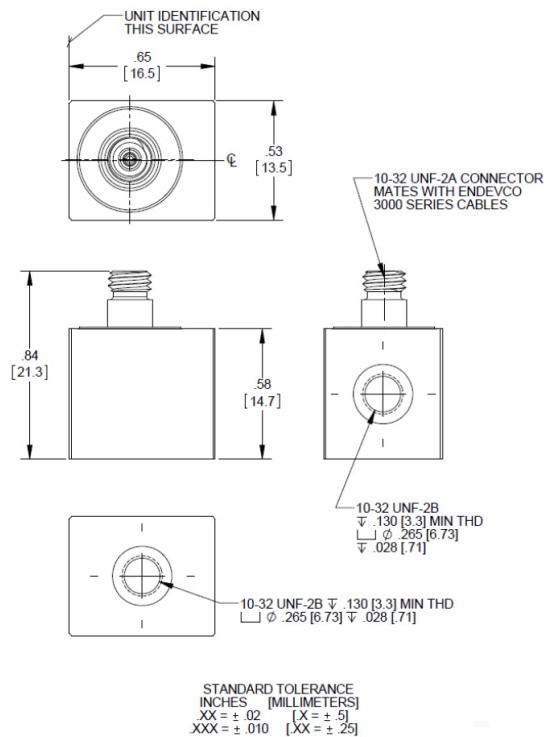


Isotron® accelerometer

Model 43A



The Endeveco® model 43A is a cost effective general purpose Isotron® accelerometer designed for use in a variety of applications. The model 43A is a small Isotron accelerometer with a unique cube shape, allowing the sensor to be mounted in two different orientations. The unit is hermetically sealed against environmental contamination.

The Endeveco® model 43A features an annular shear ceramic crystal which exhibits excellent output stability over time. The accelerometer incorporates an internal hybrid circuit with TEDS in a two-wire IEPE system which transmits its low impedance voltage output through the same cable that supplies the constant current power. Signal ground is electrically isolated from the outer case of the unit. Polarity inversion protection for the hybrid circuit is inherent in the circuit design.

The Endeveco® model 43A is available in three sensitivities designated by a two digit suffix. The 43A16 has a sensitivity of 100 mV/g, the 43A18 and 43A19 have sensitivities of 500 mV/g and 1,000 mV/g respectively. The customer may select the mounting stud size included standard with the unit. The available stud sizes are 10-32, 1/4-28, M5 and M6. The stud size is designated following a dash after the model number.

This product is fully compliant to the European Union's Low Voltage Directive, 2006/95/EC and EMC Directive 2004/108/EC and is eligible to bear the CE Mark.

Key features

- General purpose single axis Isotron® accelerometer
- 10-32 connector
- Wide frequency bandwidth
- Hermetically sealed
- Lightweight
- Signal ground isolated from mounting surface
- IEEE P1451.4 TEDS capable

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Specifications

The following performance specifications conform to ISA-RP-37.2 and are typical values, referenced at +75°F (+24°C), 4 mA, and 100 Hz, unless otherwise noted. Calibration data, traceable to National Institute of Standards and Technology (NIST), is supplied.

Dynamic characteristics	Units	43A16	43A18	43A19
Range	g	±50	±10	±5
Sensitivity				
±5%	mV/g	100		
±10%	mV/g		500	1000
Frequency response				
Resonance frequency				
Typical	kHz	35	30	30
Minimum	kHz	30	25	25
Amplitude response				
±5%	Hz		1 to 10 000	
±10%	Hz		1 to 12 000	
Phase response				
±5°	Hz		5 to 10 000	
Sensitivity deviation over temperature				
-67°F to +257°F [-55°C to +125°C]	%	5	10	10
Transverse sensitivity	%		≤5	
Amplitude linearity	%		<1	

