



**5000 Series
Wireless Serial Modems
(RS-232 and RS-485)**

Model 5000, 5100, 5200





The most powerful, most flexible wireless modems

ENCOM's 5000 Series of wireless serial modems blends robust, intelligent performance with affordability and ease of use.

Designed for serial data communications (RS-232 and RS-485), ENCOM's 5000 Series of industrial wireless modems allows for easy expansion within your existing communications infrastructure. Offering serial to wireless, FSK to wireless and Ethernet to serial wireless, these versatile radios can each operate as a master, repeater or remote in any point-to-point, point-to-multipoint, or multipoint-to-multipoint configuration. All 5000 Series modems communicate seamlessly with each other for maximum flexibility.

Simple to set up and install, ENCOM's industry-leading radios also feature ranges of up to 60 miles, 115 kbps data rates and enhanced interference avoidance methods for error-free, reliable operation in any environment.

Each unit is built and supported with ENCOM's 20-plus years of industry experience, and comes with powerful, user-friendly ControlPAK software. This Windows®-based program includes highly visual, straightforward tools for configuration, remote maintenance and diagnostics. Also included is a spectrum analyzer for determining precise noise levels and optimal operating frequencies.

Available in five configurations operating on either 900 MHz or 2.4 GHz



Model 5200 serial wireless transceiver

(shelf- or rack-mount unit)

1200 baud to 115 kbps
RS-232 and RS-485

Model 5100 FSK to serial wireless transceiver

(shelf- or rack-mount unit)

1200 baud FSK (Bell 202)
1200 baud to 115 kbps RS-232

Model 5000 ESS Ethernet to serial wireless transceiver

(shelf-mount unit)

10/100 TCP/IP
1200 baud to 115 kbps RS-232

Applications

Intelligent Transportation Systems

- Wireless controller interconnect
- Vehicle detection systems
- Variable Message Signs (VMS)

Water/waste water management systems

- Pump/lift stations
- Reservoir monitoring
- Remote valve controls

Industrial SCADA networks

- Oil and gas
- Pipelines
- Mining

Electrical Utilities

- Automated Meter Reading (AMR)
- Automatic Circuit Reclosures (ACR)
- Smart Grid support
- Fault monitoring



ENCOM's 5000 Series of wireless interconnect serial modems are . . .

INTELLIGENT

- Licence-free, frequency-hopping spread spectrum technology (900 MHz and 2.4 GHz)
- Built-in setup and diagnostics capabilities
- Variable output power capability (maximum one watt)
- Transparent operation with asynchronous serial applications
- Easy-to-configure ControlPAK software included
- Flexible configuration as master, remote or repeater

ROBUST

- One watt output power
- High-performance receiver (-110 dBm)
- Full duplex capability
- Sustained data rate of up to 115 kpbs
- Range of up to 60 miles (line of sight)
- Less than 8 milliseconds end-to-end delay
- Store and forward repeater standard
- Industrial operating temperature (-40°F to 176°F, or -40°C to 80°C)

AFFORDABLE

- Plug-and-play capabilities save installation time
- Economical expansion of existing systems
- Reliable performance requires low maintenance
- Precise diagnostics reduce issues and downtime
- Five-year warranty

About ENCOM Wireless:

ENCOM, based in Calgary, Canada, provides field proven, cost-effective wireless data solutions for municipal and industrial clients, with applications in the areas of:

- Intelligent transportation systems
- Public safety communications
- Municipal corporate security and IT networks
- Water and waste water management
- Electrical utilities
- Oil and gas



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RADIO SPECIFICATIONS	
Technology	Frequency-hopping spread-spectrum technology (FHSS)
Frequency Range	902-928 MHz or 2.400-2.4835 GHz
Output Power	900 MHz: 1mW, 10mW, 100mW, 1000mW 2.4 GHz: 10, 50, 100, 250, 500, 750, 1000mW
Software Programmable	Yes
Available Hop Patterns	900 MHz: 62 2.4 GHz: 44
Number of RF Channels	900 MHz: 139 2.4 GHz: 202
RF Channel Spacing	900 MHz: 200KHz 2.4 GHz: 400KHz
Error Checking	16 bit-CRC
Error Correction	Forward error correction
Encryption	32 bit
Receiver Sensitivity / ER	-110 dBm @10-6 BER
System Gain	152 dBm
Antenna Port	RP TNC-F (Model 5100, 5200 rack-mount units use RP SMA-F)
Certification	FCC, Industry Canada
Operating Modes	Transceiver
System Configurations	Point to point, point to multipoint, multipoint to point, multipoint to multipoint
GENERAL SPECIFICATIONS	
Input Power	Stand alone: 6-30 VDC Rack-mount: Powered by detector rack via edge connector
Power Consumption	900 MHz: Typical <100mA standby 2.4 GHz: <125mA (100MW TX)
Operating Environment	-40°F to 176°F (-40°C to 80°C)
Humidity	0-95% non-condensing
Dimensions	Shelf-mount: 2.0"W x 5.0"H x 6.5"D Rack-mount: 1.125"W x 4.5"H x 7.0"D
Enclosure type	Shelf-mount: Milled aluminum black powder coat Rack-mount: 2x22 pin edge card with 0.156" CTR
Warranty	Five-year Warranty

SOFTWARE SPECIFICATIONS	900 MHz	2.4 GHz
Radio configuration	Yes	Yes
Spectrum analyzer	Yes	Yes
Remote diagnostics and configuration	Yes	Yes
INTERFACE SPECIFICATIONS		
Programming	DB9-F	
Data Interface	RS-232 Asynchronous	
Data interface	5100: Dip switch selectable, RS-232 or 4-wire FSK 5200: RS-232 asynchronous (standard), RS-485 2 or 4 wire (shelf mount only)	
Data Format	None, odd or even parity, 7 or 8 data bits	
Data Rate	1200 baud to 115 kbps (software selectable)	
Data transmission	Key-by-key data or RTS data input framing with programmable RTS/CTS time delay	
INTERFACE SPECIFICATIONS		
TX Data, RX Data, PWR	Yes	
RSSI	Yes	
Data port indicator	Yes	
LAN link	Yes (5000 ESS only)	
LAN activity	Yes (5000 ESS only)	