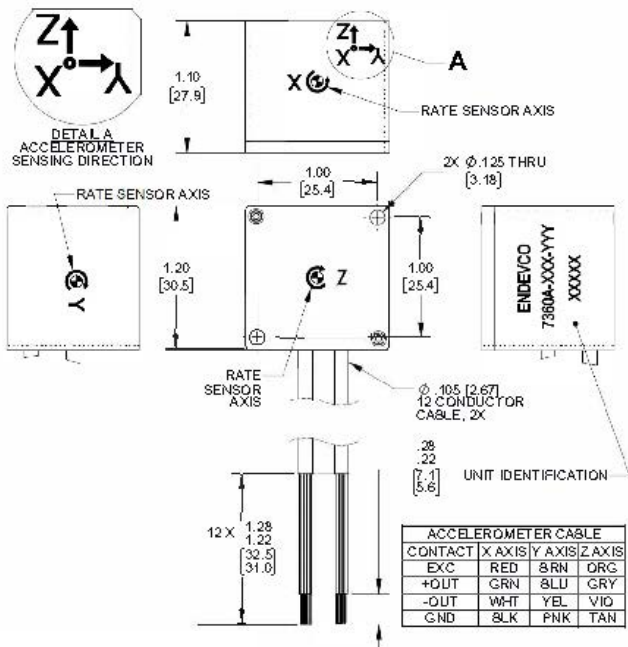


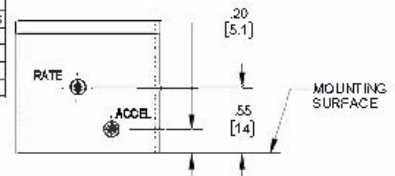
6 Degrees of freedom sensor

Model 7360A



RATE SENSOR CABLE				
CONTACT	X AXIS	Y AXIS	Z AXIS	Z AXIS
EXC	RED	BRN	ORG	
+OUT	GRN	BLU	GRY	
-OUT	WHT	YEL	VID	
GND	BLK	PNK	TAN	

STANDARD TOLERANCE
INCHES [MILLIMETERS]
.XX = +.02 [-X = +.5]
.XXX = +.010 [XX = +.25]



Key features

Three axes of acceleration and three axes of angular rate

DC response with analog output

Compact package with two 12 conductor cables

Rugged to 5,000 g shock

Request 7360AM1 for 5 V operation

Description

The Endevco® Model 7360A is a six-degrees of freedom (6DOF) sensor that features three DC accelerometers and three angular rate sensors packaged in a compact enclosure. This 6DOF sensor is designed specifically for automotive safety testing, aerospace testing and other testing in harsh shock and vibration environments requiring accurate measurement of accelerations and angular velocity. The 7360A 6DOF sensor features various accelerating ranges including ± 2 , ± 10 , ± 50 , ± 200 , $\pm 500g$ and angular rate ranges including ± 100 , ± 500 , ± 1500 , ± 8000 , ± 12000 and ± 18000 deg/sec, and provides full scale voltage output of $\pm 2V_{pk}$.

6 Degrees of freedom sensor | Model 7360A

All specifications assume +75°F (+24°C) and +15 Vdc excitation unless otherwise stated

