

Model Number
9105C21

LOW FREQUENCY SINGLE-ENDED TRANSFER STANDARD ACCELEROMETER SYSTEM

Revision: A
ECN #:

PERFORMANCE

	<i>English</i>	<i>SI</i>	
Sensitivity (±10%)	500 mV/g	51.0 mV/(m/s ²)	
Measurement Range	±10 g pk	±98.1 m/s ² pk	
Frequency Range (±5%)	0.1 to 2000 Hz	0.1 to 2000 Hz	
Frequency Range (±10%)	0.07 to 4000 Hz	0.07 to 4000 Hz	
Resonant Frequency	≥14 kHz	≥14 kHz	
Broadband Resolution (1 to 10,000 Hz)	0.0004 g rms	0.004 m/s ² rms	[1]
Non-Linearity	≤1 %	≤1 %	[2]
Transverse Sensitivity	≤5 %	≤5 %	[3]

ENVIRONMENTAL

Overload Limit (Shock)	±4000 g pk	±39240 m/s ² pk	
Temperature Range (Operating)	-65 to +250 °F	-54 to +121 °C	
Temperature Response	See Graph	See Graph	[1]

ELECTRICAL

Excitation Voltage	23 to 30 VDC	23 to 30 VDC	
Constant Current Excitation	2 to 20 mA	2 to 20 mA	
Output Impedance	≤100 ohm	≤100 ohm	
Output Bias Voltage	11 to 16 VDC	11 to 16 VDC	
Discharge Time Constant	≥10 sec	≥10 sec	
Setting Time (Within 10% of Bias)	<300 sec	<300 sec	
Spectral Noise (1 Hz)	200 µg/√Hz	1962 (µm/s ²)/√Hz	[1]
Spectral Noise (10 Hz)	16 µg/√Hz	157 (µm/s ²)/√Hz	[1]
Spectral Noise (100 Hz)	5 µg/√Hz	49 (µm/s ²)/√Hz	[1]
Spectral Noise (1 kHz)	1 µg/√Hz	10 (µm/s ²)/√Hz	[1]

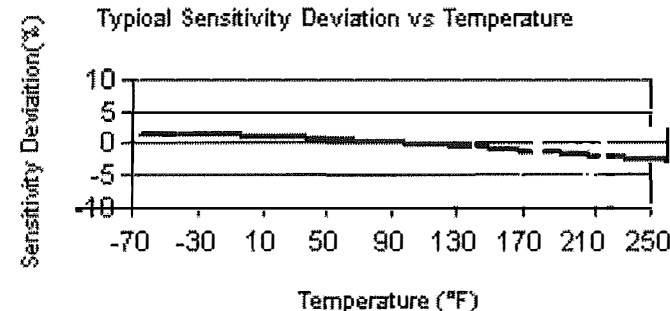
PHYSICAL

Sensing Element/Geometry	Quartz/Shear	Quartz/Shear	
Housing Material	Titanium	Titanium	
Sealing	Welded Hermetic	Welded Hermetic	
Size (Hex x Height)	0.75 in x 0.85 in	19.1 mm x 21.6 mm	
Weight	1.1 oz	32 gm	[1]
Electrical Connector	10-32 Coaxial Jack	10-32 Coaxial Jack	
Electrical Connector Position	Side	Side	
Mounting Thread	10-32 Female	10-32 Female	

ICP® SIGNAL CONDITIONER

Voltage Gain (±1%)	1:1	1:1	
Low Frequency Response (-5%)	<0.1 Hz	<0.1 Hz	
Universal Input Power	100-240 VAC; 50-60 Hz	100-240 VAC; 50-60 Hz	[4]
Discharge Time Constant (0 to +50%)	10 sec	10 sec	[5]
Electrical Connectors (Input, Output)	BNC Jack	BNC Jack	

All specifications are at room temperature unless otherwise specified.



LASER PRIMARY CALIBRATION UNCERTAINTY

MCS-42 Low Frequency with 2129E025 long stroke shaker (25 cm stroke).
Calibration data acquired from 0.1 to 10 Hz at 10 pts/decade.
MCS-A065 Mid Frequency with K394A31 airbearing shaker.
Calibration data acquired from 5 to 4k Hz at 10 pts/decade plus 159 Hz.
Expanded uncertainties using a coverage factor of k=2:

(0.1 < f < 0.5) Hz	1.5%
(0.5 < f < 10) Hz	1.5%
(10 ≤ f < 100) Hz	0.5%
100 Hz, 159 Hz	0.2%
(159 < f ≤ 1000) Hz	0.5%
(1000 < f ≤ 4000) Hz	0.7%

f represents calibration frequency

NOTES

- [1] Typical.
- [2] Zero-based, least squares, straight line method.
- [3] Transverse sensitivity is typically ≤3%.
- [4] Supplied external DC power supply 488B04.
- [5] With ≥ 1M ohm input impedance of readout device.

SUPPLIED ACCESSORIES

- 003C05 Sensor Cable (1)
- 012A03 Output Cable (1)
- 081B05 Mnt Stud (10-32 to 10-32) (1)
- 081A08 Mnt Stud (10-32 to ¼-28) (1)
- MCS-42 Primary Calibration 0.1-10 Hz (1)
- MCS-A065 Primary Calibration 5-4 kHz (1)

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In the interest of constant product improvement, specifications may change without notice.

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Date: 7-5-11	Date: 7/5/11	Date: 7/5/11	

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SAM-F020 revNR 04/04/03