



MS2005+ Force Balance Servo Accelerometer

The MS2005+ is a uniaxial or triaxial, high dynamic range servo accelerometer based on state-of-the-art MEMS technology.

Its small dimensions, rugged and splash-proof design and excellent long-term stability make the MS2005+ the perfect match for seismic monitoring in structures and buildings.

The micromachined capacitive force feedback (servo) accelerometer in most applications outperforms traditionally used electromechanical FBA's. Using MEMS technology, this small high precision accelerometer shows environmental and reliability performance similar to integrated circuits. It's flat frequency and phase response together with the very low short- and long-term drift provides true engineering data that require no post-processing. The MS2005+ from SYSCOM comes factory calibrated, equipped with a fully comprehensive self-test function and requires no re-calibration.

Technical Specification MS2005+

Performance

Acceleration Sensing Element

Principle	The sensing element is an analog force feedback accelerometer featuring a variable capacitance, silicon bulk-micromachined acceleration sensor (MEMS) and a custom low-power mixed-signal integrated circuit (ASIC). The MEMS/ASIC custom design forms a DC coupled analog servo accelerometer.	
Hysteresis	None	
Noise	typ. 900 ng rms/ $\sqrt{\text{Hz}}$ (10 - 1000 Hz)	
Natural frequency	Frequency response DC to >1000 Hz	
Shock survival	1500 g (0.5 ms half sine)	
Vibration survival	60 g (20-2000 Hz, peak-peak)	
Operating temperature	-40 to +85 °C	

MS2005+ triaxial sensor

Measuring range	± 4 g standard, ± 2 g	
Scale factor temp. drift (± 4 g)	typ. <100 ppm/°C	
Zero point offset drift (± 4 g)	typ. <600 $\mu\text{g}/^\circ\text{C}$	
Orientation	Triaxial, horizontal (floor) mounting or vertical (wall) mounting	
Non-Linearity	<1.5 % of full scale	
Dynamic range (± 4 g)	typ. 110 dB (100 Hz BW)	
Supply voltage	± 6.5 V to ± 12 V	
Current consumption	typ. 45 mA	
Output voltage	± 4 V single-ended	opt: ± 4 V differential
Self-test	Test-pulse	
Cross axis rejection	>40 dB	

Physical Characteristics

Housing	Aluminum, 85 x 75 x 58 mm (W x L x H)	opt: Stainless Steel Casing
Connector	Metallic self-latching push-pull connector with positioning key (LEMO)	
Weight	0,5 kg	
Protection degree	IP 65 (splash-proof)	

Ordering Information

		Product Codes
MS2005+ triaxial	Horizontal mounting, 2 g FS	14.11.4002
MS2005+ triaxial	Horizontal mounting, 4 g FS	14.11.4004
MS2005+ triaxial	Vertical mounting, 2 g FS	14.11.4012
MS2005+ triaxial	Vertical mounting, 4 g FS	14.11.4014
MS2005+ uniaxial	Horizontal mounting, horizontal axis, 4 g FS	14.11.4024
MS2005+ uniaxial	Horizontal mounting, vertical axis, 4 g FS	14.11.4034