

# Wireless Accelerometer Model 7034000-1



## Accelerometer Specifications:

- Piezoelectric Sensor
- Selectable  $\pm 50G$  or  $\pm 5G$  full scale range
- 0.35 Hz to 10,000 Hz Response
- Operating Temperature:  $-5^{\circ}F$  to  $+160^{\circ}F$
- Height = 2.63" x 1.56 Diameter

## Data Specifications:

- 1Hz to 65kHz Sampling Rate
- Up to 65,534 Sample Count
- 16 bit Resolution
- Data includes:
  - Acceleration RMS (g)
  - Time Waveform (g)<sup>1</sup>
  - Unit Temperature
  - Reference Voltage Level
  - Battery Energy Status

## Wireless Specifications:

- License Free 902-928 MHz ISM Band <sup>2</sup>
- Transfer speed up to 3.5kb/s <sup>3</sup>
- Transfer Distance up to 250 feet in the building
- Polling mode (data on demand)

## General Specifications:

- Nominal Battery Life of 2+ Years <sup>4</sup>
- IP65, NEMA 4 Package
- Housings of 303 Stainless
- Meets FDA Reg CFR-21-178.3570
- Integral  $\frac{1}{4}$ -28 Mounting Thread



<sup>1</sup> Velocity, displacement and spectrum information with data processing software

<sup>2</sup> 869 MHz units available on special order request

<sup>3</sup> Information transfer speed

<sup>4</sup> Polling mode off (up to 6 month with polling mode on)

## Description

The 7034000-1 accelerometer is a wireless method of transmitting CBM vibration data in industrial environments. The unit contains a precision piezoelectric sensor, temperature sensor, digital signal processor, data memory, wireless transceiver, internal battery, and an internal antenna. Powered with an internal Lithium battery, the solid-state Accelerometer collects and transmits vibration data securely via a wireless link. Unit reports reference voltage level, battery energy status and board temperature through status via a wireless link. The 7034000-1 is a component of the Maintenance Watchdog™ System which provides all the tools needed to collect and analyze vibration data.

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## Applications Include

- Condition Based Maintenance
- Vibration Monitoring
- Vibration Analysis
- Machine Diagnostics

**Performance:**  $T_c=25^\circ\text{C}$  unless otherwise specified.

Parameter	Min.	Typ	Max	Units
Number of Axes		1		Z
Maximum Range (User Selectable)	5		50	g
Calibration Accuracy (Stored in on board EEPROM)	-5		+5	%
Acceleration Sensitivity		0.003		g
Velocity Sensitivity @ 10 Hz		0.0125		in/s
Displacement Sensitivity @ 10 Hz		0.0005		in
Frequency Response (+/-3 dB)	0.45		10,000	Hz
Frequency Response (+/- 5%)	3		1,000	Hz
Resonance Frequency	25,000			Hz
Q	30	35	40	dB
A/D Resolution		16		Bits
Sampling Rate	1		65535	Hz
Sample Count	4		65534	Samples
Scheduling Resolution		1		Second
Scheduling Interval	1		>1000000	Min
Max Mechanical Shock			500	g
Sensitivity Temperature Shift		0.18		%FSO/ $^\circ\text{C}$
Non-Linearity (0 to + 90% of Full Scale)		0.1		% of span
Damping Ratio of Accelerometer Element	0.4	0.7	0.9	NA
Weight Including Lithium Battery		2.80		oz
Transceiver Operational Frequency <sup>1</sup>		914.50		MHz
Radiated Power (ERP)			0	dBm
Receiver Sensitivity		-100		dBm
Range		250		feet
Battery Capacity (Lithium Thionyl Chloride)		1000		mAH
Sensor Battery Life (one 2048 smpl. record per hour <sup>2</sup> )		2.0		years
Operating Temperature	-20 (-5)		+70 (160)	$^\circ\text{C}$ (F)
Storage Temperature (all versions)	-40 (40)		+85 (185)	$^\circ\text{C}$ (F)
Tightening Torque	22	24	26	in-lbs

<sup>1</sup> 869 MHz units available on special order request

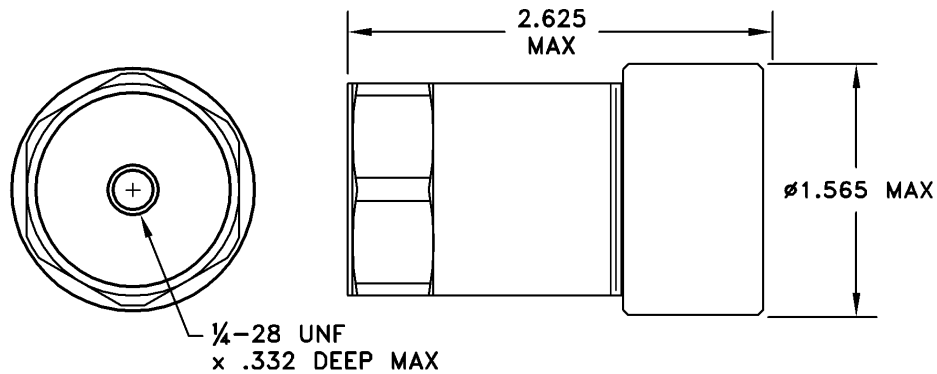
<sup>2</sup> 2048 samples record contains enough information for 800 lines FFT, polling mode off

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## Ordering information

Part Number:     **7034000-1**   303 stainless steel base wireless accelerometer with polycarbonate lid  
                      **20317-1**     Standard Temperature Battery  
                      **20318-1**     High Temperature Battery



Rev A.5. Specifications are subject to change without notice.