ETHERNET-SERIES

HTPlus Industrial 900 MHz Radio

Overview:

The FreeWave® Technologies HTplus is a leap forward for customers who need an industrial grade high speed Ethernet radio that operates in harsh environments and noisy RF conditions. Designed to the same high level of quality that FreeWave® products are known for, the HTplus is a rugged and reliable solution that performs where other products fall apart.

The HT product family supports TCP, UDP and serial communications, all in one package. All radios are built and tested at FreeWave's world class manufacturing facility in Boulder, Colorado.

Security Features:

- AES 128 bit encryption* and proprietary spread spectrum technology.
- RADIUS Central Authentication - Allows system to have connectivity with only system administered authenticated devices .
- VLAN tagging - Data separation.
- MAC address filtering - Allows each port to be secure by only allowing connectivity with known MAC addresses.
- Error Free Communications - 32 bit CRC with automatic retransmission.
- Secure - Proprietary spread spectrum technology prevents detection and unauthorized access.

Features:

- Versatile - A single radio can be configured as a Gateway, End Point or Repeater for maximum versatility.
- High Speed - 867 Kbps over-the-air throughput.
- Wide input voltage range - 6 to 30 VDC.
- Low current draw radio at 12 Volts:
  - 150 mA in full time receive
  - 550 mA transmit current
- Strong Signal Performance - Maintains high sensitivity even in marginal conditions.
- High Noise Immunity - Superior performance in noise congested environments.
- Point-to-Point Range - 15 miles with clear line of sight, up to 30 miles* at lower bandwidth.
- Point-to-Multipoint Range - 15 miles with clear line of sight.
- UL Approved for Class 1 Div 2.
- Industrial Grade Specifications - 100% tested for RF performance from -40° C to +60° C.

***Contact FreeWave for implementation details.**

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Technical Specifications

Transmitter	
Frequency Range	902-928 MHz (FHSS / FCC DTS)
Output Power	5 mW up to 1 W
Range, Line of Sight	Point-to-point: 15 Miles & up to 30 miles* at lower bandwidth | Point-to-multipoint: 15 miles
Modulation	2 level GFSK
Occupied Bandwidth	611.2 kHz
Hopping Patterns	15 per Band, 105 total, user selectable
Hopping Channels	41
Hopping Bands	7, user selectable
Frequency Zones	16 Zones, 2-3 Channels per zone
RF Connector	TNC
Receiver	
Sensitivity	-102 dBm for BER $1x10^{-4}$ at 614 Kbps, -96 dBm for BER $1x10^{-4}$ at 867 Kbps
Selectivity	TBD
System Gain	129 dB
Data Transmission	
Error Detection	32 bit CRC, Retransmit on Error
Data Encryption	AES 128 bit encryption* and proprietary spread spectrum technology
Authentication	RADIUS
Data Interface	Ethernet
Protocol	Ethernet: IEEE 802.3 TCP/IP, DHCP, ICMP, UDP, APP multicast TFTP
Data Connector	Ethernet 10/100 Base T Auto-crossover and 2x Serial DB9
Diagnostics Interface	
Connector	IP Diagnostics
Power Requirement	
Operating Voltage	6 to 30 VDC
Current [mA]	

Mode	6VDC	12 VDC	30 VDC
Transmit	1.1 A	550 mA	220 mA
Receive	252 mA	150 mA	63 mA
Idle	140 mA	71 mA	32 mA

General Information	
Operating Temperature Range	-40° C to +60° C
Dimension	165 L x 74 W x 59 H (mm)
Weight	427 g
Humidity	0 to 95% non-condensing

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FreeWave Radios Require Professional Installation.

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