



GX Series

GX-C & GX-CE 2.4 GHz Industrial Radios

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Overview:

Building on the success of our 900 MHz product family, the FreeWave GX Series of 2.4 GHz industrial radios provides our customers the performance, reliability and quality that our customers have come to know and expect in all of our products in a globally available spectrum and full ETSI, FCC, IC, RoHS and UL Class 1 division 2 certificates. The GX is a cost effective solution that allows customers to incorporate wireless communications into a wide variety of applications.

Offered as a board level product and in an enclosure, the GX provides tremendous flexibility for use in applications around the world ranging from oil and gas to golf carts, water systems and more. The GX is backward compatible with the I2 and IM Series of FreeWave radios, enabling existing customers to leverage and extend their existing investment. All radios are designed and tested in Boulder, Colorado.

GX Product Line:



GX-CE



GX-CP



GX-PE



GX-IO

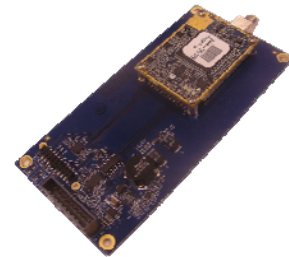
Features:

- Frequency Hopping Spread Spectrum.
- 500 mW maximum output power with an optional 100 mW limit to meet compliance requirements.
- Linear power control allows output power to be specified in dBm from 10 to 27 or 10 to 20 if limited to 100 mW for ETSI.
- High Speed: Throughput of 115.2 Kbps.
- Long Range: 20 miles (32 km).
- Error-Free Communications: 32 bit CRC with automatic retransmission.
- Industrial Grade Specifications: 100% tested for RF performance from -40° C to +85° C.
- Unparalleled Signal Performance: GaAs FET RF front end with multistage SAW filtering has unmatched combination of overload immunity and sensitivity.
- Versatility: A single radio can operate as a master, slave, repeater or slave/repeater.
- Secure - Proprietary spread spectrum technology prevents detection and unauthorized access; 128 bit or 256 bit AES encryption available*.
- Separate diagnostic serial connector allows real-time local diagnostics and setup menu access.
- Input voltage range: +6.0 to +30 VDC at full RF output power. Receive current is less than 115 mA @ 12 VDC.
- 100% backward compatibility with every FreeWave 2.4 GHz radio ever shipped.
- UL approved C1 D2, ETSI, FCC, IC & RoHS.

*Contact FreeWave for implementation details



Enclosure available
with a mounting shoe



Enclosure available
with din rail mount

GX Series

GX-C & GX-CE 2.4 GHz Industrial Radio Technical Specifications

Transmitter				
Frequency Range	2.4 - 2.483 GHz (FHSS)			
Output Power	10 mW to 500 mW with option to limit to 100 mW			
Range - Line of Sight	20 miles (32 km) with clear line of sight			
Modulation	2 level GFSK, 115.2 Kbps or 153.6 Kbps			
Hopping Patterns	15 per Band, 105 total, user selectable			
Hopping Channels	75 to 80, user selectable			
Frequency Zones	16 Zones, 5 Channels per zone			
Occupied Bandwidth	230 kHz			
RF Connector	SMA straight, or reversed SMA, or none TNC-Enclosed version only (Female connectors)			
Receiver				
Sensitivity	-105 dBm for BER of 10 ⁻⁴ ; -103 dBm for BER of 10 ⁻⁶			
Selectivity	20 dB at fc +/- 230 kHz 60 dB at fc +/- 290 kHz			
System Gain	132 dB			
Data Transmission				
Error Detection	32 bit CRC, Retransmit On Error			
Data Encryption	Proprietary Spread Spectrum Technology			
Link Throughput	115.2 Kbps standard speed, 80 Kbps low speed. <i>Uncompressed; measured assuming 75% frequency availability.</i>			
Data Interface	RS232 /RS485 /RS422			
Data Connector	10-pin header with locking ramp, 0.1 inch spacing power/data connector. Separate diagnostics connector. Enclosed (ruggedized): DB9			
Diagnostics				
Connector	Board Level : Separate 20-pin PCB header Enclosed (ruggedized): 3-pin PCB header			
Power Requirements				
Operating Voltage	+6.0 to +30 VDC			
Current (mA)	Mode	+6.0 VDC	+12 VDC	+30 VDC
	Transmit	375	295	140
	Receive	120	80	51
	Sleep	9	5	3
General Information				
Operating Temperature Range	-40° C to +85° C (-40° F to +185° F)			
Dimensions	127 L x 61 W x 11 H (mm) Enclosed: 173mm L x 107mm W x 35mm H			
Weight	53 g Enclosed 504 g			
Humidity	0 to 95% non-condensing			

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FreeWave Radios Require Professional Installation. Specifications may change at any time without notice. ©2012 FreeWave Technologies, Inc.



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