Endevco®

Isotron® POD accelerometer

Model 46A

Hex mount with POD sensor assembly

Cube mount with POD sensor assembly

Triax mount with POD sensor assemblies

Tri-Hex mount with POD sensor assemblies

Cube adhesive mount with POD sensor assembly

Key features

- Versatility in mounting configurations and sensitivities
- Single and triaxial mounting configurations
- Mix and match sensitivities in any configuration
  - 10 mV/g
  - 25 mV/g
  - 100 mV/g
  - 500 mV/g
  - 1000 mV/g
- Stud or adhesive mount
- Case isolated and case grounded mounts
- IEEE P1451.4 TEDS capable

The Endevco Model 46AXX POD accelerometer is a general purpose accelerometer designed for versatility in mounting configuration. The POD accelerometer sensor assemblies are available in five sensitivities and are threaded for easy installation in any of the POD mounts. The POD mounts are available in five configurations – hex mount, cube mount, triax mount, tri-hex mount, and cube adhesive mount. The POD accelerometer sensor assemblies may be mixed and matched in any of the POD mounts. The POD sensor assembly and mounting bases have lock wire holes to prevent the POD accelerometer from loosening during vibration for extra safety.

The hex and cube mounts are for traditional single axis measurements. The triaxial mount allows the user to select the same or different sensitivities on each orthogonal axis. For users that do not know the correct accelerometer sensitivity for the test, the tri-hex mount is ideal. The tri-hex mount allows the user to thread three different POD accelerometer sensor assemblies in a single mount.

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.

Patent pending.

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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	46A13	46A14	46A16	46A18	46A19
Range	g pk	±500	±200	±50	±10	±5
Voltage sensitivity						
±5%	mV/g	10	25	100		
±10%	mV/g				500	1000
Frequency response						
Resonance frequency						
Typical	kHz	35	35	35	30	30
Minimum	kHz	30	30	30	25	25
Amplitude response						
±5%	Hz			1 to 10000		
±10%	Hz			1 to 12000		
Phase response						
±5°	Hz			1 to 10000		
Sensitivity deviation over temperature						
-67°F to +257°F (-55°C to +125°C)	%	≤5	≤5	≤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	300	200	100	60	40
Spectral						
1Hz	µg/√Hz	250	150	80	30	30
10 Hz	µg/√Hz	30	25	10	5	5
100 Hz	µg/√Hz	6	4	3	1.3	1.3
1000 Hz	µg/√Hz	3	2	2	0.6	0.4
Grounding method						
POD only		Signal ground connected to case				
POD installed in aluminum mount		Signal ground isolated from case in anodized aluminum mounts				
POD installed in titanium mount		Signal ground connected to case in titanium mounts				
Power requirements						
Supply voltage						
Minimum, reduced range [1]	Vdc			+18		
Minimum, full range [2]	Vdc			+20		
Minimum [3]	Vdc			+24		
Maximum	Vdc			+30		
Supply current	mA			+2 to +20		
Warm-up time [4]	S	2	3	5	10	15
Digital communication (TEDS) device				DS2431X+U		

Environmental characteristics		
Temperature range, operating [5]	°F (°C)	-67 to +257 (-55 to +125)
Humidity		Hermetically sealed
Vibration limit (sinusoidal motion) [6]	g rms	600
Shock limit [7]	g pk	5000

Physical characteristics POD sensor		
Dimensions		See outline drawing
Weight	gm (oz)	3.5 (0.12)
POD sensor case material		Titanium
Connector		10-32 coaxial
Installation torque, sensor in mount	lbf-in (Nm)	25 (2.8)

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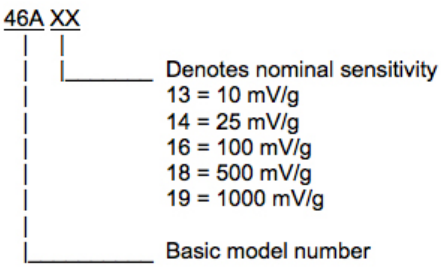
Calibration data supplied			
Sensitivity	mV/g		
Frequency response (POD sensor only)	%	50 Hz to 10000 Hz	
DC output bias voltage	Vdc		

