

Model Number 7705A1

PERFORMANCE SPECIFICATIONS

DUAL ELEMENT ACCELEROMETER

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REV D. ECN 15839, 07/28/20

SI



DUAL ELEMENT TECHNOLOGY

ENGLISH

- 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.

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PHYSICAL			<u>.</u>		
Weight, Max.		0.53	oz	15	grams
Mounting		10-32 Tapped Hole		10-32 Tapped Hole	
Connector	Type	4-pin, M4.5X0.35		4-pin, M4.5X0.35	
Housing	Material	Titanium		Titanium	
PERFORMANC	E				
Sensitivity, ±10% [1]		10	mV/g	1.0	mV/m/s ²
Acceleration Range		±200	g pk	±1962	m/s ² pk
Frequency Resp	onse, ±10%	0 to 10,000	Hz	0 to 10,000	Hz
Resonance Freq	uency	>38	kHz	>38	kHz
Linearity [2]	•	1	% F.S.	1	% F.S.
Transverse Sens	sitivity	<3	%	<3	%
Output Noise, Br	oadband, Max.	0.008	g RMS	0.0785	m/s ² RMS
Phase shift mism	natch, Max.	+/-2	degrees	+/-2	degrees
Absolute phase s	shift, Max [3]	+/-5	degrees	+/-5	degrees
Base Strain		0.0004	g/με	0.0039	m/s²/με
Bias Offset	Max	0.2	g's	1.96	m/s ²
ENVIRONMENT	·AI				
Maximum Mecha		5,000	g pk	49,050	m/s² pk
Bias Temperature Shift, Max		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			=	i 	-
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		2.45	VDC	2.45	VDC
Output Impedance, Nom.		1	Ω	1	Ω
Power Supply Rejection Ratio		>65	dB	>65	dB
Electrical Isolation	on (Case)	Ground	_	Ground]

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Model	Sensitivity (mV/g)	Range (g pk)	Maximum Shock (g pk)	Noise Broadband (g RMS)
7705A2	50	±40	5,000	0.002
7705A3	100	±20	5,000	0.0008

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

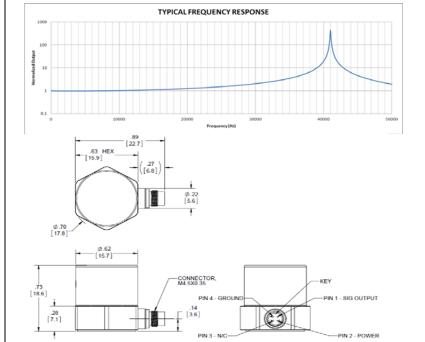
Supplied Accessories:

- 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 g RMS 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. 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 overtime. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts.



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

