

ENGINEERING SPECIFICATIONS

SRM7210E 902-928 MHz

Wideband Frequency Hopping Ethernet Radio Modem

Contact Data-Linc Group for the latest updates to Specifications

Scope

The work under this section includes the furnishing of all labor, materials, equipment and supervision for furnishing spread spectrum radio modems as indicated on the drawings and specifications.

Submittals

Submit shop drawings and product data for equipment furnished under this Section in accordance with the GENERAL CONDITIONS. Furnish Operation and Maintenance Manuals in accordance with Section, OPERATION AND MAINTENANCE MANUALS.

Manufacturer

The radio modems shall be Wideband Frequency Hopping license-free wireless radio modems as supplied by the Data-Linc Group or pre-approved equal.

Unitary Responsibility

In order to unify responsibility for proper operation of the spread spectrum radio modems, it is the intent of these Specifications that all components shall be furnished by a single supplier (unitary source).

General

All radio modems, supplied under this contract must be FCC approved under article 15.

Each radio modem shall be capable of supporting the application protocol communication.

All radio modems shall be license-free Wideband Frequency Hopping radio modems.

All radio modems shall operate in the 902-928 MHz Spread Spectrum band.

All radio modems shall not require FCC site license. All radio modems shall have FCC equipment authorization as a FCC Part 15-Subclass C.

All radio modems shall have the capability to transmit 20 miles (32km) with line of site using omni directional antenna in point-to-point or point-to-multipoint mode.

All radio modems shall be factory configured or end user configured via personal computer using a terminal Emulation Software or Hyper Terminal without changing internal components. Opening the modem to change radio parameters is unacceptable.

All radio modems shall be configurable to operate as a Master or Remote.

Each Master station and its assigned Remotes units shall operate on a unique transmit/receive frequency/code and on a non-interfering basis with other Master/Remote systems. Up to fifteen (15) separate radio systems shall operate simultaneously in the same location without interference. All radio internal PC boards including the RF section, modem section and diagnostic sections must be enclosed in a single metal housing to eliminate interfer-

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ence with data/computer equipment. Radio modem housing shall be panel, or DIN rail mountable.

Communications Data Rate

All radio modems shall have a 10BaseT interface connection for data transmission.

All radio modems shall transmit RF data at 614 Kbps or 867 Kbps.

All radio modems shall have an effective data throughput of up to 600 Kbps.

All radio modems shall use 112 distinct channels in the 902 to 928 MHz band.

All modems shall have error checking utilizing a CRC 32 bit error checking.

All radio modems shall be capable of providing point-to-point, multi-point operation.

External antennas shall be capable of being mounted up to two hundred fifty (250') feet (76 meters) from radio modem.

Electrical

10 to 28 VDC; 12 VDC wall mounted transformer.

Power connection shall be via a latching screw terminal block with external ground connection.

Transmit power shall be 650 mA @ 12 VDC @ 1 watt. Receive current shall be 100 mA @ 12 VDC. Idle current shall be 65 mA @ 12 VDC.

Radio modems shall have the following nine indicators visible on the Outside surface: P-Power (red), RF Link (amber), RF In (green), RF Out (yellow), LAN Link (green), LAN In (yellow), LAN Out (yellow), LAN Collision (red), OE Overrun Error (yellow).

Radio modem shall have output power of 1 watt maximum (10 field programmable steps from 1/10 watt to 1 watt) (+30 dBm).

Radio modem shall be capable of a response time of 5 to 15 ms turnaround delay between modems typical.

Receiver

Sensitivity shall be -101 dBm @ 10^{-6} raw BER @ 614 Kbps; -95 dBm @ 10^{-6} raw BER @ 867 Kbps.

System gain shall be 135 dB.

Operating Environment

Radio modems shall be rated for NEMA 1 environments.

Radio modems shall operate over a range of -40° to +167° F (-40° to +75°C).

Manufacturer

The Spread Spectrum Ethernet Radio Modem shall be SRM7210E as supplied by Data-Linc Group.



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