Physical characteristics mounts		-1	-2
Dimensions		See outline drawing	
Hex mount (part number 43071)	gm (oz)	4.5 (0.16)	7.6 (0.27)
Cube mount (part number 43072)	gm (oz)	10.5 (0.37)	16.6 (0.62)
Cube adhesive mount (part number 43043)	gm (oz)	6 (0.21)	10.1 (0.36)
Triax mount (part number 42626)	gm (oz)	15 (0.53)	25.2 (0.89)
Tri-hex mount (part number 42627)	gm (oz)	12.2 (0.43)	20.4 (0.72)
Mount material		Hard anodized aluminum	Titanium
Mounting stud torque, recommended			
10-32 and M6 studs	lbf-in (Nm)	18 (2)	
M5 stud	lbf-in (Nm)	13 (1.5)	
¼-28 stud	lbf-in (Nm)	30 (3.5)	

Model number definition



Accessories

Product	Description	46AXX
43071-1	Hex mount, anodized aluminum	Optional
43071-2	Hex mount, titanium	Optional
43072-1	Cube mount, anodized aluminum	Optional
43072-2	Cube mount, titanium	Optional
43043-1	Cube adhesive mount, anodized aluminum	Optional
43043-2	Cube adhesive mount, titanium	Optional
42626-1	Triaxial mount, anodized aluminum	Optional
42626-2	Triaxial mount, titanium	Optional
42627-1	Tri-hex mount, anodized aluminum	Optional
42627-2	Tri-hex mount, titanium	Optional
C-001-AC-002-ZZZZ [8]	Cable assembly 10-32 to BNC	Optional
42676-1	Mounting stud 10-32 to 10-32	Optional
42676-2	Mounting stud 10-32 to 1/4-28	Optional
42676-4	Mounting stud 10-32 to M5	Optional
42676-3	Mounting stud 10-32 to M6	Optional

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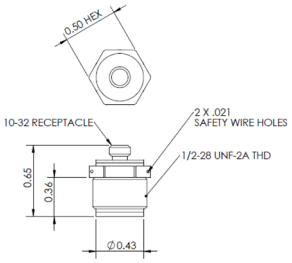
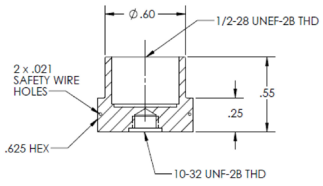
Notes

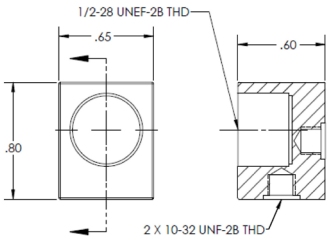
1. Available full scale range reduced approximately 40% at this voltage at room temperature.
2. Specified full scale range at this voltage at room temperature.
3. Specified full scale range at this voltage over entire operating temperature range.
4. DC bias within 10% of final value.
5. TEDS device operational temperature range is -40°F to +185°F (-40°C to +85°C). TEDS device will survive full operational temperature range of accelerometer.
6. Destructive limit.
7. 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.
8. ZZZZ designates cable assembly length in inches.
9. 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 services as well as for quotations on our standard products.



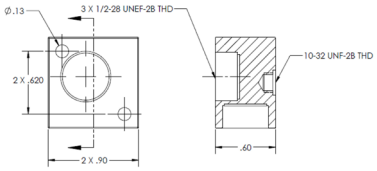
POD sensor assembly
Model 46AXX



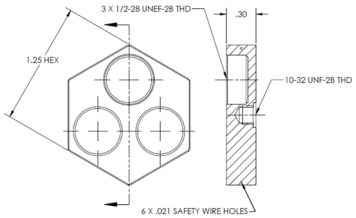
Hex mount with POD
43071-X with 46AXX



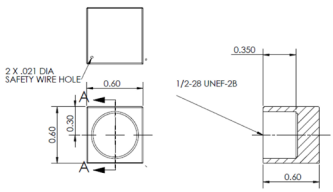
Cube mount with POD
43072-X with 46AXX



Triax mount with PODs
42626-X with 46AXX



Tri-hex mount with PODs
42627-X with 46AXX



Cube adhesive mount with POD
43043-X with 46AXX

Contact

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