

Powering the Radio

At least two radios are required to create a link. The radio may be powered through the dc barrel connector or via a CS I/O connection. When ac power is available, the 15966 wall charger is commonly used. At remote sites, the RF451 typically is powered through the CS I/O or the 14204 field cable.



Antennas




Campbell Scientific offers a variety of antennas for this radio. The 14204 is a 0 dBd, 1/2 wave omnidirectional whip antenna that connects directly to the radio (no cable required) and can transmit short distances (up to 1 mile). The 15970 dipole antenna includes adhesive for window or wall mounting and a cable for connecting to the radio.

Our higher gain 14221 omnidirectional and 14205 Yagi antennas require a cable to connect them to the radio. The 31314 surge protector is available for radios susceptible to lightning or electrostatic buildup or when the cable length needs to be longer than 3 m (10 ft), as measured between the transceiver and the antenna.

Especificaciones

Radio Type	Frequency Hopping Spread Spectrum (FHSS)
Frequency	902 to 928 MHz
Country Used In	US, Canada, Australia
Power Output	10 to 1,000 mW (user-selectable)
Transmission Distance	<ul style="list-style-type: none"> › <i>-Note- Transmission distance assumes line-of-sight and appropriate antenna. Line-of-sight obstructions, RF interference, and antenna type will affect transmission distance.</i> › 13 to 60 mi depending on antenna and line-of-sight
Modulation	2 level GFSK
RF Data Rate	115.2 or 153.6 kbps (selectable speeds)
Occupied Bandwidth	142 kHz (applicable to FCC ID KNYAMM0921TT)
Hopping Patterns	15 per band, 105 total (user-selectable)
Hopping Channels	50 to 111 (user-selectable) applicable to FCC ID KNYAMM0921TT

Frequency Zones	16	
Receiver Sensitivity	<ul style="list-style-type: none"> › -108 dBm at 115.2 kbps (for 10^{-4} BER) › -103 dBm at 153.6 kbps (for 10^{-4} BER) 	 
IF Selectivity	40 dB (at $f_c \pm 230$ kHz)	
Receiver Selectivity	50 dB (at 896 MHz, 935 MHz)	
Error Detection	32-bit CRC (retransmit on error)	
Data Encryption	proprietary spread-spectrum technology	
Link Throughput	115.2 kbps (maximum)	
RF Connector	Reverse Polarity SMA (RPSMA) jack (external antenna required)	
CS I/O	DB9 M, SDC 7/8/10/11 device	
RS-232	DB9 F, DCE	
Operating Temperature Range	-40° to +85°C	
Relative Humidity	0 to 95% RH (non-condensing)	
Compliance Information	<ul style="list-style-type: none"> › KNYAMM0921TT (FCC ID) › 2329B-AMM0921TT (Industry Canada ([IC]) 	
Average Current Drain (@ 12 Vdc)	<ul style="list-style-type: none"> › 650 mA (transmit) › 40 mA (receive) › 15 mA (idle) › 6 mA (sleep) 	
Communication Ports	<ul style="list-style-type: none"> › RS-232 9 pin D female › CS I/O 9 pin D male › USB Type B jack 	
Service Requirements	Shares frequency with other devices. Must not cause harmful interference to licensed radios. Requires line-of-sight.	

Dimensions	13.61 x 2.74 x 7.01 cm (5.36 x 1.08 x 2.76 in.)
Weight	0.18 kg (0.4 lb)
 Enlaces rápidos ▾ Power	 
Input Voltage	7 to 28 Vdc
Powered Over	CS I/O or barrel plug
Connector	Barrel plug, center positive 12 V (used to connect the 14291 Field Power Cable or 15966 ac adapter)
USB	
-NOTE-	<i>Used for connection to computer for network communications or device configuration. Does not supply enough power for normal operation; RF451 must be powered through dc barrel plug or CS I/O.</i>
Type	USB standard B (device only)