PRODUCT DATA SHEET

WSDA-200-USB: Wireless USB Gateway

The MicroStrain 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.

Gateways coordinate and maintain wireless transmissions across a network of distributed wireless sensor nodes. The MicroStrain LXRS and LXRS+ wireless communication protocols between compatible nodes and gateways enable high-speed, synchronized sampling and lossless data throughput at rates up to 16 ksps.

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

- Data acquisition gateway collects synchronized data from scalable networks of wireless sensors
- Provides seamless communication between the wireless sensor nodes and host computer
- Quick deployment with host computer interface
- Compatible with MicroStrain LXRS and LXRS+ sensor nodes

HIGH PERFORMANCE

- Lossless data throughput and sampling of ±50 μS in LXRS+ and LXRS-enabled modes
- Wireless range up to 2 km (400 m typical)
- External antenna option for embedded applications or enhanced range

EASE OF USE

- Easy out-of-the-box installation with data collection in minutes
- Scalable networks for easy expansion
- Remote configuration, acquisition, and display of sensor data with SensorConnect™
- Data visualization through web-based SensorCloud portal for quick data navigation and analysis
- Easy custom integration with open-source, comprehensive communications and command library (API)
- Hundreds of sensors managed from a single gateway

APPLICATIONS

- Structural health monitoring
- Equipment performance monitoring, verification, evaluation, and diagnostics
- Test and measurement
- System control
- Environmental monitoring

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MICROSTRAIN WSDA-200-USB SPECIFICATIONS

General

Connectivity	USB 2.0 virtual serial communication @ 3 mbps

Sampling

Supported node sampling modes	Synchronized, low duty cycle, continuous, periodic burst,event-triggered, and data logging
Synchronization beacon interval	1 Hz beacon provides ± 50 μsec node-to-node synchronization
Synchronization beacon stability	± 3 ppm
Network capacity	Up to 127 nodes per RF channel (& per gateway) depending on number of active channels and sampling settings. See system bandwidth calculator: http://www.microstrain.com/configure-your-system

Operating Parameters

Wireless Communication Range		Typical*	Ideal**
	LXRS	1 km	2 km
	LXRS+	400 m	1 km
Radio frequency (RF) transceiver carrier	License-free 2.405 to 2.480 GHz with 16 channels		
RF communication protocol	IEEE 802.15.4 and Proprietary		
RF transmit power	User-adjustable from 0 dBm to 20 dBm. Power output restricted regionally to operate within legal requirements		
Power source	USB port: 5.0 V dc		
Power consumption	50 mA; Eight active node channels operating at 256 Hz low duty cycle: 65.6 mA		
Operating temperature	-40°C to +85°C		

Physical Specifications

Dimensions	58.2 mm x 20.3 mm x 10.8 mm
Weight	17 grams

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

Integration

Connectors	Internal antenna: USB Type A male External antenna: Reverse Polarity TNC Type (RP-TNC) (1 meter cable included)
Compatible nodes	All MicroStrain LXRS and LXRS+ nodes
Firmware	Firmware upgradeable through software interface
Software	SensorCloud SensorConnect™ 8.3 or newer, Windows 7, 8 & 10 compatible
Regulatory compliance	FCC (U.S.), IC (Canada),CE, RoHS (EU), MIC (Japan)

58.2 mm [2.29 in]

20.3 mm [.80 in]

10.8 mm [.42 in]
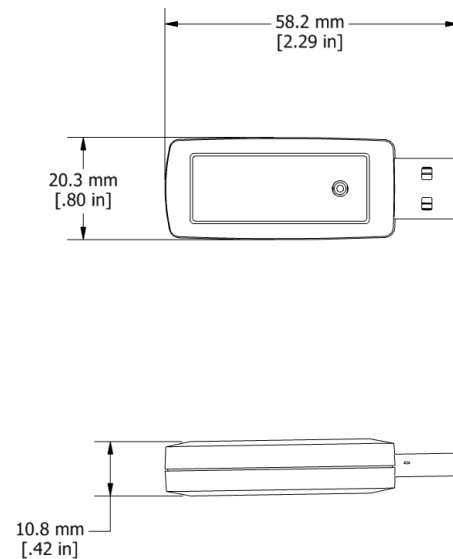
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