

Type 8324A20, 8324A50
8324A20M11, 8324A50M11

8324A K-BEAM® CAPACITIVE ACCELEROMETERS

The 8324A K-BEAM accelerometer utilizes a variable capacitance sensing element. This high performance accelerometer is ideally suited for applications requiring the measurement of high level acceleration in adverse environments. The 8324 has excellent frequency response exceeding 700 Hz (-3dB) and can survive shock exposure over 5000g peak. Both types are insensitive to thermal transients and transverse acceleration. The sensing element and conditioning electronics are integrated into a single lightweight, hermetically sealed titanium housing. Ground isolation is provided by an insulator plate permanently bonded to the housing. The stan-

dard 8324A accelerometer operates from a single 15 to 28V supply while the 8324A...M11 designed for automotive applications operates on 11 to 28VDC. Both types provide a bipolar output with a nominal offset voltage of 0 volts. The 4-pin receptacle installed on the basic model provides the convenience of a detachable extension cable. The 8324A...M11 variation contains an integral 6 meter, four conductor cable terminated in pigtailed. Both versions can be attached to the test structure by special screw assemblies that preserve the integrity of the ground isolation .

- Available in 20 g and 50 g ranges
- Extended frequency response
- Single supply, Bipolar output
- High shock resistance, 5000g
- Ground isolated, Hermetically sealed design
- Conforming to CE



Technical Data	Units	8324A20, M11	8324A50, M11
Acceleration Range	<i>g</i>	±20	±50
Sensitivity ±5 %	mV/ <i>g</i>	100	60
Resolution (Threshold) typ.	μ <i>g</i>	100	170
Noise typ. (0 ... 100 Hz)	μ <i>g</i> rms	70	120
Noise Density typ. (0 ... 100 Hz)	μ <i>g</i> rms / √ Hz	7	12
Zero g Output ±40 mV	V	0	0
Resonant Frequency nom.	Hz	900	900
Frequency Response ±5%	Hz	0...300	0...300
±3dB	Hz	0...700	0...700
Phase Shift max. 1 Hz	degree	1	1
10 Hz	degree	3	3
100 Hz	degree	10	10
Sensitive Axis Misalignment typ. (max.)	mrاد	≤10 (≤ 30)	≤10 (≤ 30)
Amplitude Non-linearity max.	%FS	± 1.0	± 1.5
Transverse Sensitivity typ. (max.)	%	1 (3)	1 (3)
Environmental:			
Random Vibration 20 ... 2000Hz	<i>g</i> rms	40	40
Shock half sine @ 200 μsec	<i>g</i> pk	5000	5000
Temperature Coefficient of: Sensitivity typ. (max.)	(%/°C)	0.017 (0.05)	0.017 (0.05)
	(%/°F)	0.03 (0.09)	0.03 (0.09)
Bias typ.	mg/°F	5.6	13.9
	mg/°C	10	25
Temperature Range: Operating	°F (°C)		- 40...185 (- 40...85)
Storage	°F (°C)		- 85...255 (- 65...125)
Output Impedance nom.	Ω		50
Supply Voltage (M11 Version)	VDC		15 ... 28 (11 ... 28)
Current nom.	mA		7
Construction			
Sensing Element	type		capacitive
Housing/Insulator Plate	material		titanium; Al./hard anodized
Sealing-Housing/Connector	type		hermetic
Connector	type		4-pin pos. Microtech Equivalent

1 *g* = 9.80665 m/s², 1 inch = 25.4 mm, 1 gram = 0.03527 oz, 1 lbf-in = 0.1129 Nm

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Technical Data	Units	8324A..., M11
Construction		
Ground Isolation min.	MΩ	10
Weight	grams	15
Mounting	type	screw or wax

Applications

Vehicle ride analysis; structural analysis; building and bridge vibration; motion/stability control systems, steady-state and low level, low frequency acceleration measurements.

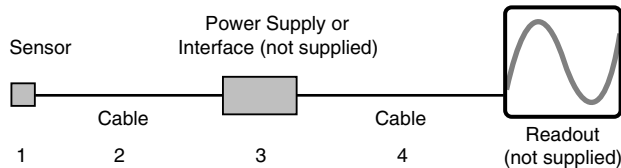
Suggested Measuring Chain

The 8324A can be easily connected to a user-supplied power source using the optional 1572 interface module.

