

900 MHz Industrial Wireless Ethernet and Serial Radio

Designed especially for industrial automation, data collection and SCADA applications, AvaLAN's AW900F industrial wireless ethernet and serial radio uses the latest in FHSS (Frequency Hopping Spread Spectrum) technology to deliver long range, high speed, secure wireless networking at significantly lower cost.

The radio operates in the unlicensed 900 MHz ISM band, with the transmitter and paired receivers switching rapidly among 50 different channels in a synchronized pseudo-random pattern. Data is communicated robustly and error free despite interference from noise or other signal sources. Both point-to-point bridge and point-to-multipoint star network connections are supported. Able to transmit legally up to one watt of RF power, line of sight distances up to 60 miles can be bridged using appropriate directional antennas. 900 MHz operation also allows the radio signals to penetrate through walls and foliage.

The radio features a built-in browser interface for link status monitoring and configuration. An operator at the main HMI (Human to Machine Interface) console can log in to each radio's fixed IP address to facilitate troubleshooting. A small LCD panel on the front of the unit can also verify proper operation at a glance.

The radio may be powered through the Ethernet jack from an 802.3af compatible POE (Power Over Ethernet) source or directly from a 5-30 VDC supply through a barrel or Phoenix connector. The antenna is connected via an RPTNC jack on the top of the case. An omnidirectional 2.5 dBi flexible antenna is included with other antenna choices available from AvaLAN. The radio's case is rugged extruded aluminum and is designed to meet C1D2 standards for hazardous environments (certification pending). A DIN Rail mounting clip is provided on the case back to facilitate installation in industrial equipment cabinets.

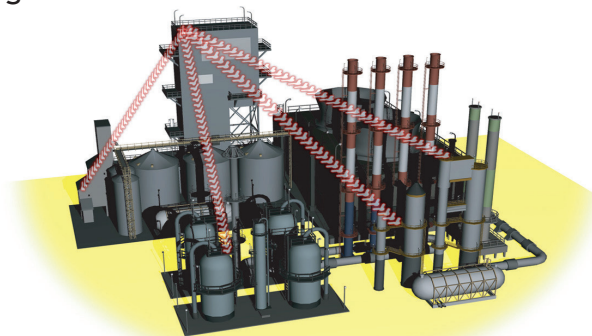
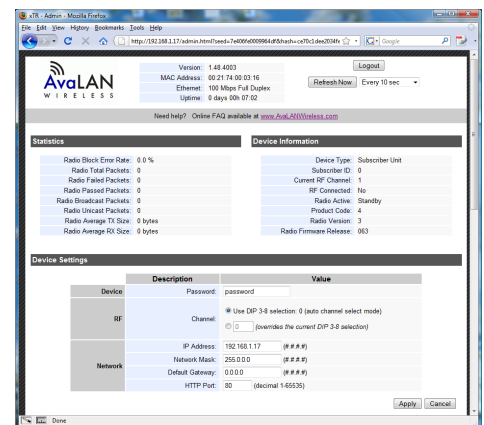
For point-to-point bridge applications, the AW900F-PAIR provides a pre-configured matched pair, ready to deploy right out of the box. For point-to-multipoint applications, one AW900F should be configured as the master access point and the rest as client subscriber units.



Features

- 1 Watt RF transmit power for up to 60 mile range
- 200 Kbps FHSS RF data rate
- Multipoint network topologies supported
- Data Security enhanced by AES 128-bit encryption
- LCD display to quickly verify proper operation
- Rugged extruded aluminum case with DIN Rail mounting clip
- 802.3af power over ethernet
- 10/100BaseT ethernet and RS232/RS485 serial interfaces
- C1D2 certification pending

