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Ranger Series

Ranger - T Industrial 900 MHz

Overview:

The FreeWave Ranger Series OEM Board Level Radios are a low cost solution for applications that require only 6-14 VDC input. Ranger Series retains many of the RF and network characteristics of FreeWave FGR 900 MHz radios including any radio can be configured as a master, slave, repeater, or slave/repeater.

This Radio also supports TDMA. Ranger Series radios may be monitored and controlled using the FreeWave CommControl diagnostics program. For maximum application flexibility, different Ranger Series models are available with or without an RF connector and in RS232 or TTL interface protocols.

All Radios are designed, manufactured and tested in Boulder, Colorado

Features *All specifications are tested and guaranteed.*

- Frequency Hopping.
- High Speed: 115.2 Kbps throughput.
- Long Range: 60 mile range with clear line of sight, ability to extend through repeaters.
- Error Free Communications: 32 bit CRC with automatic retransmission.
- Commercial Grade Specifications: 100% tested for RF performance form 0° C to +75° C.
- Repeater and Simultaneous: Slave and Repeater function all in a single radio.
- Improved supply voltage and power consumption. Input voltage range is now 6-14 VDC at full RF output power.
- Available without RF connector for applications requiring custom RF connections.
- Diagnostics will send diagnostics data to FGR-Series master radio.
- No additional FCC approval needed- The Ranger Series products are FCC approved at the board level.
- Noise Immunity: Superior performance in noise congested environments.
- No additional shielding: The Ranger Series can be installed in the same enclosure with controllers and other sensitive equipment.
- Secure proprietary spread spectrum technology prevents detection and unauthorized access.
- 100% compatible with every 900 MHz Free-Wave radio.
- May be used in network with standard FGR-Series radios



Ranger Series

Ranger - T 900 MHz Technical Specifications

Transmitter							
Frequency Range	902 to 928 MHz						
Output Power	5mW to 1 Watt						
Range - Line of Sight	60 Miles						
Modulation	2 level GFSK						
Occupied Bandwidth	230 kHz						
Hopping Patterns	15 Per Band, 105 Total, User Selectable						
Hopping Channels	50 to 112, User Selectable						
Hopping Bands	7, User Selectable						
RF Connector	SMA or no RF connector						
Receiver							
Sensitivity	-108 dBm @ BER 1x10 ⁻⁴ , -106 dBm @ BER 1x10 ⁻⁶						
Selectivity	-20 dB at fc ± 230 kHz (2nd IF)						
System Gain	136 dB exclusive of antenna system						
Data Transmission							
Error Correction	32 bit CRC, Retransmit on Error						
Data Encryption	Proprietary Spread Spectrum Technology						
Maximum Throughput	115.2 Kbps						
Protocol	TTL						
Data Connector	10 pin Header with locking ramp, 0.1 inch spacing, power/data connector.						
Power Requirements							
Operating Voltage	6-14 VDC						
	<table border="1"> <thead> <tr> <th>Mode</th> <th>12 VDC</th> </tr> </thead> <tbody> <tr> <td>Transmit</td> <td>850 mA</td> </tr> <tr> <td>Receive</td> <td>130 mA</td> </tr> </tbody> </table>	Mode	12 VDC	Transmit	850 mA	Receive	130 mA
Mode	12 VDC						
Transmit	850 mA						
Receive	130 mA						
General Information							
Operating Temperature Range	0° C to +75° C						
Dimensions	127 mm L x 61 mm W x 15 mm H						
Weight	90 g						
Humidity	0 to 95% non-condensing						

FreeWave Radios Require Professional Installation. Specifications may change at any time without notice. ©2009 FreeWave Technologies, Inc.

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