



# i-PORT H310 Hardware and Installation Manual

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## Radio Frequency Compliance Statement

IDEN TEC SOLUTIONS is the responsible party for the compliance of the following devices:

MODEL:	i-PORT H310
EUROPE:	CE
USA	FCC ID OO4-IPH310
Canada	IC:3538A-IPH310

The user(s) of these products are cautioned to only use accessories and peripherals approved, in advance, by IDEN TEC SOLUTIONS. The use of accessories and peripherals, other than those approved by IDEN TEC SOLUTIONS, or any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Operation is subject to the following conditions: (1) these devices may not cause harmful interference, and (2) these devices must accept any interference, including interference that may cause undesired operation of the device.

## European Notification according R&TTE Directive

This equipment complies to Art. 6.4 of R&TTE Directive (1999/5/EC). It is tested for compliance with the following standards: ETSI EN 300 220, EN 300 , ETSI EN 301 489, EN 60950

## USA Notification

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.

The device has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

## FCC Registration Required for Operation under Rule 15.240

Radio transmissions from the i-Port F310 are governed in the US by FCC Part 15 rules, and in Canada by corresponding Industry Canada regulation RSS-210 . Still other regulations apply in Europe and other countries.

The i-Port F310 is shipped with the default mode of operation corresponding to FCC 15.231. All other Identec Solutions equipment complies with 15.231. Equipment operating under this rule does not require FCC Registration.

FCC Rule 15.240 offers some advantages in thru-put and flexibility for applications involving containerized cargo. I-Port F310 can be configured for operation under this rule only by a qualified technician downloading factory-supplied configuration files.

There are restrictions in the geographical locations where such equipment may be deployed so as to maintain a 40 km separation from five long-range radar sites in the US and Alaska. The FCC requires notification of the locations where 15.240 operating equipment is to be installed. Identec Solutions notifies the FCC of the initial shipping destination. However, it is the responsibility of the end user to mail a notification of installation to the FCC as described in the form provided below upon initial installation. It is also required that the user mail a new notification in the event the equipment is re-located.

The form is to be mailed to:

Experimental Licensing Branch  
Office of Engineering & Technology  
Federal Communications Commission  
445 12th Street, SW  
Washington, DC 20554  
ATTN: RFID Registration

### **Selected text from FCC Rule 15.240 Operation in the band 433.5 – 434.5 MHz**

- (a) "Operation under this section is restricted to devices that use radio frequency energy to identify the contents of commercial shipping containers. Operations must be limited to commercial and industrial areas such as ports, rail terminals and warehouses."
- (e) "To prevent interference to Federal Government radar systems, operation under the provisions of this section is not permitted within 40 kilometers of the following locations:"

DoD Radar Site	Latitude	Longitude
Beale Air Force Base	39°08'10"N	121°21'04"W
Cape Cod Air Force Station	41°45'07"N	070°32'17"W
Clear Air Force Station	64°55'16"N	143°05'02"W
Cavalier Air Force Station	48°43'12"	097°54'00"W
Eglin Air Force Base	30°43'12"	086°12'36"W



**FCC RFID REGISTRATION FORM  
FOR FCC RULE 15.240**

**To:**

Experimental Licensing Branch, OET  
Federal Communications Commission  
445 12<sup>th</sup> Street, SW  
Washington, DC 20554  
ATTN: RFID Registration

**Subject:** Registration for Savi Technology, Inc. Model SR-650-101 RFID Fixed Interrogator

The following information concerning the end user and installation location is hereby submitted as required by FCC Rule 15.240:

**End User Company Name:** \_\_\_\_\_  
**Individual to Contact:** \_\_\_\_\_  
**Mailing Address of Contact:** \_\_\_\_\_

**Street Address of Contact Office:** \_\_\_\_\_

**Contact Telephone Number:** \_\_\_\_\_  
**Contact E-Mail Address:** \_\_\_\_\_

**Street Address of Equipment Installation:** \_\_\_\_\_

**Latitude:** \_\_\_\_\_ **Longitude:** \_\_\_\_\_  
**FCC ID of Equipment:** KL7-650R-V2

\_\_\_\_\_  
**Contact Signature**

\_\_\_\_\_  
**Date**



This product contains components that are sensitive to electrostatic discharges. Please observe the special instructions for their protection. Incorrect handling can damage the unit and cause the invalidation of the warranty.

**Minimum safety precautions against electrostatic discharge:**

- Establish earth contact before you touch the unit. For example, touch the earthing screw on the unit. Even better: Use an antistatic ribbon and earth yourself permanently for the time you handle the unit.
- Avoid unnecessary contact with the unit connectors and assemblies inside the unit.
- Only open the unit if the operational settings (as described in the manual) expressly require this.
- Use antistatic tools for the setting of the unit. (Warning: Do not touch life-threatening voltages with these tools).
- Do not store unit and components without protective packaging.
- Only remove unit and components from the packaging immediately prior to installation.

**These notes are not sufficient to guarantee complete protection from electrostatic discharges! We recommend the use of suitable protective equipment.**



ISO 18000-7 HandHeld Interrogator provides highly accurate data collection for increased productivity, streamlined business operations and provides real-time connectivity to critical applications. The handheld form factor provides the flexibility of a mobile device and a full functionality of an RFID reader and a computer, all in one rugged ergonomic package.

