American Control Technologies, Inc.

ACT Goes Green

Model **115 STN**
Model **230 STN**

Overview

The DataHopper 900 Model STN is a family of radios that utilizes the latest advances in wireless communication technology. The Model STN is a frequency-hopping spread spectrum radio operating in the license-free 902-928 MHz band with on-board I/O. It is specifically designed for networking of remote serial and Modbus Ethernet devices to wireless LANs. The Model STN can provide the user with significant long- term savings over traditional direct connect or licensed radio methods.

Modbus

The Model STN features built-in Modbus and Modbus Ethernet gateway.
This feature allows for simultaneous access to any Modbus or Modbus Ethernet connected device while at the same time accessing the local onboard I/O through the Modbus protocol. The Model STN can act as a Modbus master communicating with up to 255 Modbus slave devices. As a Modbus slave the Model STN can be polled by any Modbus master device such as a PLC, RTU, etc..

Onboard I/O

The Model STN features onboard I/O. The Model STN has two digital inputs, two digital outputs, one analog input (4-20mA), and one analog output (4-20mA). This feature can be used in locations where only a few data values are needed, such as tank level, flow, and digital alarms. This eliminates the need to provide a separate controller at the remote location, reducing user cost.

Performance

The Model STN is a powerful 1 Watt transceiver that effectively communications at distances up to 40 Kilometers (25 miles) line of sight, depending upon antenna selection and environment. The Model STN transmits data at up to 115.2 or 230.4 Kbps and has a high tolerance to environmental conditions and interference. Combining high performance and an affordable price, the Model STN enables applications previously unable to benefit from wireless communications.

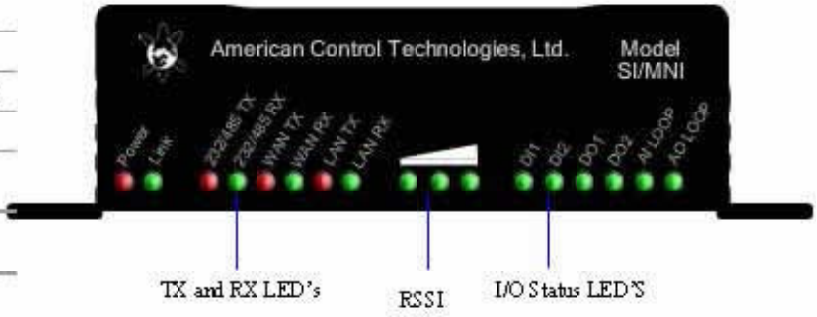
Features of the Model STN

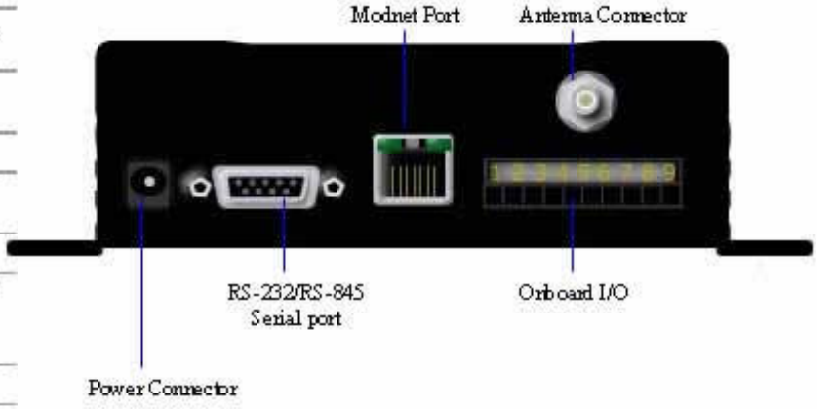
providing complete wireless solutions

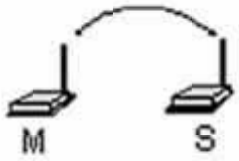
- 10Base-T RJ45 Ethernet data port allows the Model STN to interface with virtually any Modbus Ethernet ready device)
- DB9 RS-232 serial data port (with a jumper selectable RS-485/RS-422 interface for further connectivity)
- Supports point-to-point and point-to-multipoint, repeater operation with user-configurable addressing
- On-board I/O – 2DI, 2DO, 1AI, and 1AO
- Handles most industry standard protocols, such as Modbus, Modnet Ethernet, DF1, and Foxboro A²
- Long Range – 25 miles LOS
- Excellent receiver sensitivity for longer links and better foliage penetration
- Industrial temperature specification
- Selectable 24V loop power – to power external devices
- Also available in a 2.400-2.4835 GHz Version

Specifications

Frequency	902-928 MHz
Spreading Code	Frequency Hopping
Output Power	10mW, 100mW, 1W User Configurable
Sensitivity	Up to -112 dBm
Data Throughput	115 or 230 kbps uncompressed
Range	25 miles LOS
Rejection	70dB out of band; 60 dB in band; 50 dB adjacent channel
Operating Modes	Point-to-Point, Point-to-Multipoint, Repeater
Onboard I/O	2 digital inputs, 2 digital outputs, 1 analog input, 1 analog output
Protocols	Modbus master, Modbus slave, Modbus Gateway
Hopping Patterns	64 user selectable, advanced configurable
Data Encryption	Substitution, dynamic key
Diagnostics	Remote control, statistics, diagnostics
Error Detection	16-bit CRC with optional FEC
Data Interface	10Base-T, RJ45, RS-232 Serial (selectable RS-485/RS-422 interface), Modbus Gateway
Configuration	Serial, Ethernet, or Remote
Power Supply	24 VDC
Power Consumption	500mA max at 24V and 1W Tx Power; 300mA typ. at 24V and 1W Tx Power
Operating Environment	-40 to +75 ºC; 5-95% non-condensing
Enclosure	Extruded aluminum, powder coat, 5.0" x 6.0" x 2"
Weight	Approx. 420 grams (.09 lbs)
Antenna Connector	Reverse gender TNC
LED Indicators	Power, Link, WANTX, WANRX, LANTX, LANRX, RSSI
Approvals	FCC Part 15.247, IC RSS210

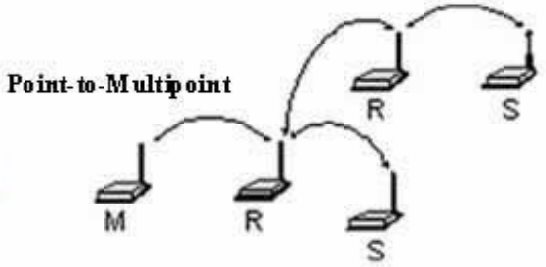






Point-to-Point

Contact Information



M=Master S=Slave R=Repeater

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