



LD110-AI

Wireless 2-Channel Analog Input Module With Integral Transmitter Power

The LD110-AI family connects sensor devices with analog interfaces without the expense of cabling for signals and power. The on-board battery pack supplies power for the radio and connected transmitters completely eliminating the need for wiring. Its integrated radio transceiver provides transmissions distances up to 5000 meters and seamless wireless connectivity in hard to reach areas, where portability is essential, or in locations where running cables is inconvenient or not cost-effective. Enabled by our industrial-grade mesh networking protocol, the LD110-AI family provides highly reliable performance even in harsh environments to ensure delivery of critical measurements.

The two integrated analog input channels are configurable for 4-20mA or 1-5VDC. When activated, the LD110-AI will automatically sample, log and transmit these readings at user-configurable intervals. Bi-directional communication and error checking ensure reliable communication in harsh industrial environments.



LD110-AI communicates with our “Gateway-In-A-Stick” which provides RS-485 serial communication using the Modbus RTU protocol for easy integration with standard industrial host devices such as PLC’s controllers and RTU’s. The Gateway acts as a slave device responding to the host when polled with the latest reported data from the LD110-AI. Multiple LD110-AI’s self form star or mesh networks for the utmost in reliability.

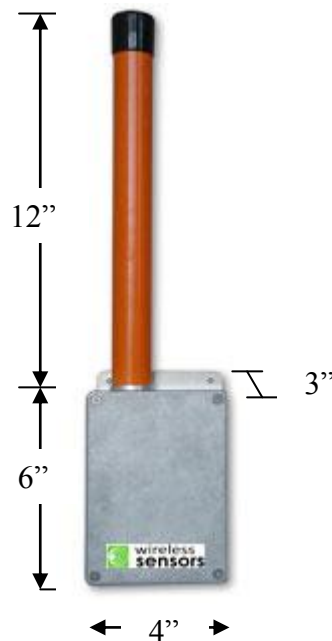


Features and Benefits

- Integrated analog signal conditioning for direct connection to transmitters
- Nodes can be line powered or run on batteries, with a battery life of multiple years
- On board batteries provide 13 VDC power for two transmitters
- Unit accepts 4-20mA or 1-5 VDC input signals for easy interface to all process transmitters
- Self-forming, self-healing mesh network for maximum resilience and ease of deployment
- Up to 90% installation and commissioning cost savings over traditional cable-based solutions
- Modbus RTU protocol for easy integration with existing systems
- Powerful radio’s provide reliable long distance (up to 5000 meters) communication
- 900 MHz radio’s operate in license free ISM frequency band
- Rugged NEMA 4 enclosure with integral antenna designed for harsh environments

Specifications

Wireless		General	
Radio type	FHSS	Sample rate (max.)	1 kHz
Frequency band	900 MHz	Scan cycle (typical)	1min - 2 hours
Standby current	<20 μ A	Scan cycle (min.)	2 seconds
Active measurement current	<160 mA	ADC resolution	12-bit
Transmit current	350 mA	Accuracy	\pm 0.1 % of maximum range
Receive current	30 mA	Power source	3 x D Lithium or external 12 - 24 VDC
Node-to-node hops (max.)	16		
Line of sight range (max.)	1-3 miles node to node		
In-building range (typical)	1000' node-to-node		
Receiver sensitivity	-109dBm @ 10K bits/sec	Input	
Output power (max.)	+23dBm	Interfaces	2 x 4-20mA or 0-5 VDC
Antenna Gain	5dBm	Input resistance 0-20 mA	<100 Ω at 20 mA
		Input resistance 0-10 V	>12.5 M Ω
Certifications		ADC linearity	\pm 2%
Housing Environmental Rating	NEMA 4X	Integration time	ca. 5 ms
Radio Agency Approval	FCC Part 15	Settling time	<10 μ s
		Conversion time	7.5 μ s



. Specifications are subject to change without notice.



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