Electrical characteristics

Output polarity		Acceleration directed into base produces positive output		
DC output bias voltage				
Room temperature +75°F (+24°C)	Vdc		+11.4 to +13.0	
-67°F to +257°F [-55°C to +125°C]	Vdc		+8.0 to +15.5	
Output impedance	Ω		<100	
Noise floor				
Broadband				
1 Hz to 10 kHz	µg rms	100	60	40
Spectral				
1 Hz	µg/√Hz	80	30	30
10 Hz	µg/√Hz	10	5	5
100 Hz	µg/√Hz	3	1.3	1.3
1000 Hz	µg/√Hz	1	0.6	0.4
Grounding method		Signal ground isolated from case		
Power requirements				
Supply voltage	Vdc		+24 to +30	
Supply current	mA		+2 to +20	
Warm-up time [1]	s	5	10	15

Environmental characteristics

Temperature range, operating		-67°F to +257°F [-55°C to +125°C]		
Humidity		Hermetically sealed		
Vibration limit (sinusoidal motion) [2]	g	1000	600	600
Shock limit [3]	g pk		5000	
Base strain sensitivity at 250 µstrain	g/µstrain		0.001	

Physical characteristics

Dimensions			See outline drawing	
Weight, maximum	gram (oz)	14 (0.49)	16 (0.56)	16 (0.56)
Case material		Titanium		
Connector		10-32 threaded coaxial		
Mounting method		Threaded stud		
Mounting stud torque, recommended				
10-32 and M6 studs	lbf-in (Nm)		18 (2)	
M5 stud	lbf-in (Nm)		13 (1.5)	
1/4-28 stud	lbf-in (Nm)		30 (3.5)	

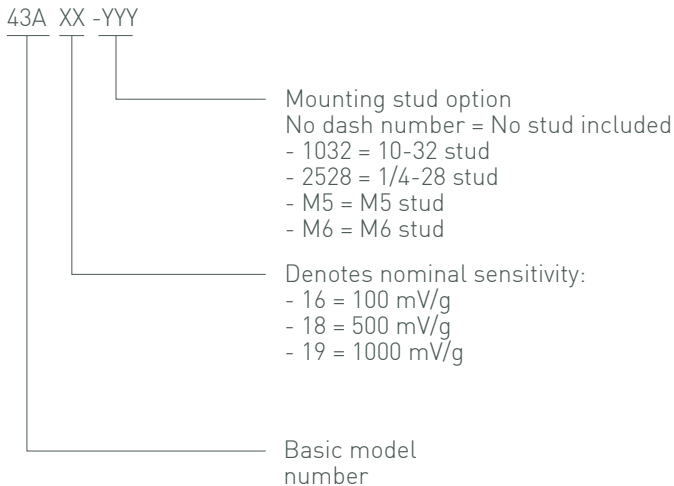
Calibration data supplied

Sensitivity	mV/g			
Frequency response				
Amplitude response	%		50 Hz to 10 kHz	
DC output bias voltage	Vdc			

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Model 43A

Model number definition



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Accessories

Product	Description	43AXX	43AXX-1032	43AXX-2528	43AXX-M5	43AXX-M6
C-001-AC-002-XXX [4]	Cable assembly 10-32 to BNC	Optional	Optional	Optional	Optional	Optional
3061A-XXX [4]	Cable assembly 10-32 to BNC	Optional	Optional	Optional	Optional	Optional
42676-1	Mounting stud 10-32 to 10-32	Optional	Included	Optional	Optional	Optional
42676-2	Mounting stud 10-32 to 1/4-28	Optional	Optional	Included	Optional	Optional
42676-4	Mounting stud 10-32 to M5	Optional	Optional	Optional	Included	Optional
42676-3	Mounting stud 10-32 to M6	Optional	Optional	Optional	Optional	Included
42675-1	Adhesive mounting adapter	Optional	Optional	Optional	Optional	Optional

Notes

- DC bias within 10% of final value.
- Destructive limit.
- Destructive limit. Shock is a one-time event. Shock pulses of short duration may excite transducer resonance. Shock level above the sinusoidal vibration limit may produce temporary zero shift that will result in erroneous velocity or displacement data after integration.
- XXX designates cable assembly length in inches.
- Maintain high levels of precision and accuracy using Meggitt's factory calibration services. Call Meggitt's inside sales force at 800-982-6732 for recommended intervals, pricing and turn-around time for these service as well as quotations for other products.