Model I	Number	
670A01		

ECHO® WIRELESS VIBRATION SENSOR

Revision: F ECN #: 53588

Velocity LP Filter	0707(01			
Velocity LP Filter				[1]
Velocity LP Filter 2400 Hz,3-pole Chebyshev 2400 Hz,3-pole Chebyshev Velocity Range 4 ips rms 1001 ips rms 101 ips rms 101 ips rms 101 ips rms 2,200 to 15,000 Hz 2,200 to 15,000				[,]
Velocity Range				
Velocitý Range 4 ips rms 101.6 mm/s rms RMS Acceleration Frequency Range(± 3 dB) 2,200 to 15,000 Hz 2,200 to 15,000 Hz Acceleration HP Filter 2000 Hz,4-pole Chebyshev 15k Hz, 3-pole Chebyshev + 1-pole RC Acceleration Resolution 0.007 g pk 0.069 m/s² pk Acceleration Range 20 g pk 196.2 m/s² pk Fransverse Sensitivity 5 7 % 27 % Velocity Linearity(0-1 ips rms) < 1 %				
RMS Acceleration Frequency Range(± 3 dB)				
Acceleration HP Filter				[1]
Acceleration LP Filter Acceleration Resolution Acceleration Resolution Acceleration Range Transverse Sensitivity Velocity Linearity(0-1 ips rms) Velocity Linearity(0-4 ips rms) Acceleration Linearity Environmental Overload Limit(shock) Transmission Range Transmission Range Transmission Range Electrical RMS Velocity Analog Integration, FFT Sum RMS Acceleration Some of RF Bands Frequency Band Number of RF Bands ADC/dynamic range Battery Life(room temperature) Electrical Isolation ADC/dynamic range Battery Life(room temperature) Electrical Isolation Physical Power Size (Hex x Height) Sensing Geometry Housing Material Housing Diameter Mounting Mounting Torque Sealing 15k Hz, 3-pole Chebyshev + 1-pole RC 0.009 pk 0.069 m/s² pk 196.0 < 1% 196.2 m/s² v 196.3 m/s² v 198.1 m/s² v 198.1 m/s² v 198.1 m/s² v 198.2 m/s² v 198.3 m/s² v 198.3 m/s² v 198.4 m/s² v 199.5 m/s² v 199.5 m/s² v 190.0 m/s² pk 190.0 m/s² pk 196.6 m/s² v 1				۲.1
Dole RC				
Acceleration Resolution Acceleration Range Transverse Sensitivity Acceleration Range Transverse Sensitivity Yelocity Linearity(0-1 ips rms) Yelocity Linearity(0-1 ips rms) Acceleration Linearity Analog pk Acceleration Pip66 IP66 IP66 IP66 IP66 IP66 IP66 IP66 I				
Acceleration Range Transverse Sensitivity Yelocity Linearity(0-1 ips rms) Velocity Linearity(0-4 ips rms) Velocity Linearity(0-4 ips rms) Acceleration Linearity Range Velocity Linearity(0-4 ips rms) Acceleration Linearity Velocity Linearity(0-4 ips rms) Acceleration Linearity Velocity Velocity Linearity(0-4 ips rms) Acceleration Linearity Velocity Velocity Femperature Range Pie6 Velocity Pie6 Velocity Pie6 Velocity Pie6 Velocity RMS Acceleration Velocity RMS Acceleration Velocity RMS Acceleration Velocity Analog Integration, FFT Sum John Velocity Analog Integration, FFT Sum John Velocity RMS Acceleration Velocity Analog Integration, FFT Sum John Velocity Velocity Velocity RMS Acceleration Velocity RMS Acceleration Velocity RMS Acceleration Velocity RMS Acceleration Velocity Analog Integration, FFT Sum John Velocity Velocity Velocity Velocity Velocity Analog Integration, FFT Sum John Velocity Veloc	Acceleration Resolution			[2]
Transverse Sensitivity ≤ 7 % ≤ 7 % Velocity Linearity(0-1 ips rms) < 1 %				[2]
Velocity Linearity(0-1 ips rms) < 1 %				
Velocity Linearity (I)-4 ips rms) < 8.5 % < 8.5 % Acceleration Linearity < 1 % < 1 % En viron mental 1 1,000 g pk 9,810 m/s² pk Temperature Range -4 to +158 °F -20 to +70 °C 1P66 Irenciosure Rating IP66 IP64 IP6 IP64 IP6 IP68 IP64	Velocity Linearity(0-1 ips rms)	< 1 %	< 1 %	[3]
Coverload Limit(shock)		< 8.5 %	< 8.5 %	[3]
Overload Limit(shock) 1,000 g pk 9,810 m/s² pk Temperature Range -4 to +158 °F -20 to +70 °C Enclosure Rating 1P66 IP66 Transmission Range 250 ft to >1 mile radius, installation dependent 250 ft to >1 mile radius, installation dependent Electrical Analog Integration, FFT Sum sample @ 61.4 kHz Analog Integration, FFT Sum	Acceleration Linearity	< 1 %	< 1 %	[3]
Temperature Rainge	Environmental			
