Installation Guide

Savi SensorTag ST-674

Version 1.0

Published March 2006

Part number 805-05264-001 Rev A

Documentation for Savi SensorTag ST-674, version 1.0

Copyright © 2006 Savi Technology, Inc. All rights reserved.

Information in this manual is subject to change without notice and does not represent a commitment from the vendor. The software and/or databases described in this document are furnished under a license agreement or nondisclosure agreement. The software and/or databases may be used or copied only in accordance with the terms of the agreement. It is against the law to copy the software on any medium except as specifically allowed in the license or nondisclosure agreement.

Savi, Savi SmartChain, SmartChain, the Savi logo, EchoPoint, the EchoPoint logo, and UDAP are trademarks or registered trademarks of Savi Technology, Inc. in the United States and other countries.

Other product names mentioned in this guide may be trademarks or registered trademarks of their respective owners and are hereby acknowledged.

Savi Technology, Inc.
615 Tasman Drive
Sunnyvale, CA 94089-1707

Phone: 1-408-743-8000
Facsimile: 1-408-543-8650
www.savi.com

Contents

1 About the Savi SensorTag ST-674

Features 5
Tag Description 6
Environmental Sensors 6
RFID Communication Module 6
For More Information 7
Guides to Read 7
Contacting Savi Support 7

2 Installing the Tag

Required Tools and Materials 9
Commissioning a Tag 9
Commissioning the Tag with a Tag Write Cable or Tag Write Cable Adapter 10
Commissioning the Tag with a Savi Docking Station and Docking Station Adapter 11
Replacing the Main Battery 12
Tag Placement 14
PST Reliability and Durability 14
Achieving Maximum Communication 15
Mounting Savi SensorTag ST-674 16

A Savi SensorTag ST-674 Specifications

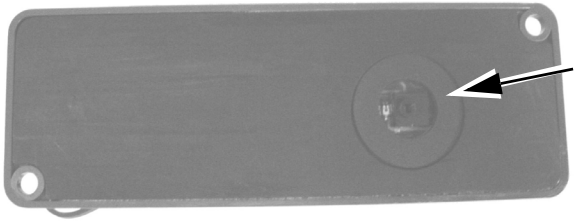
About the Savi SensorTag ST-674

The Savi® SensorTag ST-674 is a high-performance, active RFID tag that tracks assets and monitors and logs the temperature and relative humidity of its surrounding environment, such as inside a warehouse, box, or container. Fully compatible with Savi software and fixed and portable Savi readers, this tag features omnidirectional line-of-sight communication. Battery life, using lithium cells, is typically four years (depending on the type of operation). The Savi SensorTag ST-674 is safe for operation around live ordnance. It is also compatible with the U.S. Department of Defense (DoD) In-transit Visibility (ITV) network and can be detected by existing Savi RFID infrastructure.

Features

- Temperature and humidity sensors provide updated information about the environment that the tag is in
- 433 MHz, active RFID technology with up to 300-foot (91.44 meters) range for monitor, wake-up, and RF write/read
- 123 KHz receiver for slot-level, portal, or chokepoint tag wake-up and short range commissioning (12 feet (3.7 meters) or less)
- Audible beeper helps locate tag
- Small form factor design
- Rugged, weatherproof design
- Powered by a replaceable lithium battery

Tag Description



Environmental Sensors

The environmental sensors monitor and record the temperature and humidity of the tag's surrounding area at user-specified times in an environmental log.

You can set maximum and minimum temperature and humidity threshold. If the temperature or humidity should rise above or fall below the threshold, the device writes the time and date of the deviation to an alarm log and sends an RF beacon to surrounding fixed readers. For example, if you are monitoring in an area that needs to be kept at temperatures between x and y degrees to preserve a product, you can set the Savi SensorTag ST-674 to RF beacon mode and record the date and time whenever the temperature deviates from your specified range.

RFID Communication Module

The communication module operates at 433 MHz, enabling the Savi SensorTag ST-674 to communicate back to the Savi network with excellent RF performance in both metallized and non line-of-sight environments.

For More Information

Guides to Read

For information about using:

- Signposts, see the *Savi Signpost SP-65X Series Installation Guide*.
- Fixed readers, see the *Savi Fixed Reader SR-650-101 Installation Guide*.
- Mobile readers, see the *Savi Mobile Reader SMR-650 for the Intermec 751G/A Mobile Computer and PC User Guide*.
- Mobile device software, see the *Guide to Savi SmartChain for Mobile Devices* and *Guide to Savi Transportation Security System for Mobile Devices*.
- Desktop software, see the *Guide to Savi SmartChain Site Manager* and *Savi SmartChain for Client Tools User Guide.*

Contacting Savi Support

If you cannot find the information you need, contact Savi Support.

