915 MHz FHSS RF Module – User Manual and Installation
Model Number 16363

This product is a frequency hopping RF transceiver module for the 902-928MHz ISM band, designed to meet FCC 15.247, and is used in industrial control and monitoring applications. It has the following certifications to operate as transceiver module in the USA and in Canada.

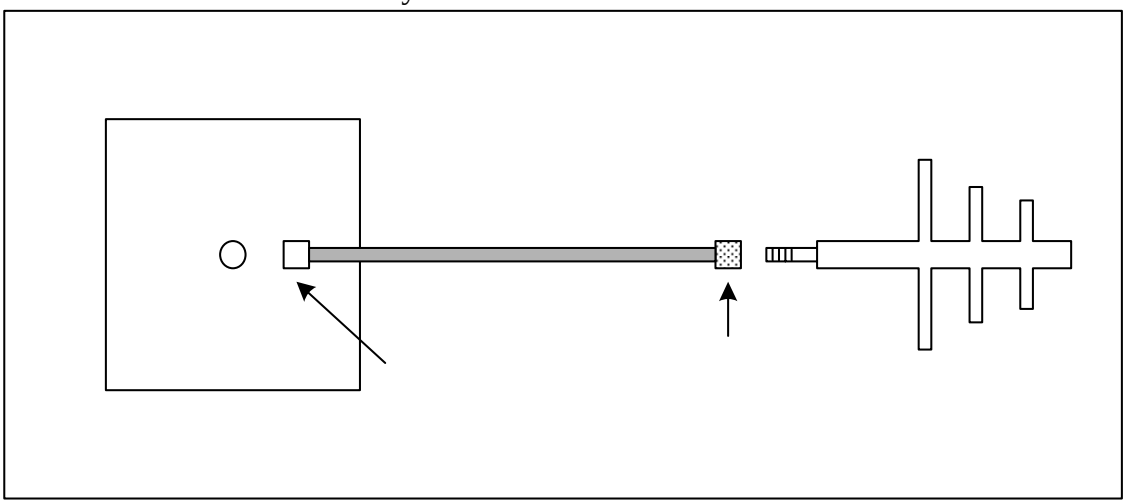
FCC: QQN16363 in the USA
IC: 5120A-16363 in Canada

Installation Instructions

This module is factory installed by Adaptive Instruments into its own line of wireless products. There are two classes of products that use this module:

1) Products with integrated antenna – These products are 100% assembled at the factory and no assembly is required by the end user. If the antenna used is one of the high gain antennas (Y8963, Y8966, FG9023, FG9026), then baud rates below 19.2K are disabled at the factory. Examples of products with integrated antenna are shown below.

2) Products with field-installed antenna – These products are shipped with a separate antenna kit consisting of one of the high gain antennas and a coax cable which has an RPSMA connector at one end and N-type connector at the other end. After opening the cover of the product, connect the coax cable with the RPSMA connector end to the mating connector located at the center of the RF module. Connect the other end of the coax cable with an N-type connector to the antenna. All products with field-installed antenna will have baud rates below 19.2K disabled from the factory.



Connectors

Note: This module will only be integrated into products designed and manufactured by Adaptive Instruments. As such there is no user manual specific to this module other than the information contained in this document. The module has no user settable options related to the wireless operation of the unit.

RF Module

The module can be powered from an on-board 3.6V C-cell battery or from a DC regulated supply (3.3 to 5V). This configuration is also determined by Adaptive Instruments.

The module has a number of connectors. Most of these are used for internal testing and integration of the module with other boards.

Coax cab

The connections are:

J1	3-pin connection for membrane switch
J2	Antenna connection
J3	Digital connection to optional sensor or RS485 communication board
J4	External power supply connection (if battery not used)
J5	Battery connection (if external power supply not used)

RPSMA-connector

J6	Disable Watchdog
J7	3-pin serial connection for PC (for factory configuration and testing)
J8	Digital connection to optional sensor or RS485 communication board
J9	JTAG connection (for factory programming)
J10	Ground TP

Antennas

This module is to be used with one of the following antennas only:

- Linx Technologies ANT-916-CW-QW 0dBd monopole antenna
- Linx Technologies ANT-916-PW-PML 0dBd coaxial dipole antenna
- Antenex Y8963 6dBd Yagi antenna
- Antenex Y8966 9dBd Yagi antenna
- Antenex FG9023 3dBd omni-directional antenna
- Antenex FG9026 6dBd omni-directional antenna

The module is used in products designed and manufactured by Adaptive Instruments only and therefore the product / antenna combination is predetermined and configured at the factory. Products that use Y8963, Y8966, FG9023, or FG9026 antenna will be factory configured to operate at baud rate of 19.2K or higher. Lower baud rates are available in products with a 0dBd antenna that is integrated inside the housing at the factory.