Enclosure Rating IP66 IP66 IP66 Transmission Range 250 ft to>1 mile radius, installation dependent 250 ft to>1 mile radius, installation dependent Installation dependent 250 ft to>1 mile radius, installation dependent Installation dependent 250 ft to>1 mile radius, installation dependent Installation dependent 250 ft to>1 mile radius, installation dependent Installation dependent 250 ft to>1 mile radius, installation dependent Installation dependent 250 ft to>1 mile radius, installation per ST	Overload Limit(shock)	1,000 g pk	9,810 m/s² pk	
Transmission Range 250 ft to>1 mile radius, installation dependent Electrical RMS Velocity Analog Integration, FFT Sum SAcceleration 3.7 Sec time sample @ 61.4 kHz sample rate sample may be sample	Temperature Range	-4 to +158 °F	-20 to +70 °C	
installation dependent installation dependent RIFT Sum Analog Integration, FFT Sum Analog Integration, FFT Sum 3.7 Sec time sample @ 61.4 kHz sample are 16 frequency Band Number of RF Bands 12 12 12 12 12 12 12 12 12 12 12 12 12	Enclosure Rating	IP66	IP66	
Electrical RMS Velocity RMS Acceleration 3.7 Sec time sample @ 61.4 kHz sample rate 16 Frequency Band Number of RF Bands Maximum Power(ERP) RF Data Rate 20 bps ADC/dynamic range Battery Life(room temperature) Relectrical Isolation Physical Power Power Size (Hex x Height) Sensing Element Weight Housing Material Housing Diameter Housing Manderial Housing Diameter Mounting Mounting Mounting Mounting Mounting Mounting Miss Acceleration Analog Integration, FFT Sum Analog Integration, FTE Sum Analog Integrated Analog Integration Analog Integration Analog Integration Analog Integration Analog Integrate Analog Integration Analog Integrate	Transmission Range	250 ft to>1 mile radius,	250 ft to>1 mile radius,	[4]
RMS Velocity Analog Integration, FFT Sum 3.7 Sec times ample @ 61.4 kHz sample are filtered Crest Factor(max) Analog Integration, FFT Sum 3.7 Sec times ample @ 61.4 kHz sample rate filtered Crest Factor(max) Analog Integration, FFT Sum 3.7 Sec times ample @ 61.4 kHz sample rate filtered Crest Factor(max) Analog Integration, FFT Sum 3.7 Sec times ample @ 61.4 kHz sample rate filtered Crest Factor(max) Analog Integration, FFT Sum 3.7 Sec times ample @ 61.4 kHz sample rate filtered Crest Factor(max) Analog Integration, FFT Sum 3.7 Sec times ample @ 61.4 kHz sample rate filtered Crest Factor filter		installation dependent	installation dependent	
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Sample rate Sample rate Sample rate 16 16 16 16 16 16 16 1				
Filtered Crest Factor(max) 16 16 Frequency Band 916 MHz ISM Band 916 MHz ISM Band Number of RF Bands 12 12 Maximum Power(ERP) 0.75 mW 0.75 mW RF Data Rate 20 bps 20 bps ADC/dynamic range 16 bit/>90db 16 bit/>90db Battery Life(room temperature) ~1 year @ 3-measurements per day -1 year @ 3-measurements per day Lectrical Isolation > 108 Ohm > 108 Ohm Physical > 108 Ohm > 108 Ohm Power 7.2V Lithium Battery Pack 34.93 mm x 111.8 mm Sering Element Ceramic Ceramic Weight 1 lb 454 g Sensing Geometry Shear Shear Housing Material Stainless Steel Stainless Steel Housing Diameter 1.66 in 42.0 mm Mounting 1/4" - 28 1/4" - 28 Mounting Torque 3 to 5 ft-lb 4 to 7 Nm	RMS Acceleration	3.7 Sec time sample @ 61.4 kHz	3.7 Sec time sample @ 61.4 kHz	
Frequency Band Number of RF Bands Maximum Power(ERP) 916 MHz ISM Band 12 916 MHz ISM Band 12 Maximum Power(ERP) 0.75 mW 0.75 mW 0.75 mW 20 bps 0.75 mW 0.75 mW 0.75 mW RF Data Rate 20 bps 16 bit/>90db ADC/dynamic range Battery Life(room temperature) 16 bit/>90db ~1 year @ 3-measurements per day Electrical Isolation > 108 Ohm > 108 Ohm Physical Power 7.2V Lithium Battery Pack Size (Hex x Height) 7.2V Lithium Battery Pack 34.93 mm x 111.8 mm Sensing Element Ceramic Ceramic Ceramic Ceramic Weight 1 lb 454 g Sensing Geometry Shear Housing Material Stainless Steel Housing Diameter 5tainless Steel Housing Diameter 1.66 in 42.0 mm Mounting 1/4" - 28 1/4" - 28 1/4" - 28 1/4" - 28 Mounting 0-Ring 0-Ring				
