DATASHEET

RadioLinx® Industrial Frequency Hopping 900 MHz Ethernet

RLX-IFH9E

The RLX-IFH9E provides powerful and secure wireless Ethernet and serial communications and is well suited for demanding, long-range (up to 30+ miles) SCADA and other Ethernet applications in tough environments. Operating in the license-free 900 MHz band, the RLX-IFH9E penetrates foliage and walls / ceilings better than higher frequency radios.

The RLX-IFH9E is user configurable as a master, repeater and remote radio and provides virtual peer-to-peer packet switching and network optimization using advanced *Smart Switch* technology. Combined with an industry leading high-speed transmitter, the RLX-IFH9E is ideal for applications requiring fast and reliable Ethernet and serial communications at long distances.

RLX-IFH9E radios are quickly and easily configured using the included, graphical ControlScape software. An OPC server software is also included and allows users to monitor radio network health with any OPC client based HMI software.

The RLX-IFH9E employs proprietary frequency hopping algorithms and 128 bit AES encryption algorithm approved by the United States government for critical networks.

Features	Benefits
Powerful 900 MHz Ethernet	♦ 1.1 Mbps RF data rate at up to 30+ miles line-of-sight (LOS) ♦ *Smart Switch* technology provides true peer-to-peer connectivity and optimizes performance. ♦ Longer wavelength of the unlicensed 900 MHz band for superior wireless signal propagation vs. higher frequency unlicensed wireless bands ♦ Serial device support via serial to serial tunneling or serial TCP/UDP encapsulation
Rugged and Powerful	♦ Up to one watt transmit power for long distance ♦ Programmable frequencies to co-exist with other wireless networks or avoid interference ♦ Metal enclosure, industrial operating temperatures, vibration and shock resistant ♦ Certification for use in hazardous locations (ISA 12.12.01 Class I Div 2)
Strong Data and Network Security	♦ Proprietary frequency hopping algorithms (not detectable by Wi-Fi scanners) ♦ 128 bit AES Encryption
Easy to Configure and Monitor	♦ Graphical representation of network for configuration and diagnostics ♦ Advanced diagnostics including VSWR, temperature, and signal quality ♦ Included OPC Server for HMI-based RF network diagnostics

Configuration

The RadioLinx® ControlScape FH application provides a graphical representation of your RLX-FH radio network, allowing you to easily configure the radios and monitor their performance from anywhere in the network. ControlScape can be used to support configuration and installation as well as provide long-term monitoring of system performance.

Radio Specifications

Frequency	902 MHz to 928 MHz
Protocols	All standard IEEE 802.3 protocols
Security	128 bit AES encryption
Network Topology	Point-to-point, point-to-multipoint, store and forward repeater; Smart Switch packet switching for virtual peer-to-peer communications.
Error Detection	32 bit CRC, ARQ (Automatic Resend Query)
Radio Type	Frequency Hopping Spread Spectrum
Transmit Power (Programmable)	100 mW to 1 W (Programmable) 20 dBm to 30 dBm (Programmable)
Channel data rates	1.1 Mbps or 345 kbps (Programmable)
Receiver Sensitivity (Typical)	1.1 Mbps: -98 dBm @ 10-6 BER 345 kbps: -106 dBm @ 10-6 BER
Outdoor Range	30+ miles pt-pt with high gain directional antennas and RF line-of-sight

Hardware Specifications

Enclosure	Extruded aluminum with DIN and panel mount
Size	117 x 112 x 41 mm / 4.6 x 4.4 x 1.6 inches (W x H x D)
Ethernet Port	10/100 Base-T connector, shielded RJ45 IEEE 802.3, 802.3u, 802.3x
Serial Data Port	RS-232, DB9 / RS-422 and RS-485 300 bps to 230 kbps. Supports serial to serial tunneling and serial TCP/UDP encapsulation.
Antenna Ports	(1) RP-SMA connector
Weight	1.0 lbs (454g)
Operating Temp	-40°F to 149°F (–40°C to +65°C)
Humidity	Up to 100% RH, without condensation
Vibration	IEC 60068-2-6 (20g, 3-Axis)
Shock	IEC 60068-2-27 (5g, 10 Hz to 150 Hz)
External Power	9 Vdc to 24 Vdc
Power Consumption	12 W peak

Agency Approvals & Certifications

IC	3143A-06P21
FCC	NS906P21
cULus	E213912 Class I Div 2 Groups A,B,C,D T6 -25°C <= Ta <= 60°C
ATEX	Category 3, Zone 2 II 3 G Ex nA IIC T4 X -30 C <= Ta <= +60 C
Gost-R	ME06 (for controllers and radios)

Additional Products

ProSoft Technology® offers a full complement of hardware and software solutions for a wide variety of industrial communication platforms. For a complete list of products, visit our web site at: www.prosoft-technology.com

Ordering Information

To order this product, please use the following:

RadioLinx® Industrial Frequency Hopping 900 MHz Ethernet

RLX-IFH9E

To place an order, please contact your local ProSoft Technology distributor. For a list of ProSoft Technology distributors near you, go to: www.prosoft-technology.com and select Distributors from the menu.

Place your order by email or fax to:

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