Important Information to User

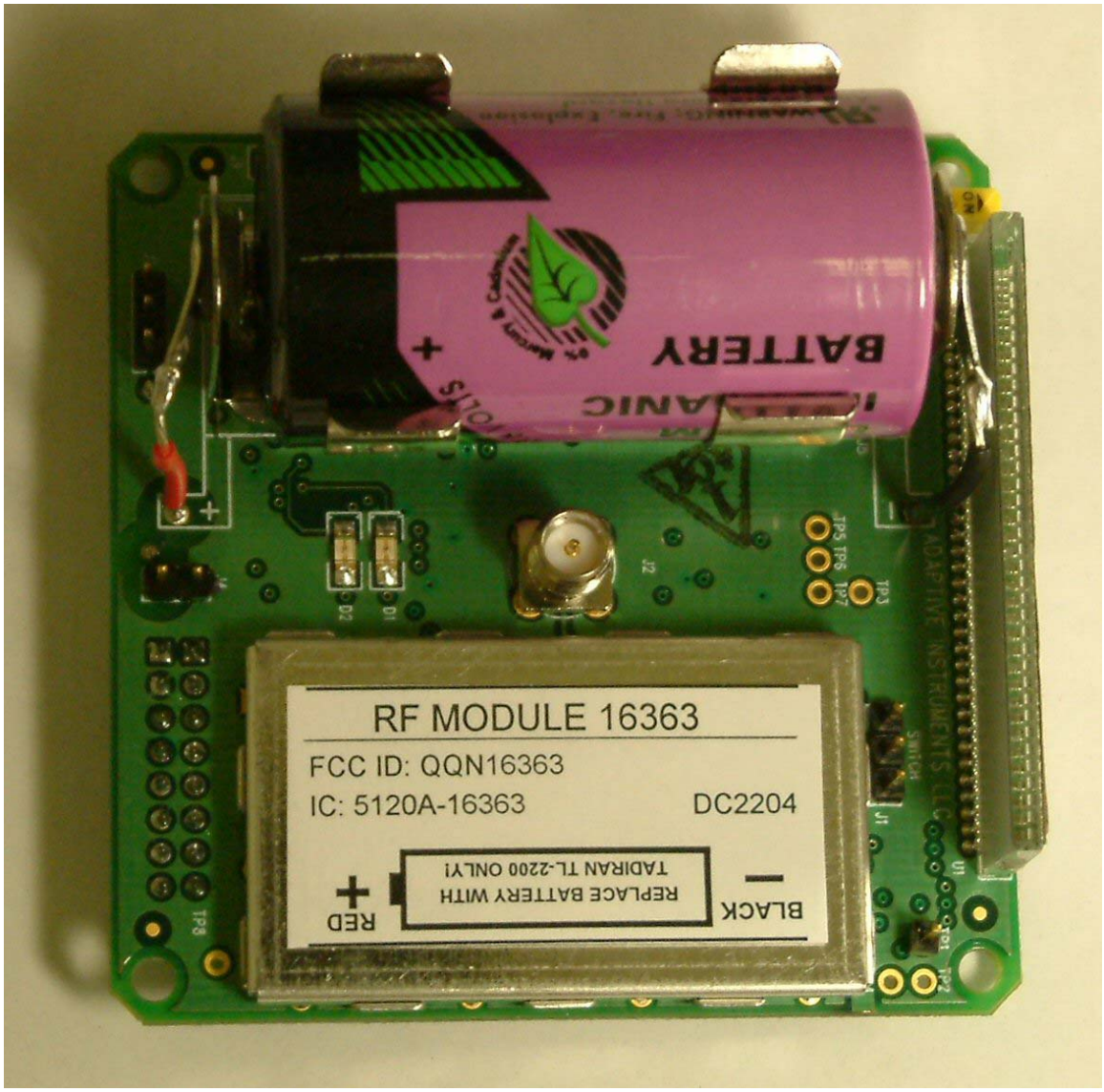
1. Changes or modifications not expressly approved by Adaptive Instruments could void the user's authority to operate the equipment.

2. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

3. This device is for mobile and fixed use only (not portable or bodyworn). A separation distance of 20cm must be maintained at all times between the antenna and the body of the user and bodies of nearby persons.

Labels

A label displaying the FCC ID and the Industry Canada Certification Number is placed on the top of the RF shield.



The housing of the product that uses this module also has the label shown below, referring to the enclosed module as well as displaying the FCC part 15 compliance statement.