

Model Number

9105C31

SINGLE-ENDED VERIFICATION TRANSFER STANDARD SHOCK ACCELEROMETER SYSTEM

Revision: A

ECN #:

PERFORMANCE

	<u>English</u>	<u>SI</u>	
Sensitivity (±15 %)	0.5 mV/g	0.051mV/(m/s ²)	
Measurement Range	±10 000 g pk	±98 000 m/s ²	
Frequency Range (±10 %)	0.4 Hz to 7 500 Hz	0.4 Hz to 7 500 Hz	[5]
Electrical Filter Cutoff Frequency (-10 %)	≥ 7.5 kHz	≥ 7.5 kHz	
Resonant Frequency	≥ 50 kHz	≥ 50 kHz	
Broadband Resolution (1 to 10000 Hz)	0.06 g rms	0.59 m/s ² rms	[1]
Non-Linearity	≤1 %	≤1 %	[2]
Transverse Sensitivity	≤5 %	≤5 %	[3]

ENVIRONMENTAL

Overload Limit (Shock)	± 30 000 g pk	± 294 000 m/s ² pk	
Temperature Range (Operating)	-65 °F to +250 °F	-54 °C to +121 °C	
Temperature Response	See Graph	See Graph	[1]

ELECTRICAL

Excitation Voltage	18 to 30 VDC	18 to 30 VDC	
Constant Current Excitation	2 to 20 mA	2 to 20 mA	
Output Impedance	≤ 100 ohm	≤ 100 ohm	
Output Bias Voltage	8 to 12 VDC	8 to 12 VDC	
Discharge Time Constant	0.4 to 1.4 sec	0.4 to 1.4 sec	
Setting Time (Within 10 % of Bias)	≤ 5 sec	≤ 5 sec	

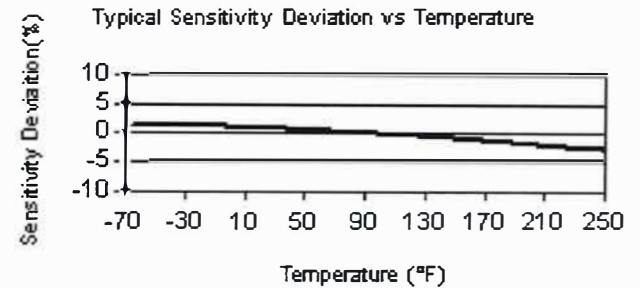
PHYSICAL

Sensing Element/Geometry	Quartz/Shear	Quartz/Shear	
Housing Material	Stainless Steel	Stainless Steel	
Sealing	Hermetic	Hermetic	
Size (Hex x Height)	0.5 in x 1.45 in	12.7 mm x 36.8 mm	
Weight	0.63 oz	17.9 gm	[1]
Electrical Connector	10-32 Coaxial Jack	10-32 Coaxial Jack	
Electrical Connector Position	Top	Top	
Mounting Thread	¼-28 Male	¼-28 Male	
Mounting Torque	25 to 40 in-lb	280 to 450 N-cm	

ICP® SIGNAL CONDITIONER

Channels	1	1	
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	[6]
Electrical Connectors (Input, Output)	BNC Jack	BNC Jack	
Size (Height x Width x Length)	6.3 in x 2.4 in x 11 in	16 cm x 6.1 cm x 28 cm	
Weight	1.51 lb	685 gm	

All specifications are at room temperature unless otherwise specified.



CALIBRATION UNCERTAINTY

MCS-A067 Primary calibration, 100 Hz single point calibration.
MCS-31 Shock calibration, 100 g to 10 kg.
MCS-A022 Single axis amplitude response calibration, 100 Hz to 7.5 kHz.

Expanded uncertainties using a coverage factor of k=2:

Laser Primary

100Hz 0.2 %

Vs Primary Standard

101 to 920 Hz 1.0 %
921 to 5000 Hz 1.4 %
5001 to 10000Hz 1.9 %

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] Electrical filter is a first order low pass filter.
- [6] With ≥ 1 M ohm input impedance of readout device.

SUPPLIED ACCESSORIES

- 003C03 Sensor Cable (1)
- 012A03 Output Cable (1)
- MCS-A067 Primary Calibration 100 Hz (1)
- MCS-31 Shock Calibration 100 g-10 kg (1)
- MCS-A022 Primary Calibration 100 Hz to 7.5 kHz (1)

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

Project Engineer: <i>[Signature]</i>	Product Manager: <i>[Signature]</i>	Mkt Team Leader: <i>[Signature]</i>	Spec Number: PS-0085
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