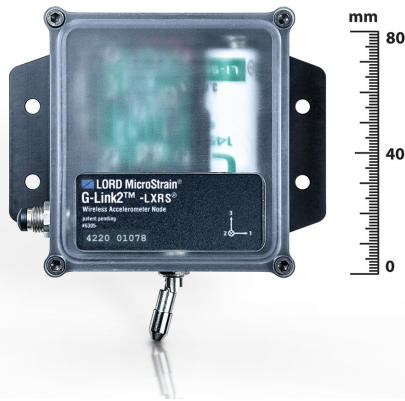


## G-Link2™ -LXRS®

### Wireless Accelerometer Node



G-Link2™ -LXRS® - ruggedized node with high-speed sampling and optional integrated three-axis accelerometer or an external single-axis accelerometer

LORD MicroStrain® LXRS® 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 gateways are the heart of the LORD MicroStrain wireless sensing system. They coordinate and maintain wireless transmissions across a network of distributed wireless sensor nodes. Some nodes have integrated sensors, while others are designed with multi-sensor connectivity for application flexibility. The LORD MicroStrain LXRS wireless communication protocol between LXRS nodes and gateways enable high-speed sampling,  $\pm 32$  microseconds node-to-node synchronization, and lossless data throughput under most operating conditions.

Users can easily program nodes for data logging, continuous, and periodic burst sampling with the Node Commander® software. The web-based SensorCloud™ interface optimizes data aggregation, analysis, presentation, and alerts for gigabytes of sensor data from remote networks.

### Product Highlights

- On-board triaxial, or external single axis MEMS accelerometer with up to  $\pm 200$  g measurement range
- Wireless framework is ideal for measuring vibration and acceleration in remote applications.
- High resolution data with 16-bit A/D converter
- User-programmable sample rates up to KHz
- Small, lightweight IP67 enclosure rated for outdoor use

### Features and Benefits

#### High Performance

- Lossless data throughput and node-to-node sampling synchronization of  $\pm 32$   $\mu$ S in LXRS®-enabled modes
- Wireless range up to 2 km (800 m typical)
- User-programmable filters for optimized anti-aliasing

#### Ease of Use

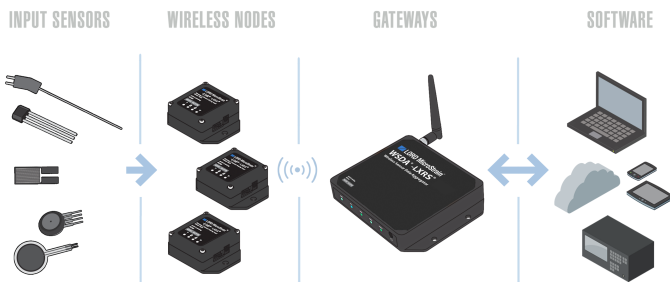
- Scalable networks for easy expansion
- Internal or external accelerometer option for installation versatility
- Remote configuration, acquisition, and display of sensor data with SensorConnect™ or Node Commander®
- Optional web-based SensorCloud™ platform optimizes data storage, viewing, alerts, and analysis.
- Easy custom integration with open-source, comprehensive communications and command library

#### Cost Effective

- End-to-end wireless sensing solution reduces development and deployment time
- Volume discounts

### Applications

- Condition-based monitoring
- Health monitoring of rotating components, aircraft, structures, and vehicles
- Vibration monitoring
- Vehicle dynamics testing
- Product testing



Wireless Simplicity, Hardwired Reliability™

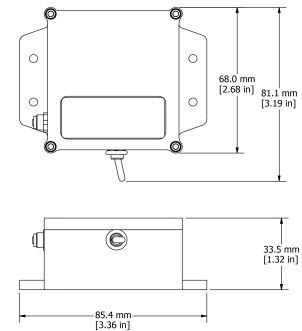
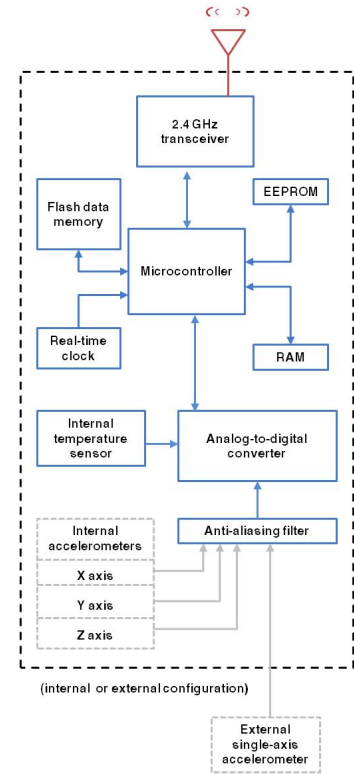


