



SG900-M

Modbus “Gateway-In-A-Stick”

The SG900-M is a Modbus compatible gateway which supports the LD family of wireless field sensor devices and incorporates electronics, radio and antenna in a unique NEMA 4X housing for mounting simplicity. Modbus RTU communication over a multi-drop RS-485 link makes integration with PLC’s, Data loggers and RTU’s easy. When combined with the LD 110-AI Sensor nodes the Gateway-In-A-Stick connects Modbus capable devices to any 4-20 mA or 0-5 VDC output devices without the expense of cabling for signals and power. 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 SG900-M and LD110-AI family provides highly reliable performance in harsh environments to ensure delivery of critical measurements.



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

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

Gateway-In-A-Stick

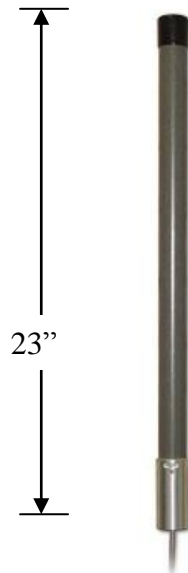
- Modbus RTU protocol for easy integration with existing systems
- Multip-drop RS-485 two wire communication simplifies integration
- Standard 24 VDC power utilizes common instrument power supplies
- Self-forming, self-healing mesh network for maximum resilience and ease of deployment
- Up to 90% installation and commissioning cost savings over traditional cable-based solutions
- Powerful radio’s provide reliable long distance (up to 5000 meters) communication
- 900 MHz radio’s operate in license free ISM frequency band

LD110-AI

- 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
- Rugged NEMA 4 enclosure with integral antenna designed for harsh environments

SG900-M Specifications

Wireless		Communication	
Radio type	FHSS	Communication Protocol	Modbus RTU Slave
Frequency band	900 MHz	Communication Medium	RS-485 Multi-Drop
Standby current	<20 μ A	Configuration Port	RS-232, 9 Pin "D" shell
Active measurement current	<160 mA	Configuration Software	Terminal Emulation
Transmit current	350 mA	Status Indication	Local LED
Receive current	30 mA	Power source	24 VDC nominal 6-40 VDC
Node-to-node hops (max.)	16	Firmware Upgrades	Flash
Line of sight range (max.)	1-3 miles node to node		
In-building range (typical)	1000' node-to-node		
		Misc	
Receiver sensitivity	-109dBm @ 10K bits/sec	Modbus Register Types	16 Bit Read/Write and Read Only
Output power (max.)	+23dBm	Battery Voltage	Reported with heartbeat
Antenna Gain	5dBm	Signal Strength (RSSI)	Reported per node
		Baud Rate	9600
Certifications		Standard Cable Lengths	6'
Housing Environmental Rating	NEMA 4X	Connection Type	3/4" NPT
Radio Agency Approval	FCC Part 15		



. Specifications are subject to change without notice.



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