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Q-Series

Q508X006 / Q518X006 / Q508X008
228-235 MHz Radio

Overview:

The FreeWave Technologies Q-Series products are designed to meet to meet the rigorous demands of government and other users worldwide. The Q Series products share the same features as our 900 MHz FGR Series, including 32-bit CRC error detection with automatic retransmission, and single radio repeater. The Q also features a 2-Watt output for long-range (60-mile) communications in the most adverse environments.

Features: *All specifications are tested and guaranteed.*

- Frequency Hopping or Single Frequency filter.
- 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.
- Industrial Grade Specifications - 100% tested for RF performance from -40 °C to +75 °C.
- Repeater and Slave Repeater function all in a single radio.
- Separate diagnostic serial connector allows real time local diagnostics and setup menu access
- Diagnostics include signal level in dBm and transmit current.
- RS232 / 485 / 422 or TTL interface.
- Noise Immunity - Superior performance in noise congested environments.
- Secure - proprietary spread spectrum technology prevents detection and unauthorized access.
- Low Power Consumption - industry-leading.
- Excellent supply voltage range and power consumption. Input voltage range is 7.5-30 VDC at full RF output power. Receive current is 100 mA @ 12 VDC.



Q - Series

Q508X006 / Q518X006 228-235 MHz Radio

Transmitter		High Speed			
Frequency Range	228-235 MHz (FHSS)				
Output Power	Up to 2 watts.				
Range - Line of Sight	60 miles				
Modulation	2 level GFSK				
Occupied Bandwidth	230 kHz				
Hopping Patterns	15 total, user selectable				
Hopping Channels	1 - 56, user selectable				
RF Connector	None (Q508X008 includes female SMA)				
Receiver					
Sensitivity	-106 dBm for BER 1x10 ⁻⁶				
Selectivity	20 dB at fc +/- 47 kHz (2nd IF)				
System Gain	139 db				
Data Transmission					
Error Detection	32 bit CRC, Retransmit on error				
Data Encryption	Substitution, Dynamic Key				
Maximum Throughput	115.2 Kbps				
Data Interface	Q508X006: RS232/485/422 or Q518X006: TTL				
Data Connector	10 pin header with locking ramp, 0.1 inch spacing, power/data connector. Separate Diagnostics connector				
Diagnostic Interface					
Connector	Separate 20-pin PCB header				
Power Requirements					
Operating Voltage	7.5 to 30 VDC				
Current Drain	Mode	7.5 VDC	12 VDC	30 VDC	
	Transmit	1.3 A	800 mA	320 mA	
	Receive	160 mA	100 mA	50 mA	
	Idle	41 mA	26 mA	15 mA	
	Sleep	10 mA	8 mA	3 mA	
General Information					
Operating Temperature Range	-40° C to +75° C				
Dimensions	127 mm L x 60.96 mm W x 15.49 mm H				
Weight	90 g				
Humidity	0 to 95% non-condensing				

