

Model Number  
**9106C21**

# LOW FREQUENCY DOUBLE-ENDED TRANSFER STANDARD ACCELEROMETER SYSTEM

Revision: NR  
ECN #:

**PERFORMANCE**

	<i>English</i>	<i>SI</i>	
Sensitivity (±10%)	500mV/g	51 mV/(m/s <sup>2</sup> )	
Measurement Range	±10 g pk	±98.1 m/s <sup>2</sup> pk	
Frequency Range (±5%)	0.035 to 2,000 Hz	0.035 to 2,000 Hz	
Frequency Range (±10%)	0.025 to 3,500 Hz	0.025 to 3,500 Hz	
Frequency Range (±3 dB)	0.015 to 7,000 Hz	0.015 to 7,000 Hz	
Resonant Frequency	≥14 kHz	≥14 kHz	
Broadband Resolution (1 to 10,000 Hz)	0.00015 g rms	0.0015 m/s <sup>2</sup> rms	[1]
Non-Linearity	≤1 %	≤1 %	[2]
Transverse Sensitivity	≤3 %	≤3 %	

**ENVIRONMENTAL**

Overload Limit (Shock)	±4,000 g pk	±39,240 m/s <sup>2</sup> pk	
Temperature Range (Operating)	-65 to +250 °F	-54 to +121 °C	
Temperature Response	See Graph	See Graph	[1]

**ELECTRICAL**

Excitation Voltage	22 to 30 VDC	22 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	≥15 sec	≥15 sec	
Setting Time (Within 10% of Bias)	≤400 sec	≤400 sec	
Spectral Noise (10 Hz)	16.5 µg/√Hz	162 (µm/s <sup>2</sup> )/√Hz	[1]
Spectral Noise (100 Hz)	4.6 µg/√Hz	45.1 (µm/s <sup>2</sup> )/√Hz	[1]
Spectral Noise (1 kHz)	1.3 µg/√Hz	12.8 (µm/s <sup>2</sup> )/√Hz	[1]

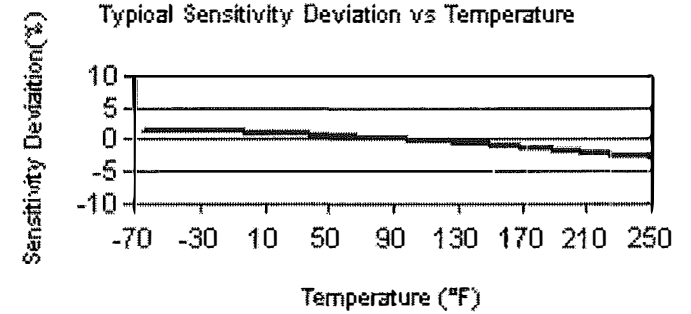
**PHYSICAL**

Sensing Element/Geometry	Quartz/Shear	Quartz/Shear	
Housing Material	Stainless Steel	Stainless Steel	
Sealing	Hermetic	Hermetic	
Size (Hex x Height)	1.187 in x 1.50 in	30.2 mm x 38.1 mm	
Weight	6.5 oz	184 gm	[1]
Electrical Connector	10-32 Coaxial Jack	10-32 Coaxial Jack	
Electrical Connector Position	Side	Side	
Mounting Thread	¼-28 Female	¼-28 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	[3]
Discharge Time Constant (0 to +50%)	10 sec	10 sec	[4]
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 0.5 to 10 Hz at 10 pts/decade.  
MCS-A065 Mid Frequency with K394A31 airbearing shaker.  
Calibration data acquired from 5 to 3.5 kHz at 10 pts/decade plus 159 Hz.

Expanded uncertainties using a coverage factor of k=2:

(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 ≤ 3500) Hz	0.7%

*f* represents calibration frequency

**NOTES**

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

**SUPPLIED ACCESSORIES**

- 003C05 Sensor Cable (1)
- 012A03 Output Cable (1)
- 9101C Mounting Kit - Assorted Studs (1)
- MCS-42 Primary Calibration 0.5-10 Hz (1)
- MCS-A065 Primary Cal 5 Hz - 3.5 kHz (1)

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

Project Engineer:

Date: 7-5-11

Product Manager:

Date: 7/5/11

Mkt Team Leader:

Date: 7/5/11

Spec Number:

**PS-0088**

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