



**SEM910 Series  
SEM910X/  
SEM910D/  
SEM9190DX**

**High-Speed  
Spread Spectrum  
Ethernet Radio  
Modem Family**

**Features:**

- **High Speed: Up to 150Kbps throughput**
- **Network Ethernet devices (sensors, PLCs, computers) wirelessly**
- **Long Range: 20+ miles using an omni-directional antenna**
- **Proven frequency hopping technology**
- **Standard Ethernet 10/100BaseT interface**
- **40OC to + 70OC operation**

**Benefits:**

- **Excellent immunity to jamming and multi-path fading**
- **No user site license required**
- **Packaged for rugged industrial use**
- **Allows for deployment in hazardous locations**
- **Reliable performance in high RF noise environments**

The SEM910 family of products are high speed/long range wireless networking products from RFM. Operating in the license-free 900MHz band, the SEM-series is designed to provide high-speed wireless connectivity between Ethernet devices over 20+ mile distances. Typical uses include Ethernet bridging, SCADA networks, PLC networking, and other industrial automation or data collection applications.



**SEM910D**

**Rail Mount**

The SEM910D/X offers a DIN-rail mount version, making connection to PLCs or other automation devices a snap. The entire SEM910 product family is Class I Division 2 certified, allowing deployment in hazardous locations.



**SEM910X/DX**

**NEMA 4X Remote Assembly**

The SEM910X/DX puts the radio in a NEMA 4X remote assembly that can be located up to 300 feet from the Ethernet connection. This allows optimal radio placement without the need for long RF cable runs.



**SEM910 HL**

**Hazardous Location, Class I Div I**

SEM910 HL (hazardous location) products are ready to be deployed in hazardous locations. These Class I Div I rated solutions are ideal for oil and gas applications. The only access hole that comes on the box is the antenna connection on top. The customer then chooses where to drill for power, data and/or control conduit access to maximize installation flexibility.

The SEM 910HL products can function as high speed bridge between two 10/100BaseT Ethernet networks or provide wireless connectivity between an Ethernet master bridge and multiple Ethernet remote bridges.

The SEM910 HL provides 20+ mile range with omni antennas. SEM products ensure errorless data via CRC error checking and ARQ (automatic retransmission of errored packets).

SEM910 products use the RFM third generation proprietary frequency hopping technology. Major industrial powerhouses such as Group Schneider, Siemens, and GE have learned they can depend on RFM products for their customers. SEM products offer extraordinary data throughput combined with outstanding range, coverage, and link reliability. The SEM products operate easily in extended range applications, more than 20+ miles with omni-directional antennas.

For example, the SEM can function as a high speed bridge between two 10/100BaseT Ethernet networks (see figure 1 below). SEM products can also provide wireless connectivity between an Ethernet base station and multiple Ethernet remote modems (see figure 2). Highly complex networks can be achieved using repeaters to extend range and coverage. The SEM910 products offer 150 Kbps data throughput, either point-to-point or multi-point. SEM910 products ensure errorless data via CRC error checking and ARQ (automatic retransmission of errored packets).