Related Product

- 8310A K-BEAM® accelerometer series
- 8312A K-BEAM® accelerometer series

Ordering Information



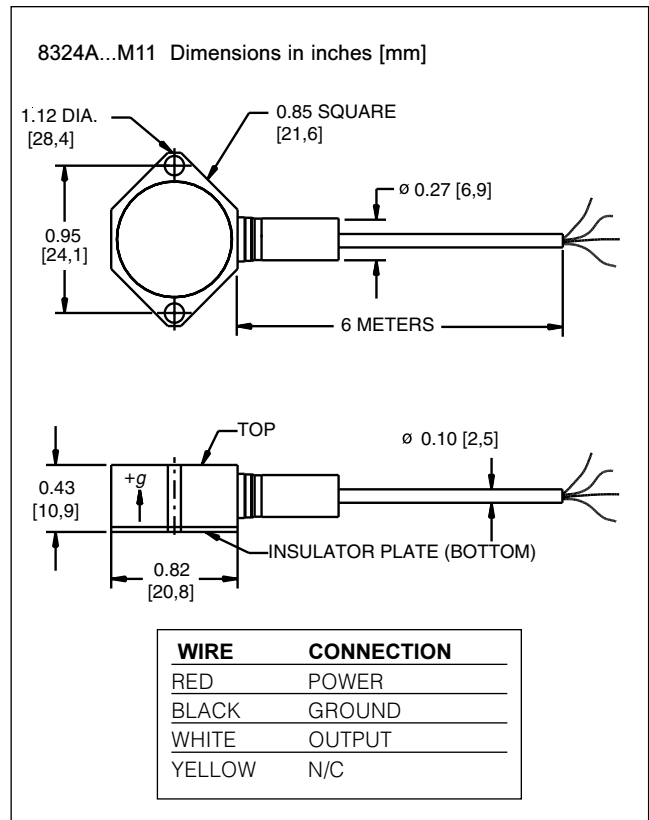
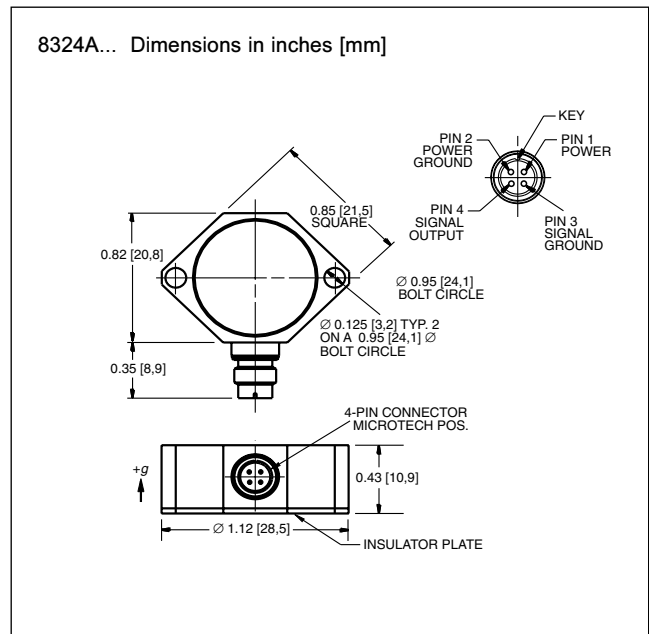
- Specify:
- 1 - 8324A... accelerometer, specify range or 8324A...M11 accelerometer, 6 meter cable with pigtails, specify range
 - 2 - 1592M1 two-meter output cable, 4-pin neg. Microtech equivalent to pigtails
 - 1578A... extension cable, 4-pin neg. Microtech equivalent to 4-pin pos. Microtech equivalent, specify length in meters
 - 3 - 1572 optional output/power supply interface module

Supplied Accessories

- 700-1603-001 (2) screw assembly, 2,5mm thread
- 700-1604-000 (2) screw assembly, 4-40 thread
- 8432 mounting wax

Optional Accessories

- 8516 triaxial mounting cube



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