

HN-294D

900MHz Frequency Hopping Wireless Data Modem

Features:

- 900MHz Frequency Hopping Spread Spectrum Technology
- 172.8Kbps over the air and 115Kbps I/O data rates
- 54 Hopping Patterns
- FCC Certified
- Integral 3dB patch antenna
- RS-232 asynchronous serial interface

Benefits:

- Exceptional immunity to multipath fading and jamming
- Supports high speed applications needing long range
- Co-location of multiple networks without interference
- License-free application
- Cost-effective, simple installation
- Connects to PC Serial ports

The HN-294D is a versatile, low cost, multi-purpose 900MHz frequency-hopping wireless data modem. Built around the WIT910 radio, the HN-294D has an integral 5dB patch antenna creating a "single piece" modem. Communication with the HN-294D is through a 115.2Kbps asynchronous serial port supporting a standard RS-232 interface. The HN-294D communicates over the air at 172.8Kbps and supports both point-to-point and point-to-multipoint networks.



HN-291D

Specifications

	HN-291D	HN-291DX	HN-294D
Frequency Band	902 to 927 MHz		
Operating Range	Indoor: 1000'+ Outdoor: >20 miles with omni-directional antenna		
Licensing	FCC Part 15.247, license free		
Number of Channels	54		
Error Detection and Correction	24 bit CRC and ARQ		
I/O Data Rates	Up to 115.2 Kbps, software selectable		
RF Channel Rate	172.8 Kbps		
Serial Data Interface	Async. RS-232/USB		
RF Bandwidth	172 KHz		
Modulation Type	GFSK		
Output Impedance	50 ohms		
Network Protocol	Dynamically Assigned TDMA with ARQ		
Transmit Power	500mW, 100mW, 10mW, software selectable		
Receive Sensitivity	-108 dBm for 10-5 BER	-103 dBm for 10-5 BER	-108 dBm for 10-5 BER
Supply Voltage	9-30Vdc		

Mechanical Specifications

Product	HN-291D	HN-291DX	HN-294D
Antenna	Integrated 5dB Patch	n/a	Integrated 5dB Patch
Case Materials	Polycarbonate, NEMA 4X		
Dimensions (mm)	130 x 79 x 35 (excl. flange)		
Weight excl. cable	235g		
Antenna Connector	n/a	Reverse TNC Male	n/a
Data Connector	9-Pin D		
Power Connector	2 Pin DIN		

Environmental Specifications

Temperature Range	-30°C to +70°C (radio enclosure)
Humidity	95% at +40°C, Non-condensing



Versatility

The HN-291D is a versatile, low cost, multi-purpose 900MHz frequency-hopping wireless data modem. Built around the WIT910 radio, the HN-291D has an integral 5dB patch antenna creating a "single piece" modem. Communication with the HN-291D is through a 115.2Kbps asynchronous serial port supporting a standard RS-232 interface. The HN-291D communicates over the air at 172.8Kbps and supports both point-to-point and point-to-multipoint networks.

Simplicity

With a NEMA 4X weatherproof enclosure and aluminum mounting flange, the HN-291D is simple to install on the side of a building or attached to a mast. With no antenna to connect, the HN-291D is simply mounted where the antenna would ordinarily be mounted. This removes the need for long antenna cable runs, expensive both in terms of cost and performance.

Useability

The HN-291D comes with a 50-foot cable that connects to a DIN-rail mount Serial Adapter box (standard RS-232 serial 9-pin D connection) making installation in equipment cabinets simple. The HN-294D comes with just a 4-foot cable when long cable runs are not needed. The Serial Adapter Box also provides power to the HN-291D through a universal 110/220 50/60 wall-mount power supply (also included). The integral 5dB patch antenna provides a line-of-site range of 20 miles, making the HN-291D ideal for a variety of long range applications. For applications requiring more antenna gain, the HN-291DX replaces the built-in patch antenna with an external reverse TNC connector.

When paired with the Murata SNAP910 family of products, the HN-291D provides a cost-effective link from remote devices to Ethernet/IP-based applications. These applications include Intranet-based applications as well as Internet access. The HN-291D also is ideal for use in SCADA applications as remote modems in multipoint configurations and is an extremely cost-effective solution for point-to-point installations. The HN-291D has software-selectable transmit power levels of 10mW, 100mW and 500mW.

Based on Murata's WIT910 spread spectrum frequency-hopping radio, the HN-291D has exceptional multipath fade rejection as well as immunity to jamming. The WIT910 is based on field proven technology that delivers robust, reliable real world performance.

The HN-291D is FCC and IC certified and operates in the license-free 900MHz band.