Figure 1

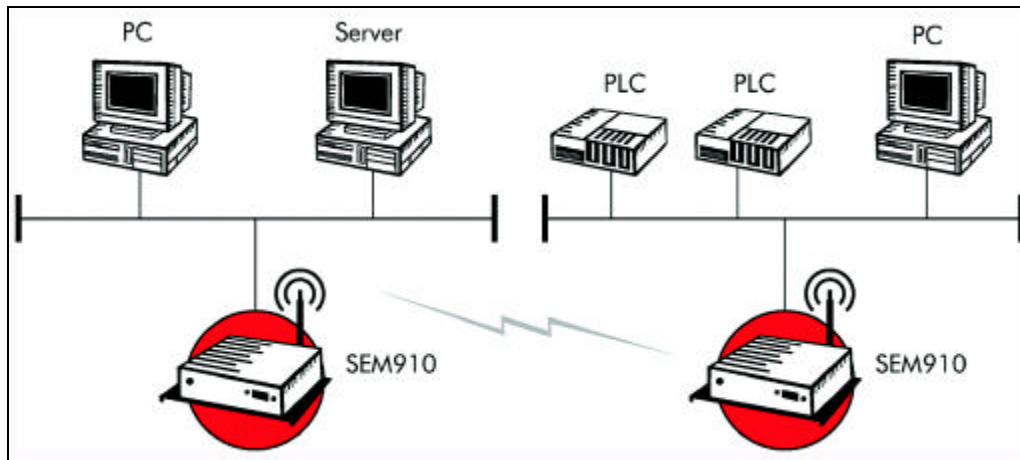
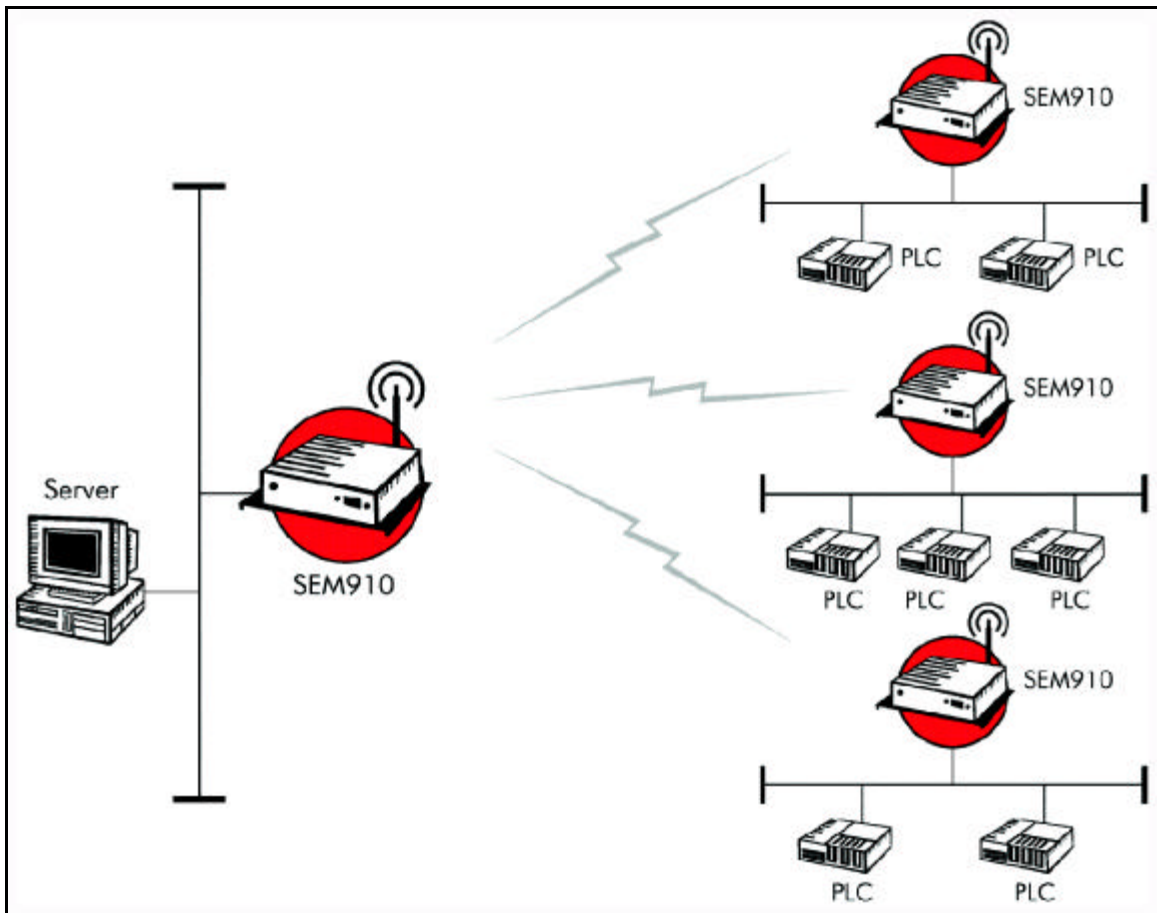


Figure 2



## Specifications

	SEM910	SEM910X	SEM910D	SEM910DX
Data Throughput	150 Kbps			
Total Available Over-the-air Bandwidth	172.8 Kbps			
Interface	10/100BaseT			
Network Topologies	Point-to-Point and Multipoint			
Frequency Range	902MHz - 927MHz			
RF Modulation	GFSK			
RF Output Power	+27dBm at the RF Connector			
Receive Sensitivity	-103dBm for 10-5 BER			
Power	+9Vdc - +30Vdc	+12Vdc to +30Vdc	+9Vdc - +30Vdc	+12Vdc to +30Vdc
Enclosure Material	Aluminum	Aluminum (network interface unit) UV stabilized polycarbonate (remote radio unit)	ABS	ABS (network interface unit) UV stabilized polycarbonate (remote radio unit)
Enclosure Size	201 x 144 x 53	201 x 144 x 53 (network interface unit) 130 x 79 x 35 (remote radio unit)	140 x 118 x 48	140 x 118 x 48 (network interface unit) 130 x 79 x 35 (remote radio unit)
Operating Temperature	-40°C to +70°C	-40°C to +70°C (network interface unit) -40°C to +70°C (remote radio unit)	-40°C to +70°C	-40°C to +70°C (network interface unit) -40°C to +70°C (remote radio unit)
Certifications	FCC, IC, UL Class I Div 2			

## Connectors

Power	2-Terminal Connector
Ethernet	RJ-45
Configuration Port	RJ-11
Antenna	Reverse TNC

## Indicators

Power	RF Link
Ethernet Transmit	Ethernet Receive
Link Status	XCVR OK

