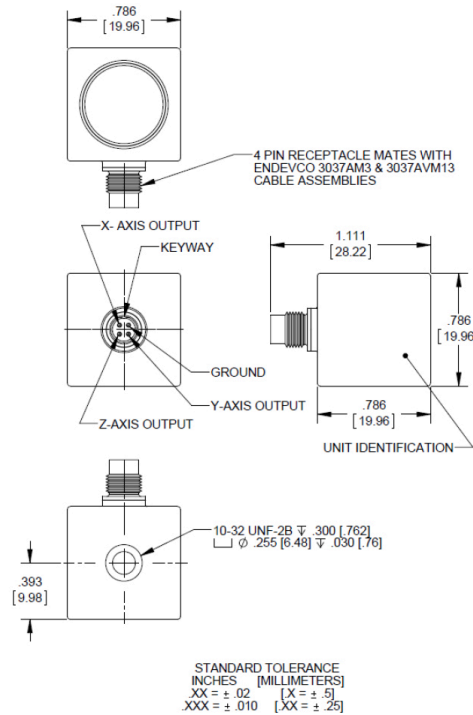


# Isotron<sup>®</sup> accelerometer

## Model 45A



The Endeveco<sup>®</sup> model 45A is a cost effective general purpose triaxial Isotron accelerometer designed for use in a variety of applications. The model 45A is a 20 mm cube shaped Isotron accelerometer, featuring a single threaded 1/4-28 4 pin connector.

The Endeveco<sup>®</sup> model 45A 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 connected to the outer case of the unit. Isolated mounting studs are available. Polarity inversion protection for the hybrid circuit is inherent in the circuit design.

The Endeveco<sup>®</sup> model 45A is available in five sensitivities designated by a two digit suffix. The 45A18 has a sensitivity of 500 mV/g, while the 45A19 has a sensitivity of 1000 mV/g. 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 triaxial Isotron<sup>®</sup> accelerometer
- Single, threaded 1/4-28 4 pin connector
- Wide frequency bandwidth
- High output available (500 mV/g and 1000 mV/g)
- 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	45A18	45A19
Range	g	±10	±5
Sensitivity			
±10%	mV/g	500	1000
Frequency response			
Resonance frequency			
Typical	kHz		28
Minimum	kHz		21
Amplitude response			
±5% y & z axis	Hz		1 to 6000
±5% x axis	Hz		1 to 3000
Phase response			
±5°	Hz		5 to 1500
Sensitivity deviation over temperature			
-67°F to +257°F (-55°C to +125°C)	%		-5 to +15
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			
1Hz to 10 kHz	μg rms	60	40
Spectral			
1Hz	μg/√Hz		30
10 Hz	μg/√Hz		5
100 Hz	μg/√Hz		1.3
1000 Hz	μg/√Hz		0.6
Grounding method		Signal ground connected to case	
Power requirements			
Supply voltage	Vdc		+24 to +30
Supply current	mA		+2 to +20
Warm-up time [1]	s		3

#### Environmental characteristics

Temperature range, operating		-67°F to +257°F (-55°C to +125°C)	
Humidity		Hermetically sealed	
Vibration limit (sinusoidal motion) [2]	g		500
Shock limit [3]	g pk		5000
Base strain sensitivity at 250 μstrain	g/μstrain		0.001

#### Physical characteristics

Dimensions		See outline drawing	
Weight	gram (oz)		40 (1.41)
Case material		Titanium	
Connector		1/4-28 4 pin	
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)

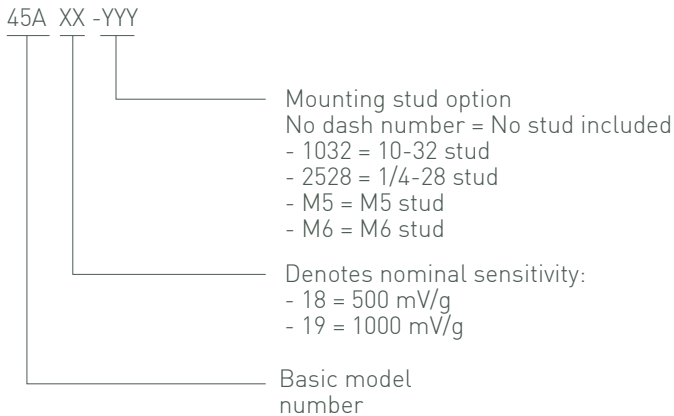
#### Calibration data supplied

Sensitivity	mV/g		
Frequency response			
Amplitude response	%		20 Hz to 7 kHz
DC output bias voltage	Vdc		

# Isotron<sup>®</sup> accelerometer

## Model 45A

### Model number definition



### Contact

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### Accessories

Product	Description	45AXX	45AXX-1032	45AXX-2528	45AXX-M5	45AXX-M6
C-001-CA-005-XXX [4]	Cable assembly 4 pin to 3 BNC	Optional	Optional	Optional	Optional	Optional
3027AM3-XXX [4]	Cable assembly 4 pin to 3 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
42673-1	Isolated mounting stud 10-32 to 10-32	Optional	Optional	Optional	Optional	Optional
42673-2	Isolated mounting stud 10-32 to 1/4-28	Optional	Optional	Optional	Optional	Optional
42673-3	Isolated mounting stud 10-32 to M6	Optional	Optional	Optional	Optional	Optional
42673-4	Isolated mounting stud 10-32 to M5	Optional	Optional	Optional	Optional	Optional
42675-1	Isolated 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.