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Client: RFind Systems, Inc.
Model: T400
Standards: FCC 15.231/IC RSS-210
ID's: UL3T400A / 6721A-T400A
Report #: 2010029

Appendix H: Manual

Please see the following pages.

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T400 Tag User's Guide

RFind Systems, Inc.
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RFind Systems, Inc. and its affiliates, subsidiaries, officers, directors, employees and agents provide the information contained in this Manual on an "as-is" basis and do not make any express or implied warranties or representations with respect to such information including, without limitation, warranties as to non-infringement, reliability, fitness for a particular purpose, usefulness, completeness, accuracy or currentness. RFind Systems, Inc. shall not in any circumstances be liable to any person for any special, incidental, indirect or consequential damages, including without limitation, damages resulting from use of or reliance on information presented herein, or loss of profits or revenues or costs of replacement goods, even if informed in advance of the possibility of such damages.

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Copyright Notice

Radio Frequency Compliance Statement

RFind Systems, Inc. is the responsible party for the compliance of the following device:
MODEL: T400
FCC ID: UL3T400A

IC: 6721A-T400A

The user(s) of this product is cautioned to only use accessories and peripherals approved, in advance, by RFind Systems, Inc. The use of accessories and peripherals, other than those approved by RFind Systems, Inc., or unauthorized changes to approved products, may void the compliance of these products and may result in the loss of the user(s) authority to operate the equipment.

> 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.

FCC Compliance

This equipment 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 communication. 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/her own expense.

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

Industry Canada Compliance

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Introduction

RFind Systems, Inc. is an Active RTLS RFID Technology Company. With tag to tag communications technology, RFind produces Real Time Locating System (RTLS) solutions for industry clients who have the need to locate and track important assets.

This guide describes how to use the RFind T400 active RFID tag. The RFind T400 RFID tag is primarily used for locating assets in a warehouse, yard, or finished goods area. By attaching the tag to an item of interest known as an asset, when used in conjunction with one or more readers and the RFind Expeditor2D™ software package, the asset can be located. RFind Systems has changed the game of affordable RTLS (Real-Time Locating Systems).

The T400 Mode Asset Tag is the 1st key component of the 18000-7 Active 433MHz RFID Technology hardware architecture comprising our Expeditor 2D™ Asset Location System Solution.

Robust communications ability, as well as power saving features afford application flexibility and extended operational lifetime and performance.

Tag Overview

The T400 tag can be utilized in one of two different operational modes: Location marker and Asset. Location marker tags are placed at known locations in your facility while asset tags are then attached to items which you wish to locate. Using a proprietary algorithm asset tags will automatically perform a locating sequence and forwards that information over 18000-7 protocol to reader(s) so that the system can report on the tags' location.

System Overview

When attached to an asset, the T400 tag transmits a broadcast message while it is moving. When the asset enters an area and comes to a stop, it initiates a series of communication events with reference location tags. The T400 tag then transmits the results of this communication up to the server via a reader also known as gateway.
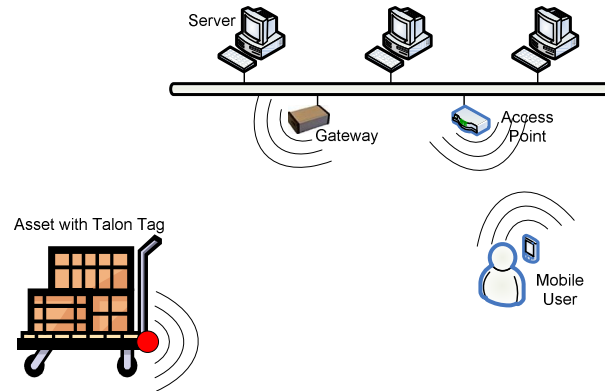
Once this communication is complete the T400 tag goes to a stationary power saving state and begins transmitting its heartbeat if turned on.

Finally, the T400 tag may also operate in an idle state. This user-initiated state forces the tag to stop all periodic and motion activated transmissions and goes into an RF quiet mode until a user sends a command to the tag to exit the idle state. This is desirable for applications requiring assets to travel in RF quiet zones.

Specifications

Asset Tag Specifications

Range	200 feet (61m)
Life	4 years
Communication Events/Day	10 location sequences and 2 beacons messages per day
Replaceable Battery	Yes
Shape	Oval
Size	L 3.58" x W 3.5" D 1.4" (L 9.8cm x W 8.9cm D 3.6cm)
Weight	4.6oz (130g) w/o battery, 6.2oz (175g) w battery
Environmental Rating	IP64
Housing Material	Polycarbonate
Operating Temperature	-40˚ to +158˚F -40˚ to +70˚C
Storage Temperature	-40˚ to +185˚F -40˚ to +85˚C
ID Number	48 bit
LED	Yes
Motion Detection	Yes
Heartbeats	Yes
Frequency	RTLS 433.5MHz/433.92MHz
Frequency	18000-7 433.92MHz (TX only)
Gateway Compatible	Yes
RTLS Enabled	Yes

Location Marker Specifications

Range	200 feet (61m)
Life	6 years
Communication Events/Day	100 location sequences and 2 beacons messages per day
Replaceable Battery	Yes
Shape	Oval
Size	L 3.58" x W 3.5" D 1.4" (L 9.8cm x W 8.9cm D 3.6cm)
Weight	4.6oz (130g) w/o battery, 6.2oz (175g) w battery
Environmental Rating	IP67
Housing Material	Polycarbonate
Operating Temperature	-40˚ to +158˚F -40˚ to +70˚C
Storage Temperature	-40˚ to +185˚F -40˚ to +85˚C
ID Number	48 bit
Heartbeats	Yes
Frequency RTLS	433.5MHz/433.92MHz
Gateway Compatible	Yes
RTLS Enabled	Yes

Installation

The tag's back surface is suitable for applying adhesives, magnets, hook and loop fasteners, or double-sided tape to facilitate other methods of mounting the Tags to Assets. For additional mounting flexibility, a mounting bracket is available. The bracket allows the tag to be easily removed and replaced during battery replacement.

Deployment

The tags, either Asset Tags or Location markers, are factory configured during manufacturing.

Presented here are some tips for different deployment types which can be used as a guide when preparing for a deployment at your site.

I want to:

> *Know roughly where an asset is in my facility. Then you should place your Location Marker tags:*

- Up high to get as much coverage as possible

- In a rectangular pattern where the Asset tag can reasonably be expected to be inside the boundary of a group of Reference tags

- Out of the way of objects which could interfere with transmissions from the Asset tags to the Reference tags. Objects such as metal shelving units or metal sheeting can have unexpected effects on radio transmissions.

  You should configure your Reference tags to use a relatively high transmit power.

I want to:

> ***Know exactly what area (paint station or carpentry station) my assets are in. You should place your Reference tags:***

- As close to the center of your stations as possible

- As far apart from one another as possible

- Close to the ground to restrict transmission range

  You should configure your Reference tags to use a relatively low transmit power.

Support

For support on any RFind Systems hardware, please contact us at:

RFind Systems, Inc.
www.rfind.com

email: support@rfind.com
Telephone: (250) 862-3412