



CR-SE Series Ethernet Radio Modems

Ethernet Radio solution

AUTOMATIONDIRECT's CR-SE series Ethernet radios are based on the same patented Cirronet radio technology as the CR-HN serial radios. These are low cost, 2.4 GHz frequency-hopping spread spectrum wireless data modems. They provide long range, high-speed wireless connectivity among Ethernet devices in industrial settings. The CR-SE radios have exceptional multipath fade rejection as well as immunity to jamming. Typical CR-SE applications include wireless industrial automation and data collection, network bridging, PLC networking and SCADA. CR-SE radios can function as a high speed bridge to a distant Ethernet network node or a CR-SE radio base station can be connected to multiple remote CR-SE radios to build a wireless Ethernet network. The higher gain antennas increase the range up to 5-plus miles. All CR-SE models enable long range connectivity far beyond cabled Ethernet maximums.

Up to 16 separate CR-SE radio networks can be placed together with 63 remote units (slaves) per network. The HN series radios have a unique "Frequency Skip" feature to avoid the standard 802.11 wireless WI-FI Ethernet channels. This means your control radios will not interfere with or suffer interference from PC wireless networks that may be grouped together. Selectable transmit power levels of 10 mW and 100 mW allow the CR-SE series to be used worldwide. The CR-SE series radios support both point-to-point and point-to-multipoint networks. They are field proven performers that deliver robust, reliable performance in hostile industrial environments. The CR-SE series is UL, FCC and CE marked.

Choose from four models

Local Radio

The radio modem and a Network Interface unit are combined into one DIN-rail mountable module. A 2dB whip antenna, which is provided, can be attached directly to the unit or mounted externally to the enclosure via an optional CR-CBLxxN RF cable.

Remote Radio

For extended distances or in obstructed environments, higher gain and /or directional antennas are available. A Network Interface Unit (NIU) is housed in an enclosure and is connected via its terminal strip to the remote radio module located up to 300 feet away. The remote radio module, housed in a weatherproof NEMA 4X/IP 66 enclosure, mounts directly to the antenna mast or side of a building. A short, pre-manufactured, RF cable connects the antenna to the radio module. No need to hassle with expensive and troubling RF custom cables. Choose the proper CR-CBLx cable, in respect to the distance between the NIU and the radio module, and the proper antenna; both are ordered separately.

Features:

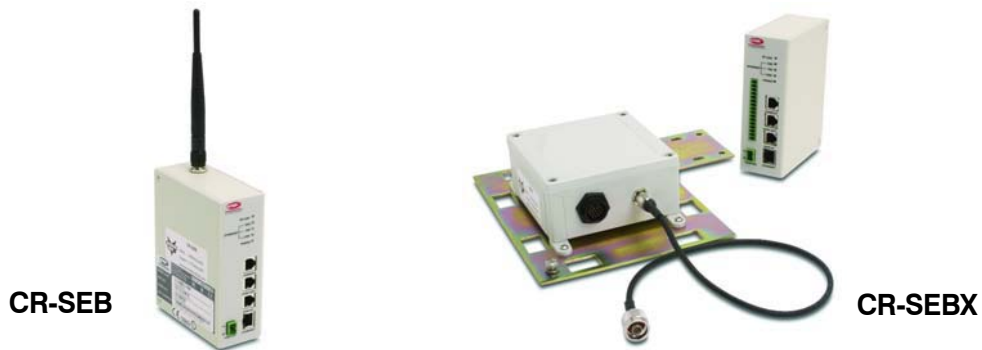
- 2.4 GHz Frequency Hopping Spread Spectrum Technology
- Unique "Frequency Skip" setting to avoid 802.11 Wireless Ethernet LANs
- 64 hopping patterns (for co-locating separate networks with up to 64 radios/network
- FCC Certified, UL listed and CE marked
- 2dB right angle whip antenna
- Web browser interface

Benefits:

- Exceptional immunity to multipath fading and jamming
- Grouping of multiple networks without interference
- No interference with/from 802.11 Wireless Ethernet networks
- License-free applications worldwide
- Cost-effective, simple installation
- Connects to any 802.3 Ethernet LANs
- Point-to-point and point-to-multipoint

