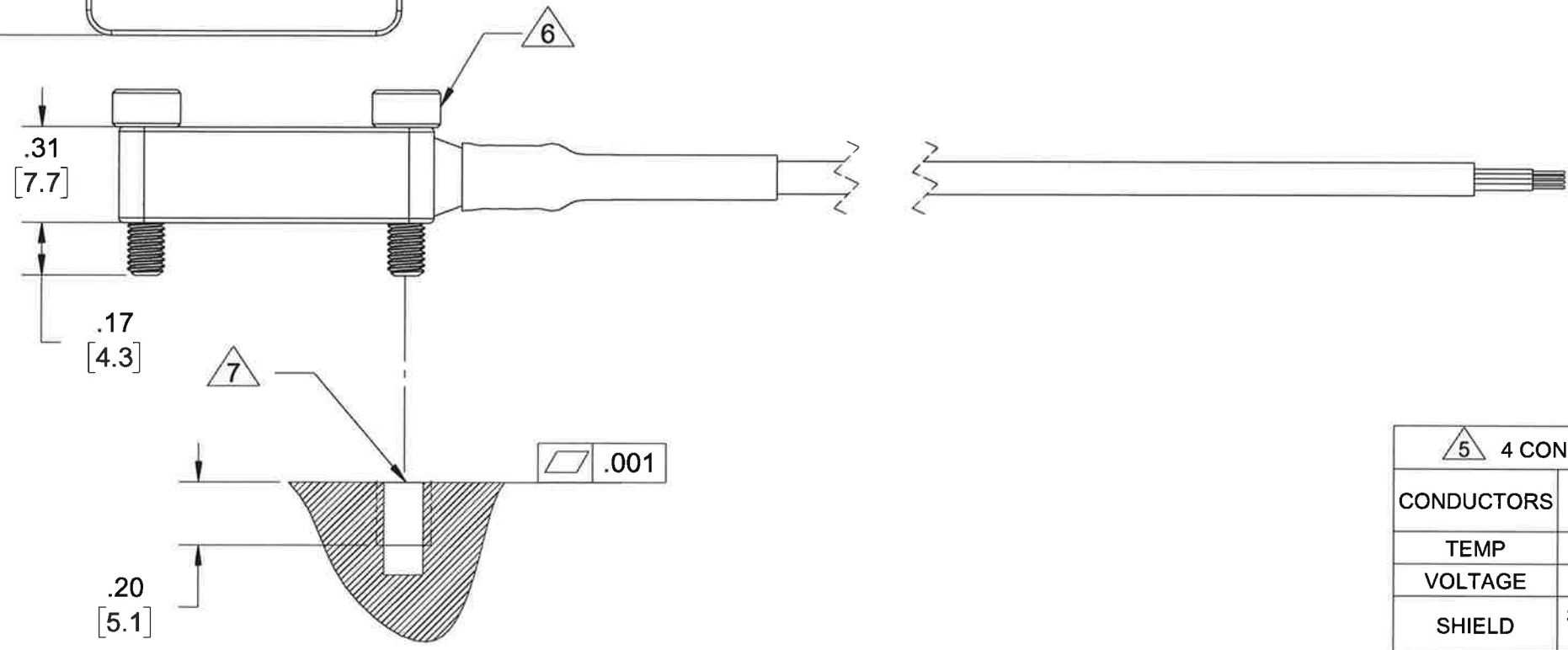
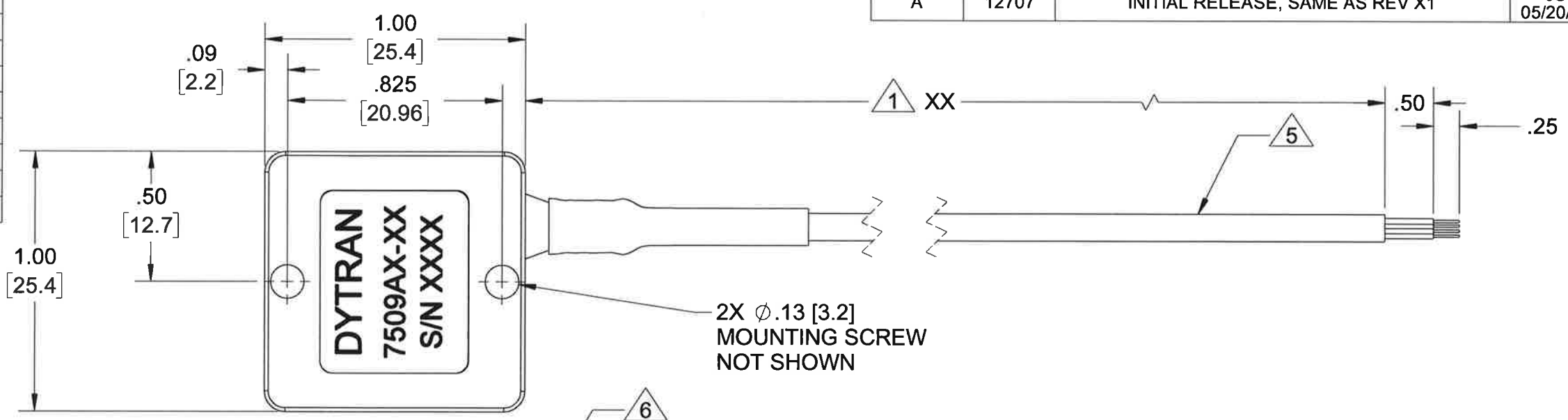
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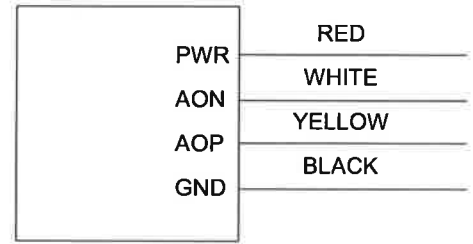
REVISIONS

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.

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.

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**

**PHYSICAL**

		ENGLISH			SI
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		±400	g	±3924	m/s <sup>2</sup>
Frequency Response, ±3dB, Min		0-2000	Hz	0-2000	Hz
Sensitivity Differential, ±10% [1]		10	mV/g	1.0	mV/m/s <sup>2</sup>
Output Noise, Differential, Typ.		400	µg rms/v Hz	3,924	µ m/s <sup>2</sup> /V 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 <sup>2</sup> 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/vHz)
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
7509A5-XX	± 50	0-1200	80	5000	50
7509A6-XX	± 100	0-1400	40	5000	100
7509A7-XX	± 200	0-1750	20	5000	200

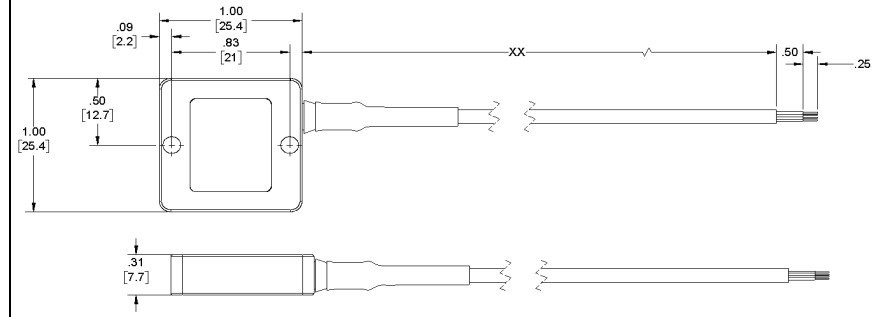
Refer to the performance specifications of the products in this family for detailed description.

**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.