Accelerometer Specifications		-2	-10	-50	-200	-500
Dynamic characteristics						
Range	g	±2	±10	±50	±200	±500
Sensitivity	mV/g	1000	200	40	10	4
(tolerance)	mV/g	±50	±10	±2	±1.0	±0.3
Frequency response						
(±1dB, ref 100 Hz) max	Hz	0-300	0-1500	0-1800	0-1800	0-1800
(±3dB, ref 100 Hz) typical	Hz	0-550	0-2500	0-2800	0-5000	0-5000
Zero measurand output	mV	±50	±50	±50	±50	±50
Transverse sensitivity (typical)	%	3.0	3.0	3.0	3.0	3.0
Thermal zero shift (max)	%FSO [2]	±2.0	±2.0	±2.0	±2.0	±2.0
-40°C to +100°C (-40°F to +212°F)						
Thermal sens shift (max)	%	±2.0	±2.0	±2.0	±2.0	±2.0
-40°C to +100°C (-40°F to +212°F)						
Combined non-linearity and hysteresis (typical)	%FSO	±0.5	±0.5	±0.5	±0.5	±1
Natural frequency, (typical)	Hz	1,300	2,700	5,500	9,800	18,000
Threshold (resolution) [3]	equiv. g's	.0002	.001	.005	.02	.05
Electrical characteristics						
Excitation voltage	7 to 36 Vdc					
Current drain	8mA max each accelerometer axis, 24 mA max total					
Output impedance	100 ohms max					
Load	10K ohms resistance minimum					
Residual noise	50 pF capacitance maximum					
	500 µVrms typ; 0.5Hz to 10 kHz					
	45 Vdc					
Maximum excitation voltage without damage	Reverse polarity protected					
Input voltage protection	100 Meg Ohms minimum at 50 Vdc					
Insulation resistance	Case to leads shorted together					
	Shield to leads shorted together					
Warm-up time (to within 1% of final output value)	<100 ms					
Physical characteristics						
Weight (typical)	35 grams (without cable)					
Case material	Anodized aluminum alloy					
Cable type	2 cables, 12x #30AWG Cond PFA insulated, braided shield, PU jacket					
Mounting/torque	2x #4-40 or M3 Mounting Screw/ 6 lb-in (0.68 N-m)					
Environmental characteristics						
Acceleration limits (in any direction)						
Shock Limit						
Temperature	5000g					
Operating Range	-40°F to +212°F (-40°C to +100°C)					
Storage Range	-40°F to +212°F (-40°C to +100°C)					
Humidity	IP67					
Calibration data						
Sensitivity	Measured at 1g and 100 Hz for the -2					
(Measured with +15 Vdc excitation)	Measured at 10 g and 100Hz for the -10, -50, -200 and -500					
Zero measurand output	Measured at +15 Vdc and room temperature					
Frequency response	Measured at 1g, 20 to 1000 Hz for the -2					
(Measured with +15 Vdc excitation)	Measured at 10 g, 20 to 10000 Hz for the -10, -50,-200 and -500					

6 Degrees of freedom sensor | Model 7360A

All specifications assume +75°F (+24°C) and +7 Vdc, unless otherwise stated

Angular Rate Sensor Specifications							
Dynamic characteristics		-100	-500	-1K	-8K	-12K	-18K
Range	deg/sec	±100	±500	±1500	±8000	±12000	±18000
Sensitivity (±15%)	mV/deg/sec	20	4	1.333	0.25	0.167	0.111
Zero measurand output	mV	±100	±100	±100	±100	±100	±100
Non-linearity (max)	%FSO [1]	±0.5	±0.5	±0.5	±0.5	±0.5	±0.5
Frequency response (+1dB/-3dB, ref 100 Hz)	Hz	0-1000	0-1000	0-1000	0-1000	0-2000	0-2000
Cross axis sensitivity	%	<1	<1	<1	<1	<1	<1
Thermal zero shift (max) -40°C to +105°C (-40°F to +221°F)	%FSO	±2.5	±2.5	±2.5	±2.5	±2.5	±2.5
Thermal sens shift (max) -40°C to +105°C (-40°F to +221°F)	%	±2.0	±2.0	±2.0	±2.0	±2.0	±2.0
Residual noise (passband)	mV RMS	12	3.2	2.5	2.1	1.8	1.8
Electrical characteristics							
Excitation voltage	5 to 16 Vdc						
Current drain	6 mA max each rate sensor axis, 18mA max total.						
Output impedance	200 ohms max						
Maximum excitation voltage without damage	20 Vdc						
Common mode voltage (±5%)	2.5 Vdc						
Full scale output voltage (±15%)	±2 Vpk						
Insulation resistance (at 100vdc)	>100 MΩ						
Warm-up time (to within 1% of final output value)	<100 ms						
Physical characteristics							
Weight (typical)	35 grams (without cable)						
Case material	Anodized aluminum alloy						
Cable type	2 cables, 12x #30AWG Cond PFA insulated, braided shield, PU jacket						
Mounting/torque	2x #4-40 or M3 Mounting Screw/ 6 lb-in (0.68 N-m)						
Environmental characteristics							
Acceleration limits (in any direction)	5000g						
Shock Limit	5000g						
Temperature	5000g						
Operating Range	-40°F to +212°F (-40°C to +100°C)						
Storage Range	-40°F to +212°F (-40°C to +100°C)						
Humidity	IP67						
Calibration data							
Sensitivity (Measured with +7 Vdc excitation)	Measured at 100 deg/s for -100, 500deg/s for -500, 1500 deg/s for -1K5, and 3000 deg/s for -8K, -12K and -18K						
Zero measurand output	Measured at +7 Vdc excitation and room temperature						
Non-linearity (Measured with +7 Vdc excitation)	Measured within range ±100 deg/s for -100, ±500 deg/s for -500, ±1500 deg/s for -1K5, and ±3000 deg/s for -8K, -12K and -18K						