CR-SE Series Ethernet Radio Modems		
Part Number	Description	Price
CR-SEB	10/100 Base-T Ethernet radio bridge, 460Kbps with 2dB, Rt Angle, Omni antenna	<--->
CR-SEBX	10/100 Base-T Ethernet radio bridge, 460Kbps with external antenna connector	<--->
CR-SEH	High-speed, 10/100 Base-T Ethernet radio bridge, 1.23Mbps with 2dB, Rt. angle, Omni antenna	<--->
CR-SEHX	High-speed, 10/100 Base-T Ethernet radio bridge, 1.23Mbps with external antenna connector	<--->
CR-SEAP	Serial to Ethernet Access Point, enables serial devices on CR-HN radios to appear as nodes on an Ethernet network, 10/100 Base-T, 460Kbps with integral antenna	<--->
CR-OMN2409	9dB, 2.4 GHz, Omni Antenna	<--->
CR-CRN2409	9dB, 2.4 GHz, Corner Reflector Antenna	<--->
CR-PAR2418	18dB, 2.4 GHz, Parabolic Dish Antenna	<--->
CR-CBL24N	24" RF Cable, TNC to N connects an external antenna to a CR radio	<--->
CR-CBL60N	60" RF Cable, TNC to N connects an external antenna to a CR radio	<--->
CR-REPETR	Dual radio repeater with rechargeable lead-acid battery. Requires two CR series antennas and two series CR-CBLxxN RF cables. Non-stock item, 3 week delivery.	<--->
CR-CBLE1	External Antenna Cable Kit includes weatherproof radio connector on 100ft pigtail cable	<--->
CR-CBLE2	External Antenna Cable Kit includes weatherproof radio connector on 200ft pigtail cable	<--->
CR-CBLE3	External Antenna Cable Kit includes weatherproof radio connector on 300ft pigtail cable	<--->
CR-PSCN	Replacement Power Plug for all CR radios	<--->
CR-PSAC	Replacement AC Adapter for CR radios with plug	<--->

Ethernet Radio Modem Specifications



CR-SE Series Specification	
Electrical Specifications	
Frequency Band	2.4 GHz
Licensing	Unlicensed under FCC Part 15, ETSI 300.328
Number of Channels	SEB - 75, SEH - 43 (USA); SEB - 75, SEH - 27 (Canada, France, Spain & Japan)
Hopping Patterns	User configurable, 64 patterns (networks) available
Data Throughput	SEB - 400 Kbps; SEH - 1.0 Mbps
RF Channel Rate	460Kbps/1.23Mbps
Line of Sight Range	> 1 Miles
RF Bandwidth	SEB - 750 KHz; SEH - 1.5 MHz
Modulation Type	GFSK
Output Impedance	50 Ω
Network Protocol	Dynamically Assigned TDMA with ARQ
Transmit Power	EIRP: +16dBm/+24dBm
Receive Sensitivity	SEB = -93dBm; SEH = -90dBm
Power Requirements	9-30VDC (12-30VDC SEHX & SEBX), 160mA typical, 750mA surge
Ethernet Protocol	802.3, 10/100 Base-T (for SEB and SEH10/100)
Mechanical Specifications	
Antenna	CR-SEB & CR-SEH: 6", 2dB, Rt. angle, Dipole, Omni antenna CR-SEBX & CR-SEHX: ReverseTNC Male connector, requires CR series antenna and cable
Case Materials	Polycarbonate, NEMA 4X
Dimensions (in)	5.5 x 4.5 x 1.78 (excl. flange)
Weight excl. cable	235g
Data Connector	RJ45
Configuration Connector	RJ11
Synchronization Connector	RJ11
Antenna (SEB & SEH only)	TNC Male
Transceiver (SEBX & SEHX only)	15 pin
Power Connector	2 Pin, plug-in, screw terminal
LED Indicators	Power, Tx, Rx, RF Link, Link
Environmental Specifications	
Temperature Range	-30°C to 70°C Network Interface Unit -40°C to 70° Radio enclosure (SEBX & SEHX only)
Humidity	95% at 40°C, Non-condensing
Approvals	
UL 508	
CE	