



Overview

The RF416 has a 2.45- to 2.46-GHz frequency range, which is used in many countries worldwide. This 50-mW spread-spectrum radio can transmit data to another RF416 radio, an RF432 radio, a CR216(X) datalogger, or an AWW216 interface.

The RF416 supports point-to-point and point-to-multipoint communications. It can serve as a field modem/radio while connected to the datalogger or as a base station modem/

radio while connected to a computer. The radio can also serve as a stand-alone RF router/repeater.

NOTE: Due to legal changes in the EU, we are not allowed to sell this product after January 1, 2015 unless we receive a written declaration that the customer wants to use it outside Europe or as a spare part in an existing network.

Benefits and Features

- ▶ Long range, wireless communications between devices
- ▶ Hassle-free operation in many countries where license-free operation is allowed
- ▶ Low average power consumption
- ▶ Optimized for Campbell Scientific PakBus networking
- ▶ Improved RF efficiency when using PakBus protocol compared to other third-party solutions
- ▶ Low-cost, stand-alone operation when a dedicated PakBus RF repeater is needed
- ▶ Frequency hops over 25 channels avoid interference from other spread-spectrum radios

Technical Description

The RF416 reduces susceptibility to RF interference from other spread spectrum devices by providing user-selectable frequency hopping patterns. Spread spectrum radios spread the normally narrowband information signal over a relatively

wide band of frequencies. This process allows communications to be more immune to noise and interference from RF sources such as pagers and cellular phones.

Specifications

Frequency	2.450 to 2.482 GHz	Country Used In	Any country where 2.4 GHz Wi-Fi communications are allowed
Radio Type	Frequency Hopping Spread Spectrum (FHSS)		

Transmission Distance	0.4 km (0.25 mi) with omnidirectional antenna (outdoors); up to 0.8 km (0.5 mi) with higher-gain directional antennas at ideal conditions
RS-232 Baud Rate	38.4k, 19.2k, 9600, 4800, or 1200 bps
Channel Capacity	65,000 Network Identifiers share 25 hop channels.
Frequency Hopping Patterns	6 different selectable patterns
Frequency Control	Direct FM
Receiver Sensitivity	-104 dBm at 10 ⁻⁴ bit error rate (Campbell Scientific protocols will issue retries wherever a bit error occurs.)
Interference Rejection	70 dB (at pager and cellular phone frequencies)
Power Output	50 mW (nominal)
Data Rate	10 kbps
Antenna Connector	Reverse Polarity SMA (RPSMA)
RS-232 Connector	9-pin D female (4 wire: Tx, Rx, CTS, GND)

CS I/O Connector	9-pin D male
FCC ID	OUR-24XSTREAM
Power	9 to 16 Vdc
Operating Temperature Range	-25° to +50°C
LEDs	Power on, TX, RX, diagnostics
Power Connector	Barrel plug, center positive 12 V (used to connect the 14291 Field Power Cable)
Average Current Drain	<ul style="list-style-type: none"> › 75 mA (transmitting) › 36 mA (receiving) › < 1 mA (standby with power-saving options used)
Communication Ports	<ul style="list-style-type: none"> › RS-232 9-pin D female (4 wire: Tx, Rx, CTS, GND) › CS I/O 9-pin D male (Newer data loggers provide power to the radio on this connector. Data loggers purchased before December 1997 require the pn 14291 Field Power Cable.)
Dimensions	11.4 x 7.0 x 2.9 cm (4.5 x 2.8 x 1.1 in.)
Weight	227 g (8 oz)

For comprehensive details, visit: www.campbellsci.eu/rf416 



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