

Miniature OEM Wireless Ethernet/Serial/USB Gateway

The Nano IP Series adds Ethernet capability to the miniature, yet powerful Nano platform. This incredibly small Ethernet Bridge and Serial Gateway provides robust wireless communication of simultaneous serial data and IP/Ethernet packets to extend serial data and IP networks.

Applications

- IP/Ethernet Wireless Extension
- Legacy Networks/Devices Migration
- Video/Voice over IP
- SCADA (PLCs, Modbus, HART)
- GPS Vehicle Data/Tracking, DGPS
- Electric, Oil & Gas Utilities/Metering

Microhard Systems Inc.'s proprietary radio technology excels in the most demanding RF and physical environments.



World's Smallest Ethernet /Serial/USB Gateway!

The Nano IP platform is the smallest form factor (2" x 1.25" x .5", weighing only 25 grams) available which offers a full Ethernet/Serial/USB bridge and routing functionality. The Nano IP OEM module can be directly integrated into OEM systems or applications using a variety of interface options. With the LAN out interface ready to wire directly to CAT5 cable OEMs can integrate this unit quickly and efficiently. The Nano IP Series also features flexible maintenance utilities, secure firewall features and network management facilities. Robust Frequency Hopping with excellent receiver sensitivity and interference rejection allow for long range, high speed communications.

Features of the Nano IP Series

- Low Power Consumption
- Up to 1.2 Mbps Wireless Link Rate*
- Master, Slave, Repeater operation in a single unit
- 2 Serial Com Ports, 1 USB Port, and 1 Ethernet Port
- Supports Point-to-Point, Point-to-Multipoint, Repeater, Peer-to-Peer
- Adjustable transmit power (100mW - 1W)
- Radius Server Support
- Full VLAN Support (for separate management and Data networking)
- User interface through local console, telnet, and web browser
- Network management capability with SNMP V1, V2, V3
- Local and remote wireless firmware upgrading through FTP
- QoS Routing on Serial, IP, or Logic Ports

Interface Options

Enclosed Solution



Motherboard Solution

* For Faster Link Rates Contact Microhard

IPn920

Specifications

Frequency	902 - 928 MHz	Input Voltage	OEM Enclosed Interface Card	3.3VDC Nominal (+/- 0.3V) 7-30VDC 7-30VDC
Spread Method	Frequency Hopping / DTS	Power Consumption (Typical with n920F @ 12V with Motherboard)		Sleep: < 1mA Idle: 35mA Rx: 110mA to 145mA Tx: 350mA to 500mA
Link Rate	Up to 1.2Mbps (See Order Options)	Connectors:	OEM Antenna Data Enclosed Antenna Data	OEM - MMCX OEM - 60 Pin OEM Header x2 RPSMA Female Bulkhead RJ-45 (Ethernet) Female DB9 Mini-USB
Error Detection	32 bits of CRC, ARQ	Environmental	Temperature Humidity	-40°F to 185°F (-40°C to +85°C) 5-95%, non-condensing
Encryption	128-bit WEP/WPA (Canada & USA only. NOT AVAILABLE for export, see -AES option)	Weight (Including Radio)	OEM Enclosed w/ Interface Board	Approx. 25 grams Approx. 250 grams Approx. 70 grams
Range	Up to 30+ miles (50+ km) @ 1.2Mbps Up to 60+ miles (100+ km) @ 172kbps	Dimensions	OEM Enclosed	Approx. 1.25" x 2.0" x .50" (32mm x 51mm x 13mm) Approx. 2.25" x 3.85" x 1.50" (57mm x 98mm x 38mm)
Sensitivity	-108dBm@172kbps link rate -106dBm @ 230kbps link rate -97dBm @ 1.2Mbps link rate	Approvals		FCC Part 15.247 IC RSS210
Output Power	100mW - 1W (20-30dBm)	Order Options		
Serial Interface	RS232, RS485, RS422	-C1D2		Class 1 Div 2 (for use in hazardous environments)
Serial Baud Rate	300bps to 921kbps	-AES		128/256-bit AES Encryption, Secure Shell, HTTPS (Canada & USA only. NOT AVAILABLE for export)
USB	USB 2.0 USB Console Port USB to Serial Data Routing USB to Ethernet Data Routing	-EXP		Export Version, removes encryption
Ethernet	10/100 BaseT, Auto - MDI/X IEEE 802.3	-869		869.4 - 869.65 MHz Operation
Network Protocols	TCP, UDP, TCP/IP, TFTP, ARP, ICMP, DHCP, HTTP, HTTPS*, SSH*, SNMP, FTP, DNS, Serial over IP, QoS (* Only available in -AES)	IPn920F		115kbps - 230kbps
Operating Modes	Point-to-Point, Point-to-Multipoint, Store & Forward Repeater, Peer-to-Peer	IPn920T		345kbps - 1.2Mbps
Management	Local Serial Port Console, Telnet, WebUI, SNMP, FTP & Wireless Upgrade, RADIUS authentication, VLAN	IPn920BD		19.2kbps - 230kbps
Diagnostics	Battery Voltage, Temperature, RSSI, and remote diagnostics			
Rejection	Excellent strong signal interference & rejection characteristics			
Input IP3 (Antenna Connector)	+12 dBm			

Contact Information

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