



New!

Messenger 900FS Spread Spectrum Radio

High performance, Encrypted, License Free Wireless Data Communications

- Reliable wireless communications for industrial SCADA systems
- Point-to-point and Point-to-Multipoint operation
- High penetration 900MHz operation: outdoor range up to 20+ miles as well as in-plant applications
- 1 watt unlicensed spread spectrum radio, 100% compatible with Freewave FGR & FGR2 radios
- Secure AES-128 encrypted communications
- Store & Forward Repeater operation to extend radio range
- RS-232 and USB Communications Interfaces
- Allen-Bradley (DF1), Modicon (Modbus) and Harris (DNP3) protocol support
- Low-power and smart power management for solar/battery backed applications
- Separate diagnostic port for network-wide radio management
- 10Vdc to 30Vdc DC power
- Compact DIN Rail Mounting
- Wide operating Temperature Range: -40°C to +70°C
- 3-year factory warranty on parts and labor



Secure Serial Data Radio

License-free Wireless Communications

Messenger 900FS radios operate in the 900MHz license-free ISM band, providing plug-and-play simplicity with extreme data integrity. By automatically hopping among up to 112 different frequencies, the radios avoid and reject interference from other wireless devices as well as spurious man-made and natural noise sources.

High Security Data Encryption -

Messenger series radios encrypt all messages sent over the air. The AES encryption used is the same technology used for banking, national security and other critical applications. Built-in data encryption and decryption ensures that your data is kept out of unauthorized hands, yet the radios are easy to use since encryption is transparent to the sending and receiving equipment.

Supported by most PLCs, RTUs & HMIs Messenger series radios can be used with nearly any industrial control device with a standard serial port. No modem control signals are used and messages are transferred in error-checked packets, compatible with standard protocols including Modbus, DF1 and DNP3.

Network Management & Diagnostics -

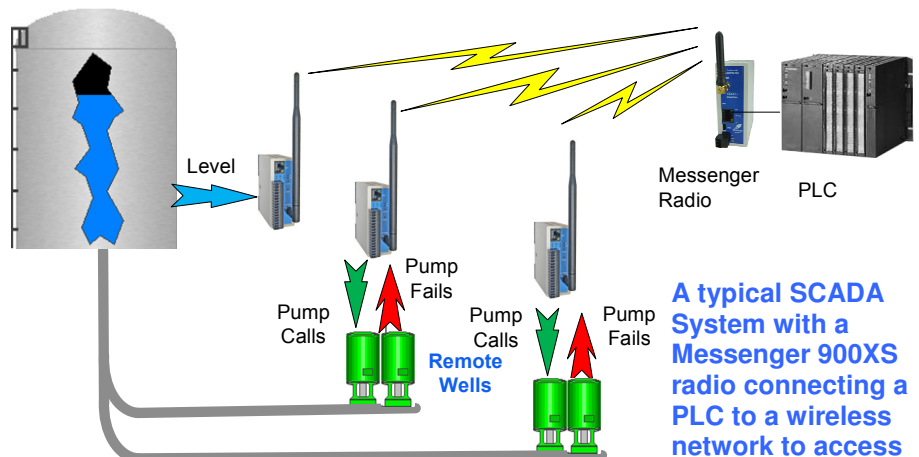
Messenger 900FS radios have a separate port for live management of any radio in the network, as well as local diagnostics. This feature can be used simultaneously with normal data operation.

Integral Repeater Functionality – Any Messenger 900FS radios can also serve as repeaters, effectively extending the range of your wireless network when a reliable point-to-point link cannot be established.

USB and RS-232 Interfaces–

Messenger Series radios offer two communications interfaces to simplify connection into nearly any system; RS-232 for use in legacy configurations, and USB for more modern systems and PC computers. When RS-232 is used for the data port, USB is used for the diagnostics port; and vice-versa.

Rugged Reliability – Messenger 900FS radios are 100% tested over an extended temperature range of -40 C to 70 C, and backed by an industry leading 3-year factory parts and labor warranty.



A typical SCADA System with a Messenger 900XS radio connecting a PLC to a wireless network to access wireless I/O.

Specifications

RF Performance

Transmit Power	1 Watt nominal, 10mW to 1 Watt (user configurable)
Receiver Sensitivity	-108 dBm @ 115,200 bps data rate (BER 10^{-4})
RF Selectivity	50dB at 896MHz, 935MHz
Operating Frequency	902MHz to 928MHz
Spread Spectrum	FHSS (Frequency Hopping Spread Spectrum)
Modulation	GFSK (Gaussian Frequency Shift Keying)
Channel Capacity	105 hop sequences share 112 frequencies

Communications

Supported Network Topologies	Point-to-Point, Point-to-Multipoint
Encryption	128-bit AES Encryption (user configurable)
Serial Data Rate (RS-232)	1200 baud or 230400bps (user configurable)

Certifications (partial list)

FCC Part 15.247	KNY-42182112519
Industry Canada (IC)	2329B-FGR209

Terminal Block (power) Removable, 3.5mm (0.138"), 12 to 22AWG, 15A/contact maximum

Antenna Connector MMCX, 50 ohms, unbalanced

Mounting 35mm. DIN rail

Dimensions 1.4"W x 3.7"H x 3.8"D (includes terminal block and elevation off panel on DIN rail)

Environment - 40°F (- 40°C) to 158°F (70 °C), 5%RH to 95% RH, non-condensing

Power 10 to 30Vdc

Receive/Idle 0.5W

Transmitting 3.75W (1 Watt output)

2.75W (0.5 Watt output)

1.50W (100 mW output)

Warranty 3 years, factory parts and labor

Part Numbers **98-1402** 900 MHz Messenger 900FS (Freewave) Spread Spectrum External Radio, MMCX Antenna Connector

Represented by:

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