inovonics®

Installer Manual

EN1941/EN1941-60/EN1941XS One-Way RF Module

Preface

Notice

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Revision

Revision A

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Technical Services Contact Information

For Inovonics technical services:

- E-mail: support@inovonics.com
- Phone: (800) 782-2709; (303) 939-9336

Document Conventions

The following notices are used throughout this document:

Note: Emphasizes points, provides supplementary information, or indicates minor problems in an expected outcome.

Caution: Indicates possible damage to equipment or loss of data, as well as potential problems in an expected outcome.

Warning: Indicates the possibility of minor injury to oneself or others.

Danger: Indicates the possibility of serious or fatal injury to oneself or others.

Chapter 1

Overview

1.1 EN1941/1941-60/EN1941XS RF module Introduction

EchoStream RF modules are designed to be easily interfaced with your electronic remote application controller (RAC), allowing the assimilation of any user-specific application into an EchoStream system. Once integrated with existing products, RF modules provide you with complete EchoStream functionality.

One-way binary RF modules are end-devices that use a logic-level connection to interface with your RAC. The one-way binary RF module is available in the following configurations:

Part #	Check-In
EN1941	3 minutes
EN1941-60	60 minutes

The EN1941XS one-way serial data RF module allows for the transmission of up to 50 bytes of user defined serial data, connecting to a serial interface to transmit variable data such as temperature, humidity, pressure, or liquid levels to a head end application controller.

This manual is for professional security technicians integrating the EN1941, EN1941-60 and EN1941XS one-way RF modules.

Chapter 2

Compliance Requirements

2.1 FCC Requirements

The Inovonics one-way RF module complies with FCC, Title 47, Chapter 1, Subchapter A, Part 15, Subpart C, Section 15.212 (a)(1)(i through viii). The final host/module combination may also need to be evaluated against the FCC Part 15B criteria for unintentional radiators in order to be properly authorized for operation as a Part 15 digital device.

Additional compliance Information per FCC 47 CFR, Section 2.1077:

- The one-way RF module has been found compliant to 15.247 as a frequency hopping and hybrid device.
- Host product manufacturers are responsible to follow the integration guidance and to perform a limited set of transmitter module verification testing, to ensure the end product is in compliance with the FCC rules. Also host product manufacturers are responsible for all additional equipment authorization and testing for technical requirements not covered by the module grant (e.g., unintentional radiator Part 15 Subpart B requirements, or transmitters used in the host that are not certified modules).
- Product Identification - OEA.
- The OEA one-way RF module is in compliance with 47 CFR, Section 15.19(a)(3) as follows:
  - 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.

- Responsible party for Supplier's Declaration of Conformity:

Name of responsible party:	Inovonics Corporation
Address of responsible party:	1000 Westmoor Dr, Building 10, Suite 250, Westminster CO 80021
Telephone of responsible party:	(800) 782-2709; (303) 939-9336
E-mailof responsible party:	support@inovonics.com

- The one-way RF module is intended only for use in products installed and maintained by professional security technicians.
- Manually test all one-way RF module products weekly.

Note: It is the Inovonics policy to maintain complete control of all firmware associated with this device.

- The one-way RF module can operate only with the built-in ceramic chip antenna.
- When installed in a host's end-device, the antenna must maintain a minimum separation distance of 20 cm from all persons.
- Co-location of this module with other transmitters that operate simultaneously are required to be evaluated using the FCC multi-transmitter procedures..
- The one-way RF module does not contain any user serviceable components.
- A label must be affixed to the outside of the host product with the following statements:

Contains FCC ID: HCQOEA Contains IC: 2309A-OEA03

2.1.1 FCC and Industry Canada RF Exposure Requirements

The user's manual for the host product must clearly indicate the operating requirements and conditions that must be observed to ensure compliance with current FCC/IC RF exposure guidelines.

The following statements must be included in the user's manual:

FCC Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20 cm. Co-location of this module with other transmitters that operate simultaneously are required to be evaluated using the FCC multi-transmitter procedures.

Industry Canada Statement:

This equipment complies with ISED RSS-102 radiation exposure limits set forth for an uncontrolled environment. This transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet équipement est conforme avec ISED RSS-102 des limites d'exposition aux rayonnements définies pour un environnement non contrôlé. Cet émetteur doit être installé à au moins 20 cm de toute personne et ne doit pas être colocalisé ou fonctionner en association avec une autre antenne ou émetteur.

FCC Compliance Statement:

Note: 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.

Interference Statement:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the

user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Per RSS-GEN section 8.4:

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s).

Operation is subject to the following two conditions:

1 This device may not cause interference, and

2 This device must accept any interference, including interference that may cause undesired operation of the device.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

French version (must also be included):

Le présent appareil contient un ou des émetteurs/récepteurs exemptés de licence qui sont conformes aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes :

1 l'appareil ne doit pas produire de brouillage, et

2 l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Les changements ou modifications non expressément approuvés par la partie responsable de la conformité pourraient annuler le droit de l'utilisateur à utiliser l'équipement.

Chapter 3

Specifications

3.1 One-Way RF Module Specifications

Model #	OEA
Frequency range	902-928 MHz ISM Band
Power supply	2.5-5.5 Vdc
Transmit power	43 mW (EIRP)
Antenna type	Ceramic Chip
Antenna gain	<-1.0 dBi
Transmit current	100 mA, typical
Receive current	<50 mA
RF technology	Frequency Hopping Spread Spectrum
Number of hop channels	25
Operating temperature range	-20°C to +60°C, non-condensing
Spurious emissions (worst case)	<51 dB?V/m

Chapter 4

Special Instructions

4.1 One-Way Binary RF Module

4.2 Instructions

The integrated antenna must not be tampered with; no connection to an alternate antenna is permitted.

Caution: In the event that these conditions cannot be met, the FCC authorization is no longer considered valid and the FCC ID cannot be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transceiver) and obtaining a separate FCC certification.

When the one-way RF module is installed inside another device and the FCC ID is not visible, the outside of the device into which the module is installed must display a label referring to the enclosed module. This exterior label must use the wording described in “Compliance Requirements” on page 4.

4.2.1 Manual Information To the End User

The OEM integrator must not provide information in their user's manual regarding the installation and/or removal of the one-way RF module. The end user manual shall include all required regulatory information/warnings as shown in this manual.

4.2.2 Inovonics Wireless Contact Information

If you have any problems with this procedure, contact Inovonics Wireless technical services:

- E-mail: support@inovonics.com.
- Phone: (800) 782-2709; (303) 939-9336.