Number of RF Bands 12 12 Maximum Power(ERP) 0.75 mW 0.75 mW RF Data Rate 20 bps 20 bps ADC/dynamic range 16 bit/-90db 16 bit/-90db Battery Life(room temperature) ~1 year @ 3-measurements per day ~1 year @ 3-measurements per day ~1 year @ 3-measurements per day ~108 Ohm Physical Nower 7.2V Lithium Battery Pack 7.2V Lithium Battery Pack 34.93 mm x 111.8 mm Sensing Element Ceramic Ceramic Ceramic Weight 1 lb 454 g 34.93 mm x 111.8 mm Sensing Geometry Shear Shear Shear Housing Material Stainless Steel Stainless Steel Housing Diameter 1.66 in 42.0 mm Mounting 1/4" - 28 1/4" - 28 Mounting Torque 3 to 5 ft-lb 4 to 7 Nm Sealing O-Ring O-Ring				
Maximum Power(ERP) 0.75 mW 0.75 mW RF Data Rate 20 bps 20 bps ADC/dynamic range 16 bit/-90db 16 bit/-90db Battery Life(room temperature) ~1 year @ 3-measurements per day ~1 year @ 3-measurements per day Electrical Isolation > 108 Ohm > 108 Ohm Physical Power 7.2V Lithium Battery Pack 7.2V Lithium Battery Pack Size (Hex x Height) 1.375 in x 4.40 in 34.93 mm x 111.8 mm Sensing Element Ceramic Ceramic Weight 1 lb 454 g Sensing Geometry Shear Shear Housing Material Stainless Steel Stainless Steel Housing Diameter 1.66 fin 42.0 mm Mounting 1/4" - 28 1/4" - 28 Mounting Torque 3 to 5 ft-lb 4 to 7 Nm Sealing O-Ring O-Ring				
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Electrical Isolation	Battery Life(room temperature)			
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Power 7.2V Lithium Battery Pack 7.2V Lithium Battery Pack Size (Hex x Height) 1.375 in x 4.40 in 34.93 mm x 111.8 mm Sensing Element Ceramic Ceramic Weight 1 lb 454 g Sensing Geometry Shear Shear Housing Material Stainless Steel Stainless Steel Housing Diameter 1.66 in 42.0 mm Mounting 1/4" - 28 1/4" - 28 Mounting Torque 3 to 5 ft-lb 4 to 7 Nm Sealing O-Ring O-Ring		> 10 ⁸ Ohm	> 10 ⁸ Ohm	
Size (Hex x Height) 1.375 in x 4.40 in 34.93 mm x 111.8 mm Sensing Element Ceramic Ceramic Weight 1 lb 454 g Sensing Geometry Shear Shear Housing Material Stainless Steel Stainless Steel Housing Diameter 1.66 in 42.0 mm Mounting 1/4" - 28 1/4" - 28 Mounting Torque 3 to 5 ft-lb 4 to 7 Nm Sealing O-Ring O-Ring	Physical			
Sensing Element Ceramic Ceramic Weight 1 lb 454 g Sensing Geometry Shear Shear Housing Material Stainless Steel Stainless Steel Housing Diameter 1.66 in 42.0 mm Mounting 1/4" - 28 1/4" - 28 Mounting Torque 3 to 5 ft-lb 4 to 7 Nm Sealing O-Ring O-Ring				
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Mounting 1/4" - 28 1/4" - 28 Mounting Torque 3 to 5 ft-lb 4 to 7 Nm Sealing O-Ring O-Ring				
Mounting Torque 3 to 5 ft-lb 4 to 7 Nm Sealing O-Ring O-Ring				
Sealing O-Ring O-Ring				[5]
Sensor Activation/Deactivation Magnet Switch Magnet Switch	Sensor Activation/Deactivation	Magnet Switch	Magnet Switch	

OPTIONAL VERSIONS

Optional versions have identical specifications and accessories as listed for the standard model except where noted below. More than one option may be used.

CS - Canadian Standards Association Approved Intrinsically Safe

M - Metric Mount Supplied Accessory: Model M081A61 Mounting Stud 1/4-28 to M6 X 1 (1)

TO - Temperature Output Battery Life

~10 Months

~10 Months

NOTES:

[1]Upper frequency tolerance is \pm 10% of the specified value.

[2] Conversion Factor $1g = 9.81 \text{ m/s}^2$.

[3]Zero-based, least-squares, straight line method.

[5]1/4-28 has no equivalent in S.I. units.

[6]CL 1, Div 2, Groups A, B, C, D, T5

SUPPLIED ACCESSORIES:

Model 081A40 Mounting Stud (1)

Model M081A61 Mounting Stud 1/4-28 to M6 X 1 (1)

Entered: ND Sales: JL Approved: BAM Spec Number: Engineer: gs Date: 03/15/2023 Date: 03/15/2023 Date: 03/15/2023 Date: 03/15/2023 42657



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All specifications are at room temperature unless otherwise specified. In the interest of constant product improvement, we reserve the right to change specifications without notice.