

# MicroStrain Sensing Product Datasheet

## G-Link-200

### Ruggedized Wireless Triaxial Accelerometer Node



The G-Link-200 has an onboard triaxial accelerometer allowing high-resolution data acquisition with extremely low noise and drift. Derived vibration parameters allow for long-term monitoring of key performance indicators while maximizing battery life.

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.

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.



#### HIGH PERFORMANCE SENSING

- On-board triaxial accelerometer with  $\pm 2$  to  $\pm 40$  g measurement range
- Extremely low noise on all axes  $25 \mu\text{g}/\sqrt{\text{Hz}}$  or  $80 \mu\text{g}/\sqrt{\text{Hz}}$
- User-configurable low and high pass filters
- On-board temperature sensor
- Standard Amusement Ride Characterization Test version available.

#### RUGGED AND WEATHERPROOF

- IP-67 weatherproof enclosure
- $-40$  to  $+85^\circ\text{C}$  operating temperature
- Stainless steel base
- Bolt or magnetic mount

#### RELIABLE DATA COLLECTION

- Lossless, synchronized, and scalable networks using LXRS or LXRS+ protocol
- Remotely configure nodes and view sensor data with SensorConnect (PC), SensorCloud (web), or MSCL (API library)

#### CONFIGURE FOR MANY APPLICATIONS

- Output raw acceleration waveform data, tilt, or derived vibration parameters (Velocity, Amplitude, Crest Factor)
- Up to 4096 Hz sampling
- Continuous, periodic, or event-triggered operation
- Transmit data real-time and/or save to onboard memory

#### APPLICATIONS

- Vibration monitoring
- Condition based maintenance (CBM)
- Impact and event monitoring
- Health monitoring of rotating components, aircraft, structures, and vehicles
- Standardized Amusement Ride Characterization Test (SARC Test): Model G-Link,-200-R
- ASTM F2137-18 Compliant model: G-Link-200-R

# Ruggedized Wireless Triaxial Accelerometer Node

## Specifications

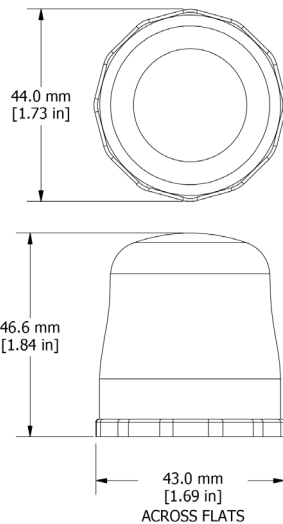
| Analog Input Channels            |   |   |
|----------------------------------|---|---|
| Measurement range                | 8 g   | 40 g  |
|                                  | ±2 g, ±4 g, or ±8 g configurable  | ±10 g, ±20 g, or ±40 g configurable         |
| Noise density                    | 25 µg/√Hz   | 80 µg/√Hz                                   |
| 0 g offset                       | ±25 mg (±2 g)   | ±50 mg (±10 g)                              |
| 0 g offset vs temperature        | ±.1 mg/°C (typical), ±.15 mg/°C (maximum)   | ±0.5 mg/°C (typical), ±0.75 mg/°C (maximum) |
| Integrated Sensors               | Triaxial MEMS accelerometer, 3 channels   |   |
| Accelerometer bandwidth          | DC to 1 kHz   |   |
| Resolution                       | 20 bit  |   |
| Scale factor error               | < 1%  |   |
| Cross axis sensitivity           | 1% typical  |   |
| Sensitivity change (temperature) | ±0.01%/°C typical   |   |
| 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                         | ±0.25°C (over full range)   |   |
| Sampling                         |   |   |
| Sampling modes                   | Continuous, periodic burst, event triggered   |   |
| Output options                   | Acceleration, Tilt, and Derived channels: Velocity (IPSRms), Amplitude (Grms and Gpk-pk) and Crest Factor   |   |
| Sampling rates                   | 1 Sample/hour to 4096 Hz  |   |
| Sample rate stability            | ±5 ppm  |   |
| Network capacity                 | Up to 128 nodes per RF channel (bandwidth calculator) <a href="http://www.microstrain.com/configure-your-system">http://www.microstrain.com/configure-your-system</a> |   |
| Node synchronization             | ±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)**<br>Indoor/obstructions: 50 m (typical)**      |
| Radio frequency (RF) transceiver carrier | License-free 2.405 to 2.480 GHz with 16 channels  |
| RF transmit power                        | Adjustable from 0 dBm to 20 dBm. Power output restricted regionally to operate within legal limits    |
| Power source                             | 3 x 3.6 V, ½ AA batteries<br>(Saft LS 14250 recommended)  |
| Battery input range                      | 0.8 V to 5.5 V  |
| Battery lifetime                         | <a href="https://microstrain.com/wireless/G-link-200">https://microstrain.com/wireless/G-link-200</a> |
| Operating temperature                    | -40°C to +85°C  |
| Mechanical Shock Limit                   | 1000g/1.5ms***  |
| Physical Specifications                  |   |
| Dimensions                               | 46.6 mm x 43 mm x 44 mm   |
| Mounting                                 | ¼ - 28 UNF - 2B 4.8 mm [.19 in] DP or magnet purchased separately.                                    |
| Weight                                   | batteries installed: 122 grams  |
| Environmental rating                     | IP67  |
| Enclosure material                       | 300 series stainless steel with polycarbonate cover   |
| Integration                              |   |
| Compatible gateways                      | All WSDA gateways   |
| Software                                 | SensorCloud, SensorConnect, Windows 7, 8 & 10 compatible  |
| Software development kit                 | <a href="http://www.microstrain.com/software/mscl">http://www.microstrain.com/software/mscl</a>       |
| Regulatory compliance                    | FCC (USA), IC (Canada), CE (European Union, includes RoHS), MIC (Japan), IMDA (Singapore).            |

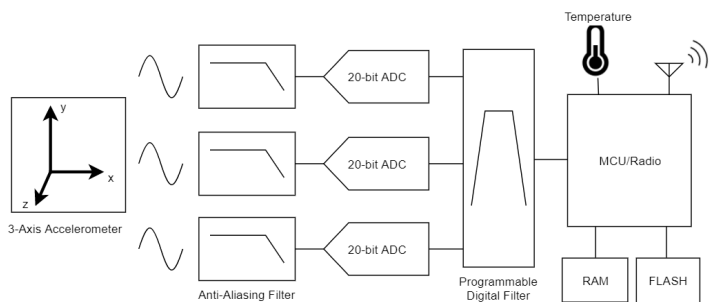
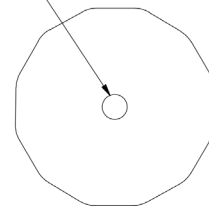
\* Actual range varies with conditions.

\*\* Measured with antennas elevated, no obstructions, no RF interferers.

\*\*\* Repeated exposure to > 2x full scale can result in permanent damage. See manual for details.



1/4-28 UNF -2B  
4.8mm [.19 in] DP



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