As one of the most rugged handheld devices on the market, this handheld passes industry's most stringent drop and tumble tests and provides IP64 sealing rating as well as integrated internal antennas for flexibility to use in nearly any environment.

This handheld provides long battery life for a full shift through superior power management. It is powered by a single replaceable, rechargeable battery and provides rechargeable spare battery with a charging cradle.

Modular keypads, a rugged touch panel and a display that is easy to view inside and outside in direct sunlight provide users with maximum readability, ease-of-use and comfort. The handheld provides options for user-programmable functions featuring a full alphanumeric data entry system as well as special characters.

Using advanced UHF radio frequency technology, ISO 18000-7 HandHeld Interrogator transmits and receives data at distances of more than 50 meters (150 feet) and communicates with all ISO 18000-7 transponders including Data Rich, Sensor, and Container Security Active Transponders.

The standardized anti-collision multi-tag-handling algorithm allows communication to tags even when thousands of tags are within the interrogator's read zone.

The handheld features Wireless LAN capability with built in 802.11 (b/g) WiFi, USB connectivity to the host using a cradle and powerful OS Microsoft Windows Mobile 5.0.

### *Features*

- Over 50-meters (150 ft) read/write range
- Weighs approximately 2.2 pounds (1 kg)
- 300 × 240 color touch-screen display
- Power management
- WiFi 802.11 b/g and USB
- ISO/IEC 18000-7 compatible
- Extremely rugged
- IP64 sealing
- Windows Mobile 5.0
- Holster and belt clip

### *Benefits*

- Allows automated identification, tracking and tracing of assets over long distances.
- Low weight allows for prolonged use without user fatigue and wrist injuries.
- Display supports color GUI, and provides high resolution as well as easy readability inside and outside even in a direct sunlight and backlit. The display is a touch-screen enabled and fits more than 80 characters without scrolling.
- Battery usage is optimized for long lasting performance. Battery is easily replaceable and rechargeable.
- Provides wireless communication capability and in addition also a USB connection to the host through a cradle.
- Manufacturer independent interoperation. US DoD and NATO ITV compatible.
- Withstands multiple drops to concrete from 6 ft and over 2,000 one-meter tumbles.
- Provides sealing against environmental elements for use in various conditions.
- Reliable and powerful operating system for mobile devices features robust application support.
- Options for easy portability and freeing the hands of users between usage.



IDENTEC SOLUTIONS is the global leader in active wireless tracking solutions. A commitment to developing ground-breaking, industry-specific tracking solutions featuring proprietary patented technology has placed IDENTEC SOLUTIONS in the international forefront as a technology provider for innovation and as a complete solution provider in the automotive, oil, gas and mining industries.

Utilized by the world's leading organizations and system integrators, IDENTEC SOLUTIONS' award-winning technology portfolio offers robust, highly effective tracking solutions that manage critical process and optimize supply chain flow. Privately held since 1999, IDENTEC SOLUTIONS has provided asset management solutions and support to a variety of organizations, including an impressive roster of Fortune 500 clients such as Volkswagen, Audi, Deutsche Post and General Electric. Headquartered in Lustenau, Austria, the company's North American headquarters are located in Dallas, Texas, with customer service centers in Hong Kong, Germany, Australia and Norway. For more information, please visit: [www.identecsolutions.com](http://www.identecsolutions.com)

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## Technical Specifications

### Performance

Read rate Up to 100 tags/s (Collect Tag Identification Code only)  
 Max. response time < 150 ms (single tag)

### Communication

Read range Up to 50 m (150 feet) @ free air  
 Write range Up to 50 m (150 feet) @ free air  
 Operating frequency 433.92 MHz  
 Data rate (download to tag) 27.778 kbits/s  
 Data rate (upload to reader) 27.778 kbits/s  
 Frequency 433.92 MHz international ISM band  
 Modulation FSK ±50 kHz at 27.778 kHz data rate  
 Standards/Certification ISO/IEC 18000-7

### Host Communication

Wireless 802.11 b/g  
 Wired USB 2.0 (through the cradle)

### Power Source

Battery Removable, rechargeable 7.2 volt Lithium Ion  
 2200 mAh battery pack, 15.8 watt hours

### Memory

Memory size 64 MB RAM and 128 MB ROM  
 Identification code 32 bit fixed ID

### Operating System

Type Windows Mobile 5.0 (optionally higher)

### Environmental

Operating temperature -10 °C to +50 °C  
 Storage temperature -40 °C to +60 °C  
 Humidity 5 % to 95 % relative humidity (non-condensing)  
 Drops Multiple drops to concrete: 6 ft./1.8 m  
 across the operating temperature range  
 Tumble 2,000 one-meter tumbles at room temperature  
 (4,000 hits)

### Physical

Dimensions 10.75 in. L × 4.7 in. W × 7.7 in. H  
 27.3 cm L × 11.9 cm W × 19.5 cm H  
 Weight 35.4 oz./1 kg (includes battery, scanner and radio)  
 Enclosure rating IP 64

### Accessories

Holster, Belt Clip  
 AC Power Adapter (geographically specified)  
 Rechargeable Battery, and Battery Charger  
 Charging/docking cradle with USB connection