

PRODUCT DATA

MicroStrain WSDA-101

Wireless Analog Output Base Station

MICROSTRAIN WSDA-101 OVERVIEW

The WSDA-101 Analog Output Base Station provides a robust and flexible solution for integrating wireless sensor data into industrial, research, and automation systems. With eight independently configurable analog output channels, the WSDA-101 enables direct connection to PLCs, DAQs, controllers, and other equipment requiring standard analog voltage inputs.

Beyond analog output, the WSDA-101 supports LXRS[®] lossless wireless communication (when analog output is disabled), offering reliable, high-fidelity data transmission across long ranges for demanding measurement environments.

Engineered for seamless integration, the WSDA-101 can be used as a standalone device or in parallel with a host computer, making it suitable for both factory floor and PC-based workflows.



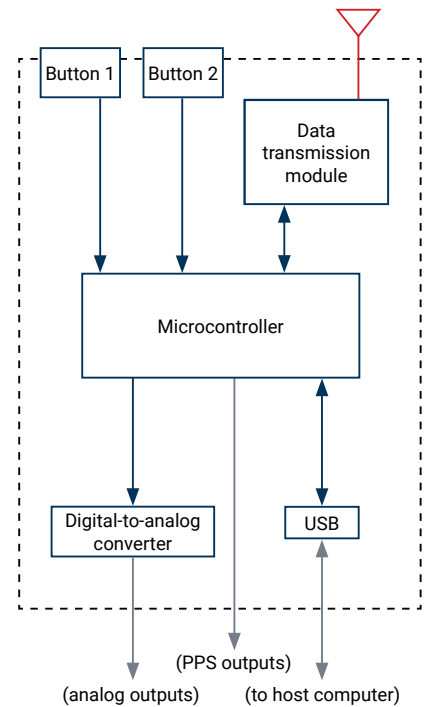
Key Features

- **Eight Analog Output Channels**
0–3 VDC outputs for seamless integration with a wide range of industrial and laboratory equipment.
- **Simple System Integration**
Easily interfaces with PLCs, data acquisition systems, and other devices accepting analog inputs.
- **Low-Latency Measurements**
Designed for applications requiring fast response, such as control loops, torque monitoring, and real-time process feedback.
- **LXRS[®] Wireless Compatibility**
Supports lossless LXRS communication when analog output mode is disabled.
- **Intuitive Configuration and Data Management**
Fully compatible with SensorConnect[™] software for fast setup, monitoring, and data collection.



MICROSTRAIN WSDA-101 SPECIFICATIONS

General	
Connectivity	USB 2.0 virtual serial communication @ 921,600 bps
Analog Outputs	
Analog output	Eight channels, 0 VDC to 3 VDC, 1 analog update indicator channel and 1 input/output pulse per second channel, supports streaming and low duty cycle data collection
Analog stand alone operation	Front panel buttons provide access to most software functions including trigger, sleep, beacon and more
Analog low pass filter	-3 dB cutoff @ 375 Hz
Zero scale error	+ 5 mV (typical), + 20 mV (maximum)
Full scale error	- 4.5 mV (typical), - 30 mV (maximum)
Zero to full scale error	± 3 mV (maximum)
Sampling	
Supported node sampling modes	Synchronized, low duty cycle, continuous, periodic burst, event-triggered, and datalogging (analog output support in low duty cycle mode only)
Synchronization beacon interval	1 Hz beacon provides ± 50 µsec node-to-node synchronization
Synchronization beacon stability	± 5 ppm
Network capacity	Up to 127 nodes per RF channel (& per gateway) depending on number of active channels and sampling settings.
Operating Parameters	
Wireless communication range	Outdoor/line-of-sight: 2 km(ideal)*, 800 m (typical)** Indoor/obstructions: 50 m (typical)**
RF transmit power	User-adjustable from 0 dBm to 16 dBm. Power output restricted regionally to operate within legal requirements.
RF communication protocol	IEEE 802.15.4
Power consumption	Idle: 45.7 mA Eight active node channels operating at 256 Hz low duty cycle: 65.6 mA
Operating temperature	-30 °C to +70 °C
Physical Specifications	
Dimensions	128 mm x 70 mm x 20 mm without antenna
Weight	Weight 140 grams
Enclosure material	Black anodized aluminum
Physical Specifications	
Connectors	Micro-USB, screw terminal block
Communications cable	USB standard to USB micro-B (3 foot cable included in starter kit)
Front panel interface	Buttons for controlling node operation and sampling
Compatible sensor nodes	All LXRS sensor nodes, all legacy 2.4 GHz nodes
Firmware	Firmware upgradeable through software interface
Software	SensorConnect
Software development kit (SDK)	www.hbkworld.com/en/products/software/inertial-sensor-software/mscl
Regulatory compliance	FCC (U.S.), IC (Canada), RoHS



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

**Actual range varies depending on conditions such as obstructions, RF interference, antenna height, & antenna orientation.