Represented in India by  
Structural Solutions Pvt Ltd. | Phone: 040 2322 2380 | Email: sales@stsols.com  
#4th Floor, Sudheer Tapani Towers, Himayath Nagar, Hyderabad - 500 029

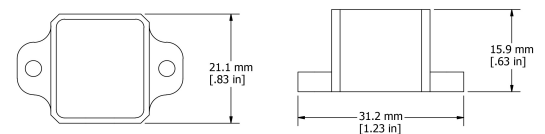
**LORD** SENSING

## Specifications

General	
Sensor input channels	Single-axis MEMS accelerometer (option), 1 channel
Integrated sensors	Triaxial MEMS accelerometer (option), 3 channels Internal temperature, 1 channel
Data storage capacity	4 M bytes (up to 2,000,000 data points)
Accelerometer Channels (integrated or external)	
Measurement range	$\pm 2 g$ or $\pm 10 g$ standard ( $\pm 5 g$ , $\pm 30 g$ , $\pm 50 g$ , $\pm 100 g$ , or $\pm 200 g$ options available)
Accelerometer bandwidth	0 to $\leq 100$ Hz (-3 dB cutoff), high bandwidth option available
Accuracy and resolution	< 0.3 % error (typical @ 25 Hz, 1/2 of dynamic range with sinusoidal input), 16 bit resolution
Noise	$\pm 2 g$ : $130 \mu g/\sqrt{\text{Hz}}$ , $\pm 10 g$ : $420 \mu g/\sqrt{\text{Hz}}$ (typical with 100 Hz anti-aliasing filter setting)
Anti-aliasing filter bandwidth	Fifth order low-pass Butterworth filter, user programmable bandwidth from 26 Hz to 1 KHz
Integrated Temperature Channel	
Measurement Range	-40 °C to 125 °C
Accuracy and resolution	$\pm 5$ °C (over full range), 16 bit
Sampling	
Sampling modes	Synchronized, low duty cycle, datalogging
Sampling rates	<b>Continuous sampling:</b> 32 to 512 Hz <b>Periodic burst sampling:</b> 32 Hz to 10 KHz <b>Datalogging:</b> 32 Hz to 10 KHz
Sample rate stability	$\pm 3$ ppm
Network capacity	Up to 125 nodes per RF channel (and per gateway) depending on the number of active channels and sampling settings. Refer to the system bandwidth calculator: <a href="http://www.microstrain.com/configure-your-system">http://www.microstrain.com/configure-your-system</a>
Synchronization between nodes	$\pm 32$ $\mu\text{sec}$
Operating Parameters	
Wireless communication range	Outdoor/line-of-sight: 2 km (ideal)*, 800 m (typical)** Indoor/obstructions: 50 m (typical)**
Radio frequency (RF) transceiver carrier	2.405 to 2.470 GHz direct sequence spread spectrum over 14 channels, license free worldwide, radiated power programmable from 0 dBm (1 mW) to 16 dBm (39 mW); low power option available for use outside the U.S.A. - limited to 10 dBm (10 mW)
Power source	Internal: 3.6 V dc, 2.6 Ah, AA replaceable lithium battery (Saft LS14500 included), External: 2.2 V dc to 5 V dc
Power consumption	1 channel: 20.1 mA (average), 3 channels: 34.9 mA (average)
Operating temperature	-40 °C to +85 °C
Acceleration limit	tested to 380 g
MTBF	378,000 hours (Telcordia method, SR332)
Physical Specifications	
Dimensions	Node: 68 mm x 85 mm x 33.5 mm with mounting tabs, external accelerometer (option): 32 mm x 21.5 mm x 16 mm
Weight	Node with internal accelerometer and battery: 178 grams node with external accelerometer, cable and battery: 252 grams
Environmental rating	IP67
Enclosure material	Aluminum and clear polycarbonate
Integration	
Compatible gateways	All WSDA® base stations and gateways
Compatible sensors	LORD MicroStrain® accelerometer (external accelerometer option)
Connectors	M5 screw-on IP67 connector (external accelerometer option)
Software	SensorCloud™, SensorConnect™, Node Commander®, WSDA® Data Downloader, Live Connect™, Windows XP/Vista/7 compatible
Software development kit (SDK)	Data communications protocol available with EEPROM maps and sample code (OS and computing platform independent) <a href="http://www.microstrain.com/software/mscl">http://www.microstrain.com/software/mscl</a>
Regulatory compliance	FCC (U.S.), IC (Canada), CE, ROHS



G-Link2™ -LXRS® Node



External Accelerometer

# LORD SENSING

LORD Corporation  
MicroStrain® Sensing Systems  
459 Hurricane Lane, Suite 102  
Williston, VT 05495 USA

ph: 802-862-6629

[sensing\\_sales@LORD.com](mailto:sensing_sales@LORD.com)  
[sensing\\_support@LORD.com](mailto:sensing_support@LORD.com)

