

Licensed Spectrum

LRS140 Industrial 1.4 GHz Data Radio



LRS-140CSU



LRS-140RC

OVERVIEW

FreeWave Technologies offers a licensed band radio in the recently approved 1.4 GHz band. This radio has applications wherever radios are preferred ranging from Oil & Gas to municipalities and more. This OEM product has tremendous flexibility for use in applications around the world. The LRS140 is offered as a board level product (LRS140-CSU) and in an enclosure (LRS140-RC)

All radios are designed, manufactured and tested in Boulder, Colorado.

MODEL	FORM FACTOR	PRODUCT OPTIONS
LRS-140CSU	128 L x 61.8 W x 19.7 H (mm)	Board Level
LRS-140RC	173 L x 105 W x 35 H (mm)	Ruggedized Enclosure

APPLICATIONS



KEY FEATURES

- **High Speed:** 19.2 kbps throughput
- **Long Range:** 30 mile range with clear line of sight
- **Error free communication:** 32 bit CRC with automatic retransmission
- **Industrial Grade Specifications:** 100% tested for RF performance from -30° C to +60° C
- **Input voltage range:** +6.5 VDC to +30 VDC at full RF output power. Receive current is less than 90 mA @ 12 VDC.
- **Separate diagnostic:** Serial connector allows real-time local diagnostics and setup menu access
- **Diagnostics:** Include signal level in dBm and transmit current
- **Noise Immunity:** Superior performance in Noise congested environments
- 1.427 to 1.432 GHz licensed radios are available with a user-programmable RS232/RS485/RS422 interface.
- UL Class 1 Division 2

LRS140 Industrial 1.4 GHz Data Radio Technical Specifications

		Board Level	Ruggedized Enclosure		
TRANSMITTER	Frequency Range	1.427 to 1.432 GHz			
	Output Power	Programmable to 611 mW			
	Data Link Range	30 miles, Clear Line of Sight			
	Modulation	2 and 4 level GFSK			
	Occupied Bandwidth	12.5 kHz, 25 kHz			
	Frequency Channels	200 Channels @ 25 kHz, 400 Channels @ 12.5 kHz			
RECEIVER	Sensitivity	-108 dBm for BER 1×10^{-6} (2 level GFSK) -98 dBm for BER 1×10^{-4} (4 level GFSK)			
	Selectivity	20 dB at fc +/- 460 kHz (2nd IF)			
	System Gain	136 dB at 2 level GFSK; 126 dB at 4 level GFSK			
DATA TRANSMISSION	Error Detection	32 bit CRC, Retransmit on error			
	Link Throughput	9.6 kbps at 2 Level GFSK; 19.2 kbps at 4 level GFSK			
	Data Interface	Serial			
	Protocol	RS232/RS485/RS422			
	Data Connector	10-pin header with locking ramp, 0.1 inch spacing, power/data connector	3-pin PCB header		
DIAGNOSTICS	Connector	SMA, TNC-Enclosed version only (Femail connectors)			
POWER REQUIREMENTS	Operating Voltage	+6.5 to +30 VDC			
	Typical Current	Mode	+6.5 VDC	+12 VDC	+30 VDC
		Transmit	1 A	500m A	200m A
		Receive	150 mA	90 mA	12 mA
		Idle	40 mA	30 mA	12 mA
GENERAL INFORMATION	Operating Temperature	-30° C to +70° C			
	Humidity	0 to 95% non-condensing			
	Dimensions	128 L x 61.8 W x 19.7 H (mm)	173 L x 105 W x 35 H (mm)		
	Weight	74.4 g	604.4 g		
	Antenna Connector	SMA	TNC		

*Contact your FreeWave reseller or sales rep for implementation details.
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