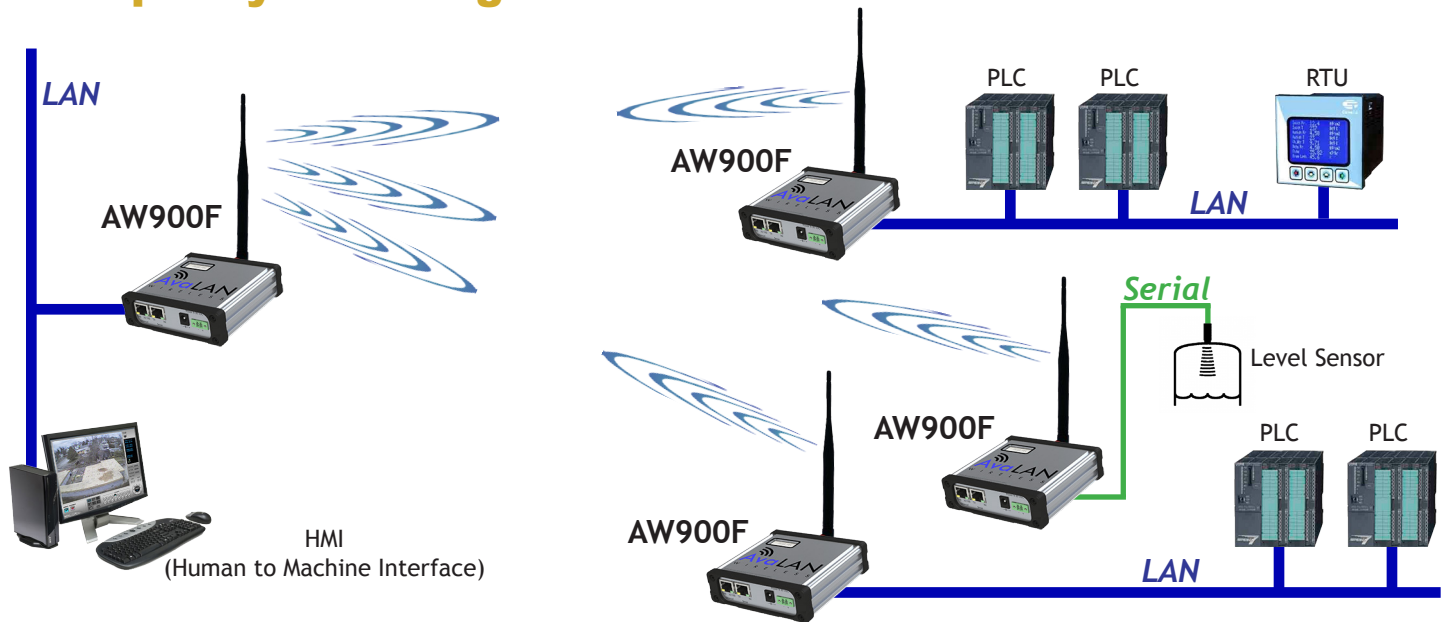
Screen Capture:
Web Browser-based
Management Tools



Application Example:

Point-to-multipoint wireless system transmitting IP and Serial data across an industrial plant

Example System diagram



Technical specifications

PARAMETER	SPECIFICATION
RF Data Rate	200 kbps
Throughput	120kbps total throughput shared between all radios in the group
Frequency Range	902.75 MHz to 927.25 MHz
Transmit Power	Selectable from 1 mW to 1 W
Receiver Sensitivity	-98 dBm at 10 ⁻⁵ BER
Access Scheme	TDMA, up to 4 Subscriber Units per Access Point with deterministic latency
Modulation/Spreading	FSK - FHSS
Range	Line-of-sight range up to 60 miles with directional antennas, 5 miles with included omnidirectional antenna
Browser Management Tools	Data Communication Statistics, Network Settings, Transmit Power
Data Security	128-bit AES
Operating Environment	-40°C to +80°C
Mounting	DIN rail clip
Ethernet Data Interface	10/100baseT
Connectors	RJ-45 for Ethernet, P5
Power System	802.3af POE and 9-30 VDC through power connectors
Power Consumption	When transmitting at +30 dBm: 4 Watts When receiving: 1.8 Watts
Package Size	110 mm wide, 120 mm high, 32 mm thick, weight 0.2 kg
Antenna	RPTNC Connector, 50 Ohm Impedance. 2.5 dBi flexible omnidirectional antenna included.
Warranty	1 Year Parts & Labor, XTRa-Care Extended Warranty 2 Year Extension available at nominal cost
Certification	FCC, IC certified, C1D2 certification pending

Ordering Information

AW900F	AW900F-PAIR
900 MHz Industrial Wireless Ethernet and Serial Radio	900 MHz Industrial Wireless Ethernet and Serial Bridge
Includes: (1) AW900F Radio (1) AW2-900 2.5 dBi Omnidirectional Antenna (1) AW-12VPS 12 VDC Power Supply (USA plug only)	Includes: (2) AW900F Radios (2) AW2-900 2.5 dBi Omnidirectional Antennas (2) AW-12VPS 12 VDC Power Supplies (USA plug only)

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