MicroStrain Sensing Product Datasheet

G-Link®-200-R
ASTM F2137 Compliant Wireless Accelerometer Node

The G-Link-200-R is specifically designed to monitor the dynamic characteristics of amusement rides and roller coasters. The wireless sensor is ASTM F2137-18 compliant. An onboard triaxial accelerometer reports high-resolution waveform data with extremely low noise and drift.

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, 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

- ASTM F2137-18 Compliant
- ±20 g triaxial measurement range
- Extremely low noise on all axes: 80 µg/$\sqrt{Hz}$
- On-board temperature sensor
- Configurable low-pass filter for CFC10, CFC21, or CFC60

RUGGED AND WEATHERPROOF

- IP-67 weatherproof enclosure
- -40 to +85°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

- 128-1024 Hz sampling
- Transmit data real-time and/or save to onboard memory

APPLICATIONS

- Acceleration and Vibration monitoring
- Standardized Amusement Ride Characterization Test (SARC Test)
- Impact and Event Monitoring
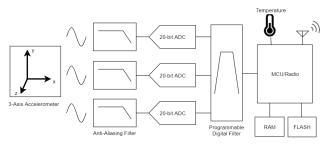- Condition Based Maintenance (CBM)

| INPUT SENSORS | WIRELESS NODES | GATEWAYS | SOFTWARE |

ENGINEERING YOUR SUCCESS.

ASTM F2137 Wireless Accelerometer Node

Specifications

Analog Input Channels	
Measurement range	±20 g
Noise density	80 µg/√ Hz
0 g offset	±50 mg
0 g offset vs temperature	±0.5 mg/°C (typical), ±0.75 mg/°C (maximum)
Integrateds 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	User configurable, CFC10, CFC21, CFC60

Integrated Temperature Channel	
Measurement range	- 40°C to 85°C
Accuracy	±0.25°C (over full range)

Sampling	
Sampling modes	Continuous, event triggered
Sampling rates	128 to 1024Hz
Sample rate stability	±5 ppm
Network capacity	Up to 128 nodes per RF channel Bandwidth calculator: http://www.microstrain.com/configure-your-system
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)** 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 (Saft LS 14250 recommended)
Battery input range	0.8 V to 5.5 V
Battery lifetime	https://microstrain.com/wireless/G-link-200
Operating temperature	-40°C to +85°C
Mechanical shock limit	1000g / 1.5ms

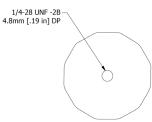| Physical Specifications	
Dimensions	46.6 mm x 43 mm x 44 mm
Mounting	¼ - 28 UNF - 2B 4.8 mm [.19 in] DP or magnet purchased separately.
Weight	Batteries installed: 122 grams
Environmental rating	IP67
Enclosure material	300 series stainless steel with polycarbonate cover

* Actual range varies with conditions
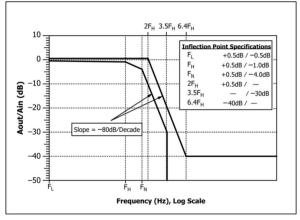** Measured with antennas elevated, no obstructions, no RF interferers.

Integration	
Compatible gateways	All WSDA gateways
Software	SensorCloud, SensorConnect, Windows 7, 8 & 10 compatible
Software development kit	http://www.microstrain.com/software/mscl
Regulatory compliance	FCC (USA), IC (Canada), CE (European Union, includes RoHS), MIC (Japan), ASTM F2137-18

	CFC10	CFC21	CFC60
FL	0.0 Hz	0.0 Hz	0.0 Hz
FH	10.0 Hz	21.0 Hz	60.0 Hz
FN	16.7 Hz	35.0 Hz	100 Hz
FS	120 Hz	252 Hz	720 Hz

ASTM F2137 Frequency Response Envelope