- Check www.savi.com/services/su.contact.shtml for contact information.
- Send email to help@savi.com.
- Call 1-888-994-SAVI (North America only) or 1-408-743-8888 between 9 a.m. and 5 p.m. Pacific time.

When you contact Savi Support by telephone or email, have the following information available:

- Contact information (company name, your name, email, and phone number)
- Problem description
- Product type
- Software version
- Serial number or license information

Installing the Tag

Required Tools and Materials

Before you begin installation of the Savi SensorTag ST-674, make sure you have the following materials available:

- Savi SensorTag ST-674
- Savi SmartChain for Mobile Devices installed on an Intermec 751G/A mobile computer with an attached Savi Mobile Reader SMR-650-212

Commissioning a Tag

Savi SensorTag ST-674 is shipped from the factory in sleep mode. Before you attempt to commission a tag, refer to *Guide to Savi SmartChain for Mobile Devices* to wake the tag.

Note: You can also remove and re-insert the battery to wake up the tag. You must wait a few seconds before re-inserting the battery.

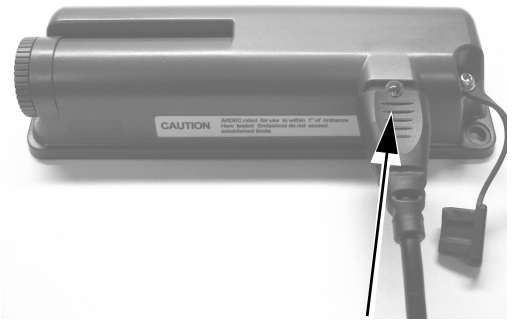
You can commission Savi SensorTag ST-674 using Savi Tag Write Cable STA-1030, Savi Tag Write Cable Adapter STA-1031, or docking station with a docking station adapter model SDSA-654-01. You can purchase these units separately.

Commissioning the Tag with a Tag Write Cable or Tag Write Cable Adapter

1. Connect Savi Tag Write Cable STA-1030 or Savi Tag Write Cable Adapter STA-1031 to an available serial port on the host computer.
2. Locate the tag commissioning port on the tag.

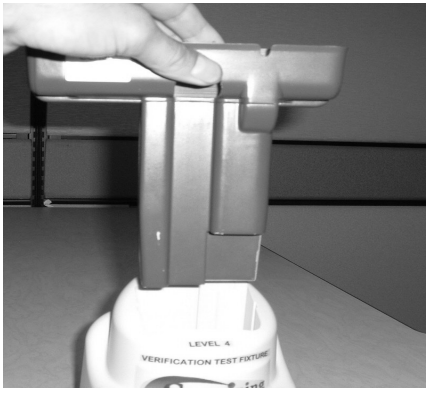
3. Unplug the rubber cap covering the port.

4. Insert Savi Tag Write Cable STA-1030 or Savi Tag Write Cable Adapter STA-1031, with the LED up, into the tag commissioning port. Start the tag commissioning application. The LED is lit when the application writes data to the tag.



Commissioning the Tag with a Savi Docking Station and Docking Station Adapter

1. With the Savi EchoPoint label right-side up, insert the adapter into the docking station until the adapter stops. The adapter has a magnetic contact that adheres to the Savi Docking Station SDS-2002 when fully inserted.



2. Unplug the rubber cap covering the write port on the tag and ensure that the Savi EchoPoint label on the tag is upside down. Note the lit Contact LED on the docking station. The tag is ready for commissioning.

3. Start the tag commissioning application. When the tag commissioning application writes data to the tag, the Data LED is lit.

Replacing the Main Battery

Savi SensorTag ST-674 is equipped with non-volatile memory and contains a backup battery to maintain the real-time clock that is not replaceable. To conserve battery life of the backup battery, refer to *Guide to Savi SmartChain for Mobile Devices* to turn off the UHF transceiver and return the tag to sleep mode when the tag is in storage.

1. Turn the battery cover counterclockwise.

   When removing the battery cover, hold on to it to avoid dropping it.

2. Remove the discharged battery from its compartment.

   Warning: The lithium battery can be harmful to the environment. Follow current procedures for safely disposing of lithium batteries.

3. Install an A 3.6V lithium battery, matching the negative (–) and positive (+) terminals to the symbols shown on the Savi SensorTag ST-674 housing. The tag will not work if you install the battery in the wrong direction (reversed).