

Installation Guide

Savi SensorTag ST-662-001

Preliminary Draft



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Documentation for Savi SensorTag ST-662-001

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Contents

1 About the Savi SensorTag ST-662-001

Features	5
Tag Description	6
RFID Communication	6
Security Bolt and Cap	6
Device Compatibilty	6
For More Information	7
Guides to Read	7
Contacting Savi Support Services	8

2 Installing the Tag

Required Tools and Materials	9
Placing the Bolt and Tag onto the Container	11
Placing the Cap on the Bolt	12
Commissioning the Tag	12
Operating the Tag	12
Decommissioning the Tag	14
Reusing the Tag	14
Disposing of the Tag	14

A Savi SensorTag ST-662-001 Specifications

About the Savi SensorTag ST-662-001

The Savi SensorTag ST-662-001 (also called Savi® - EJ Brooks Reusable eSeal Tag) is a small, battery-operated device that can be attached to monitored assets to help provide physical and electronic security and access control for containerized cargo.

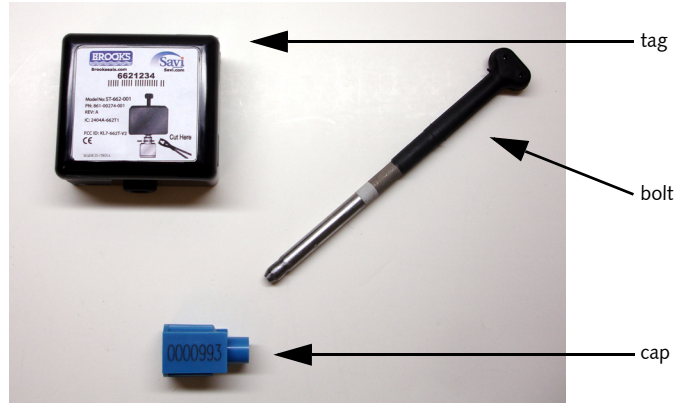
The tag is installed through a container's security hasp using a special ISO 17712 compliant bolt and cap. It uses radio communication to proactively relay its status throughout facilities or similar secured areas. It is fully compatible with Savi software and fixed and portable readers.

Features

- ◆ Uses active Radio Frequency Identification (RFID)
 - ❖ 433.92 MHz Ultra High Frequency (UHF) transceiver with a range up to 300 feet (91.44 meters)
 - ❖ 123 KHz Low Frequency (LF) receiver with a range up to 12 feet (3.7 meters)
- ◆ Usable in rain, snow, or direct sunlight
- ◆ Uses a non-replaceable lithium battery that can last up to four years
- ◆ Detects and reports unauthorized bolt cutting
- ◆ Timestamps events such as tampering using a real time clock
- ◆ Reusable with special replacement bolts and caps

Tag Description

Figure 1-1 Savi SensorTag ST-662-001



RFID Communication

The communication module operates at 433 MHz. The Savi SensorTag ST-662-001 can communicate back to the network.

Security Bolt and Cap

To be effective, Savi SensorTag ST-662-001 requires a special security bolt and cap. The bolt detects unauthorized cutting and the addition of the cap completes the mechanical seal. Once the bolt and cap are connected, they cannot be separated. Once they are cut, they cannot be reused. Replacement bolt and cap sets (STA-662-001) enable the tag to be reused.

Device Compatibility

Savi SensorTag ST-662-001 is compatible with the Savi Mobile Reader SMR-65X series, Savi Fixed Reader SR-65X series, and Savi Signpost SP-65X series.

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 User Guide* and the *Savi Mobile Reader SMR-650 for the Intermec 751G/A Mobile Computer Quick Start*
- ◆ Mobile device software, see the *Guide to Savi Transportation Security System for Mobile Devices*
- ◆ Desktop software, see the *Guide to Savi SmartChain Site Manager*
- ◆ Server software, see the *Savi Transportation Security System Set Up & Configuration Guide* and the *Savi Transportation Security System - User Guide*

Contacting Savi Support Services

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

- ◆ 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 1-650-316-4760 between 9 a.m. and 5 p.m. Pacific time.

When you contact Savi Support Services 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-662-001, make sure the following materials are available:

- ◆ Savi SensorTag ST-662-001, which includes the tag, special bolt (use of any other bolt type voids the warranty), and cap
- ◆ Savi Transportation Security System (TSS) for Mobile Devices software installed on a mobile computer with an attached, compliant Savi Mobile Reader
- ◆ A standard ISO 668 dry van container or similar cargo container with security hasp

Note: To achieve maximum communication range and minimum vibration, mount the Savi SensorTag ST-662-001 vertically on the hasp.