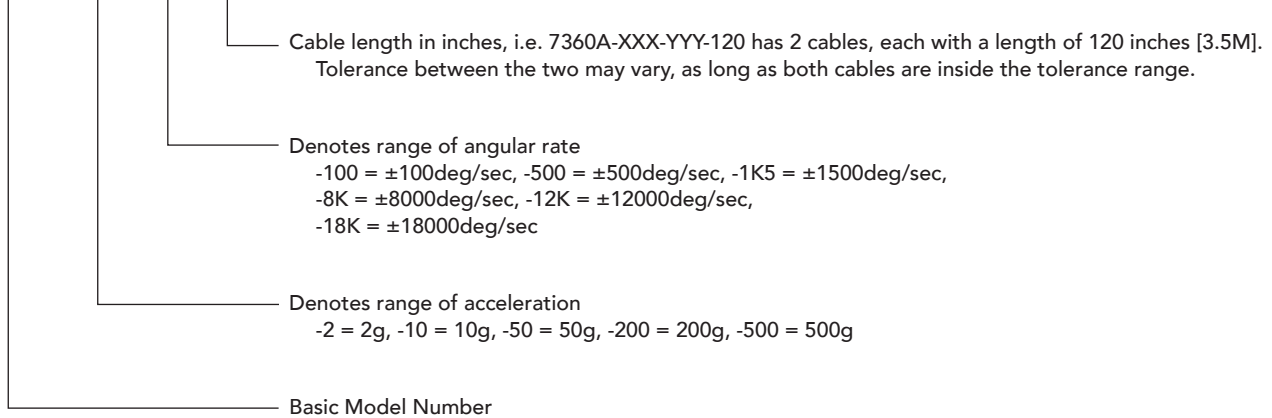
6 Degrees of freedom sensor | Model 7360A

Accessories		
Product	Description	7360A
EH866	4-40 X 1 1.4 Socked Head Cap Screw, 2X	Included
EHW289	#4 Flat Washer, 2X	Included

Notes

1. Maintain high levels of precision and accuracy using Endevco's factory calibration services. Call Endevco's inside sales force at 866-ENDEVCO for recommended intervals, pricing and turn-around time for these services as well as for quotations on our standard products.
2. The 7360AM1 requires a regulated 5V power supply for proper operation. Please contact Endevco for complete sensor specifications.
3. Full scale output (FSO) is nominally 4 volts.
4. Threshold = 2x max. Residual noise; .5 To 100Hz/sensitivity.
5. Model number definition:

7360A - XXX - YYY - ZZZ



10869 NC Highway 903, Halifax, NC 27839 USA

endevco.com | sales@endevco.com | 866 363 3826