

Wireless Single Channel Telemetry Unit Model 7014000-1



Input Specifications:

- Operates 100mV/g low impedance accelerometers (e.g. PCB ICP, Endevco ISOTRON, Wilcoxon IEPE etc...)
- Generates required power to operate the sensor with integrated long life battery

Data Specifications:

- 1Hz to 65kHz Sampling Rate
- Up to 65,534 Sample Count
- 16 bit Resolution
- 128kbyte Data Storage
- Data includes:
 - Acceleration RMS (g)
 - Acceleration Time Waveform (g) ¹
 - Reference Voltage Level
 - Battery Energy Status
 - Board Temperature



Wireless Specifications:

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

General Specifications:

- Battery Powered (1/2 AA Li)
- Nominal Battery Life of 2+ Years ⁴
- IP65, NEMA 4X Package
- 2.6" x 2.6" x 1.6"

¹ Velocity, displacement and spectrum information with Maintenance Watchdog Software

² 869MHz units available on special order request

³ Information transfer speed

⁴ Polling mode off (up to 6 month with polling mode on)

Description

The 7014000-1 combines the cost effectiveness of utilizing commercially available accelerometers with the flexibility and power of wireless communication. The unit contains a constant current power source, amplifiers, filters, digital signal processor, data memory, wireless transceiver, internal battery, and an internal antenna. Powered with an internal Lithium battery, the unit 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 7014000-1 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.

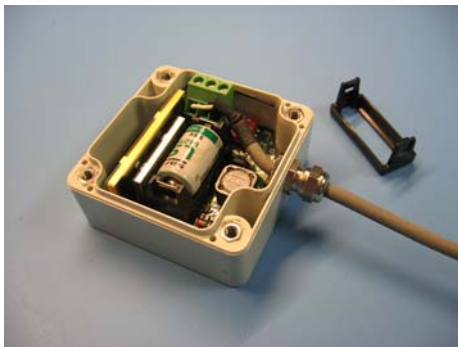
Parameter	Min.	Typ	Max	Units
Number of Accelerometers Supported		1		NA
Range		100		mV/g
Calibration Accuracy ¹ (Stored in on board EEPROM)	-1		+1	%
Acceleration Sensitivity		0.003		g
Frequency Response (+/-3 dB)	0.45		10,000	Hz
Frequency Response (+/- 5%)	3		1,000	Hz
A/D Resolution		16		Bits
Sampling Rate	1		65,535	Hz
Sample Count	4		65,534	Samples
Scheduling Resolution		1		Second
Scheduling Interval	1		>1000000	Min
Excitation Current		2		mA
Excitation Compliance Voltage			18	VDC
Max Mechanical Shock			2500	g
Sensitivity Temperature Shift (0 to 50C)			0.02	%FSO/°C
Non-Linearity (0 to + 90% of Full Scale)		0.1		% of span
Weight Including Lithium Battery		5		oz
Transceiver Operational Frequency		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 (4 measurements per day)	2.0	2.5		years
Operating Temperature	-20 (-5)		+50 (125)	°C (F)
Storage Temperature (all versions)	-40 (40)		+85 (185)	°C (F)

¹ This accuracy assumes the sensor is 100mV/g. Any deviation of the sensor from this value will result in additional amplitude errors in the readings. Frequency information will be unaffected.

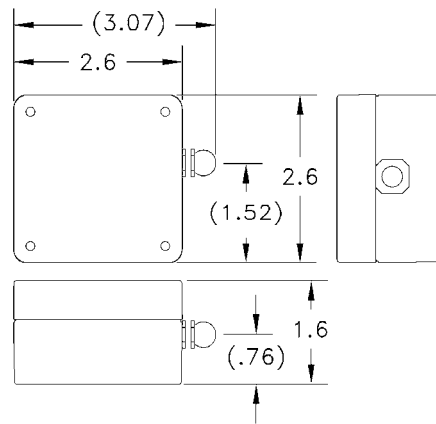
Ordering information

Part Number: **7014000-1** (Includes battery) Cable & accelerometer provided by user.
LS14250 Replacement battery

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Internal view of the 7014000-1 showing the accelerometer cable connection and internal battery (with shock clamp removed).



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