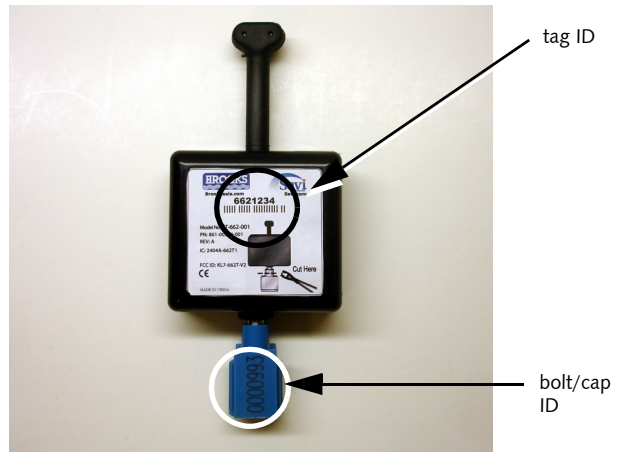
Preparing the Container

1. Load the cargo.
2. Close the cargo doors.
3. Close the security hasp.
4. While facing the doors of the cargo container, identify the security hasp on the right-hand door that is in the best condition.



5. Write down the container ID, tag ID, and bolt/cap ID for use in Savi TSS as required.

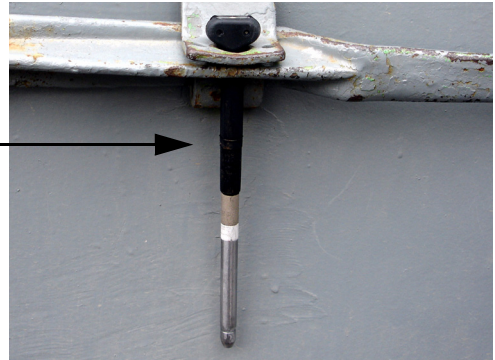
WARNING: Do not attach the cap to the bolt prematurely. The bolt can only be removed with bolt cutters and cannot be reused.



Placing the Bolt and Tag onto the Container

1. Ensure the tag is upright and parallel to the door surface.
2. Place the bolt down through the closed security hasp, taking note of the bolt collar.

bolt collar



3. Place the tag onto the bolt and push it up to the bolt collar (raised area). Leave the bottom of the bolt exposed below the tag as shown in the photograph.



Placing the Cap on the Bolt

Complete these steps to *physically* lock/seal the tag.

1. Add the cap to the bottom of the security bolt. A click indicates the bolt is properly capped.



2. Test the cap by pulling on it firmly; some play is normal between the tag and the cap.

The tag is now awake and ready for electronic locking/sealing.

Commissioning the Tag

Use Savi TSS to assign the container to the tag. Refer to the *Guide to Savi Transportation Security System for Mobile Devices* for information about using the handheld device to electronically seal the tag. Once Savi SensorTag ST-662-001 is *electronically* locked/sealed, the container is ready to be shipped.

Operating the Tag

You communicate with Savi SensorTag ST-662-001 using Savi Mobile Reader SMR-65X series or Savi Fixed Reader SR-65X series readers. Refer to the *Guide to Savi Transportation Security System for Mobile Devices* for other operations, including checking battery life and reuse count. Battery status is also reported when a tamper event occurs. A tamper event occurs if the security bolt is cut prior to electronic unlocking.

The tag restricts the number of times it can be locked/sealed, which prevents tag failure due to wear and tear over time. When the counter reaches 0, the tag can no longer be used. However, if the tag is in good condition you can return it to Savi to be reset. The software automatically indicates when the counter reaches 0. Refer to Appendix A, "Diagnostics" for the reuse limit.

Decommissioning the Tag

1. Use Savi TSS to clear the tamper event if one occurred.
2. Electronically unlock the tag using Savi TSS.
3. Cut just below the tag, on the narrow portion of the cap.

WARNING: The bolt cannot be removed unless it is cut below the tag.



4. Pull the remainder of the security bolt up and out of the tag.
The tag is now ready for reuse.
5. Dispose of the bolt and cap properly.

Reusing the Tag

Savi SensorTag ST-662-001 may be reused multiple times during one or more journeys. To reuse the tag, acquire a new security bolt and cap and refer to “Placing the Cap on the Bolt” on page 12. The tag can be reused until the battery is low or the maximum reuse count is met. You can monitor both battery life status and reuse count using Savi TSS.

Disposing of the Tag

Savi SensorTag ST-662-001 contains a lithium battery that must be disposed of properly.

Savi SensorTag ST-662-001 Specifications

To Be Provided

