# G-Link®-200-8G

Wireless Accelerometer Node

G-Link®-200-8G - *ruggedized high-speed triaxial accelerometer node with ± 2 to ± 8 g measurement range*

LORD Sensing Wireless Sensor Networks enable simultaneous, high-speed sensing and data aggregation from scalable sensor networks. Our wireless sensing systems are ideal for test and measurement, remote monitoring, system performance analysis, and embedded applications.

The G-Link-200-8G has an on-board triaxial accelerometer that allows high-resolution data acquisition with extremely low noise and drift. Additionally, derived vibration parameters allow for long-term monitoring of key performance indicators while maximizing battery life.

Users can easily program nodes for continuous, periodic burst, or event-triggered sampling with the SensorConnect software. The optional web-based SensorCloud interface optimizes data aggregation, analysis, presentation, and alerts for sensor data from remote networks.
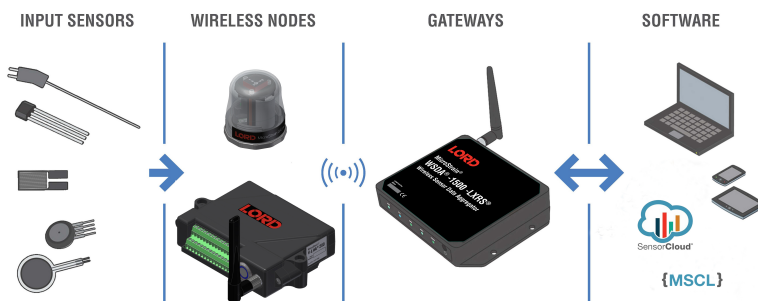
Product Highlights

- On-board triaxial accelerometer with +/- 2, +/- 4, or +/- 8 *g* measurement range
- Continuous, periodic burst, and event-triggered sampling
- Output raw acceleration waveform data or derived vibration parameters (Velocity, Amplitude, Crest Factor)
- LXRS protocol allows lossless data collection, scalable networks, and node synchronization of ±50 µs.
- 1 Sample per hour to 4096 Samples per second
- Ruggedized IP-67 rated enclosure

Features and Benefits

High Performance

- User-configurable low and high pass filters
- Extremely low noise on all axis 25 µg/√Hz
- High accuracy temperature sensor ±0.1 °C
- Wireless range up to 2 km (800 m typical)
- Datalog up to 8 million data points

Ease of Use

- End-to-End wireless sensing solution reduces development and deployment time
- Remote configuration, acquisition, and display of sensor data with SensorConnect
- Optional web-based SensorCloud platform optimizes data storage, viewing, alerts, and analysis.
- Easy custom integration with open-source, comprehensive communications and command library (API)
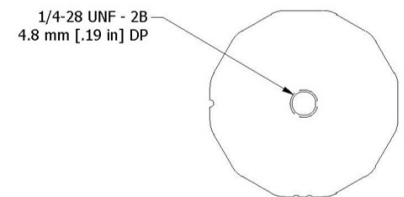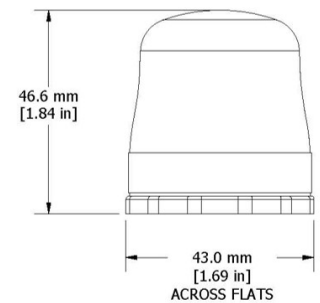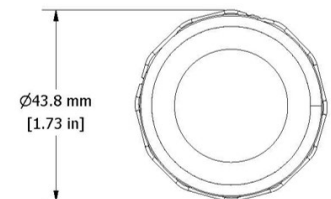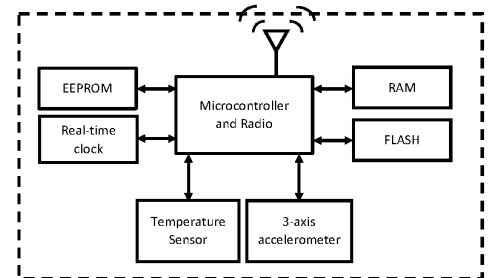
Applications

- Vibration monitoring
- Condition based maintenance (CBM)
- Impact and event monitoring
- Health monitoring of rotating components, aircraft, structures, and vehicles

INPUT SENSORS   WIRELESS NODES   GATEWAYS   SOFTWARE

Wireless Simplicity, Hardwired Reliability™

Specifications

Accelerometer Channels

Integrated Sensors	Triaxial MEMS accelerometer, 3 channels
Measurement range	±2 *g*, ±4 *g*, or ±8 *g* - configurable
Accelerometer bandwidth	DC to 1 kHz
Resolution	20-bit
Noise density (±2 *g*)	25 µg/√Hz
Non-linearity	.1% full-scale
Cross axis sensitivity	1%
Sensitivity change due to temperature	±0.01%/° C
0 *g* offset (±2 *g*)	±25 mg
0 *g* offset vs temperature (±2 *g*)	±.1 mg/ °C (typical), ±.15 mg/ °C (maximum)
Anti-aliasing filter	1.5 kHz (-6 dB attenuation)
Low-pass digital filter	26 to 800 Hz - configurable
High-pass digital filter	Off to 2.5 Hz - configurable

Integrated Temperature Channel

Measurement range	- 40 °C to 85 °C
Accuracy	±0.1 °C (over full range)

Sampling

Sampling modes	Continuous, periodic burst, event triggered
Output options	Acceleration Derived channels: Velocity (IPS$_{rms}$), Amplitude (G$_{rms}$ and G$_{pk-pk}$), and Crest Factor
Sampling rates	1 sample/hour to 4096 samples/second
Sample rate stability	±5 ppm
Network capacity	Up to 128 nodes per RF channel depending on number of active channels and sampling settings. See bandwidth calculator: http://www.microstrain.com/configure-your-system
Synchronization between nodes	±50 µsec
Data storage capacity	16 M Bytes (up to 8,000,000 data points)

Operating Parameters

Wireless communication range	Outdoor/line-of-sight: 2 km (ideal)*, 800 m (typical)**, Indoor/obstructions: 50 m (typical)**
Radio	License-free 2.4 GHz, 14 channels (IEEE 802.15.4)
Radio Power	0 dBm to 20 dBm; limited to 10 dBm outside of USA
Power source	3 x 3.6 V, ½ AA batteries (Saft LS 14250 recommended)
Battery input range	0.8 V to 5.5 V
Operating temperature	-40 °C to +85 °C

Physical Specifications

Dimensions	46.6 mm x 43 mm x 44 mm
Mounting	¼ - 28 UNF - 2B 4.8 mm [.19 in] DP.
Weight	Node with 3 batteries: 122 grams
Environmental rating	IP67
Enclosure material	300 series stainless steel bottom plate, polycarbonate cover

Integration

Compatible gateways	All WSDA base stations and gateways
Software	SensorCloud, SensorConnect, WSDA-101 Data Downloader, Live Connect, Windows Vista/7 compatible
Software development kit (SDK)	Data communications protocol available with EEPROM maps and sample code (OS and computing platform independent) http://www.microstrain.com/software/mscl

*Measured with antennas elevated, no obstructions, and no RF interferers.
**Actual range varies with conditions such as obstructions, RF interference, antenna height & orientation.

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