

# Awarepoint Sensor S2 Installation Manual

Date: 02/14/2008

## Document History

Date	Author	Changes
02/14/2008	Derek Smith	Initial Draft



**Awarepoint Corporation**  
225 Broadway, Suite 1670  
San Diego, CA 92101  
[www.awarepoint.com](http://www.awarepoint.com)

**Copyright**

Copyright 2008 Awarepoint Corporation

All rights reserved. This product or document is protected by copyright and distributed under licenses restricting its use, copying, distribution, and decompilation. No part of this product or document may be reproduced in any form by any means without prior written authorization of Awarepoint and its licensors, if any.

Awarepoint, the Awarepoint logo, and Real-time Awareness Solution, are trademarks or registered trademarks of Awarepoint Corporation in the United States and in other countries.

**FCC Compliance**

Awarepoint Sensor model S2 FCC ID: UAG-S2

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.

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

CAUTION: This manual describes installation procedures for electrical equipment. Proper precautions are required. Particular attention should be given to text highlighted with the following symbol:

## Table of Contents

Section	Page
<b>1 Introduction .....</b>	<b>3</b>
1.1 Overview .....	3
1.2 Preparing for Installation – Read this First! .....	3
1.2.1 Tools and Supplies .....	3
1.2.2 Information .....	3
1.3 System Components .....	4
1.3.1 Sensor .....	4
<b>2 Awarepoint Sensor Installation.....</b>	<b>5</b>
2.1 Physical Installation .....	5
2.2 Secure Awarepoint Sensors.....	6
2.3 Verify the Sensor Connects to the Network .....	6
2.4 Place Awarepoint Sensor on Map.....	6
<b>3 Troubleshooting.....</b>	<b>30</b>
3.1 Awarepoint Sensor.....	30

# 1 Introduction

Customer support: 1-888-TAGIT-NOW

## 1.1 Overview

This system installation manual is for an Awarepoint employee or Awarepoint trained service provider who intends to install the Awarepoint Sensor.

## 1.2 Preparing for Installation – Read this First!

### 1.2.1 Tools and Supplies

Prior to installation, you will need the following tools and supplies:

1. Small Ethernet switches (if necessary to plug in your laptop)
2. Hospital Grade Power Strips (if necessary to put an Awarepoint Sensor in an outlet that is full)
3. Installation Kit, consisting of the following:
  - Serial Cable with Null Modem Adapter and F-F Gender Changer
  - Ethernet Cable
  - Zip-Ties
  - Double-Sided Tape Mounting Strips
4. Installation Tools, consisting of the following:
  - Laptop
  - Terminal emulator software (we recommend TeraTerm, available from <http://www.tucows.com/preview/195282> )
  - USB to Serial adapter (if laptop does not have a serial port)
  - Wire cutters – for trimming Zipties
  - Insulated blade screwdriver – for electrical faceplates, if you make an error when taping the Awarepoint Sensors down
  - Phillips screwdriver – for installing the Awarepoint Appliance

### 1.2.2 Information

Prior to installation, you will need the following information:

1. Maps for all floors, in paper and electronic format with coverage area outlined
2. Awarepoint Bridge
  - IP Addressing: DHCP or Static. If using Static addressing then: IP Address, Default Gateway, and Subnet Mask.
  - IP Address of Awarepoint Appliance

- Location, with an Ethernet port that has been tested and configured to work with 10 Base-T, full duplex Ethernet. ( A 10/100 autosense setting should be adequate)

## 1.3 System Components

The Awarepoint Real-time Awareness Solution consists of several components as shown in the diagram below. The parts of the system that require installation include Awarepoint Tags, Awarepoint Sensors, Awarepoint Bridges, and the Awarepoint Appliance. The Awarepoint Appliance contains all software necessary for system operation.

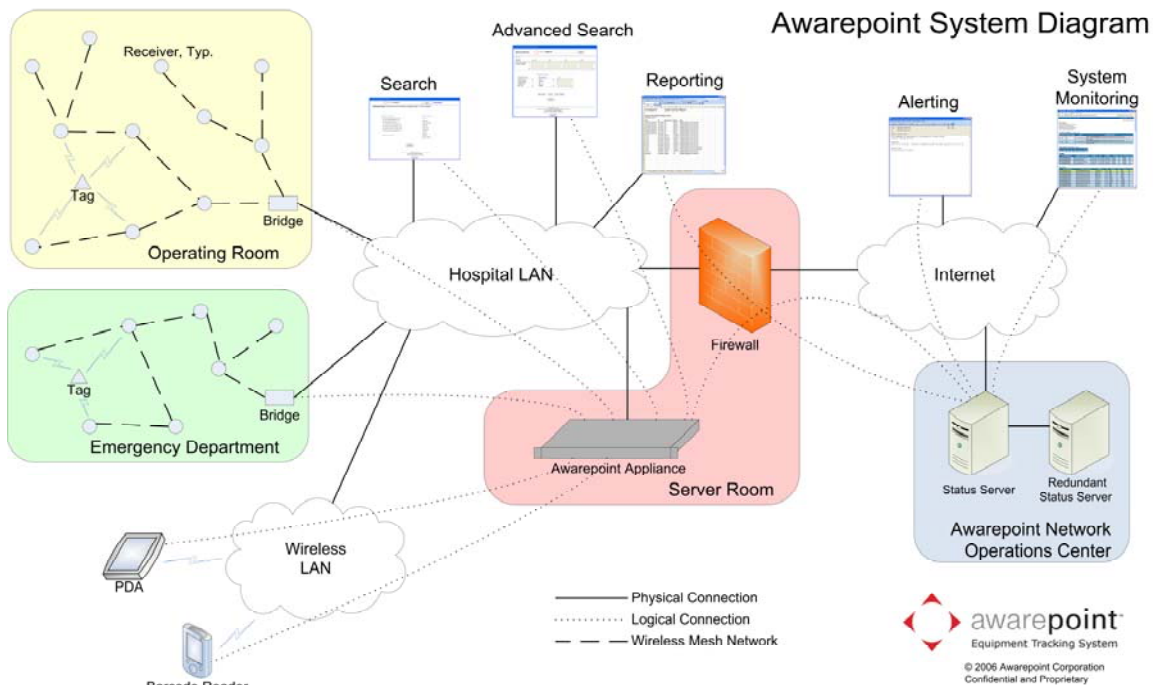


Figure 1-1.1: System Diagram

### 1.3.1 Sensor

There are several models of Sensors.

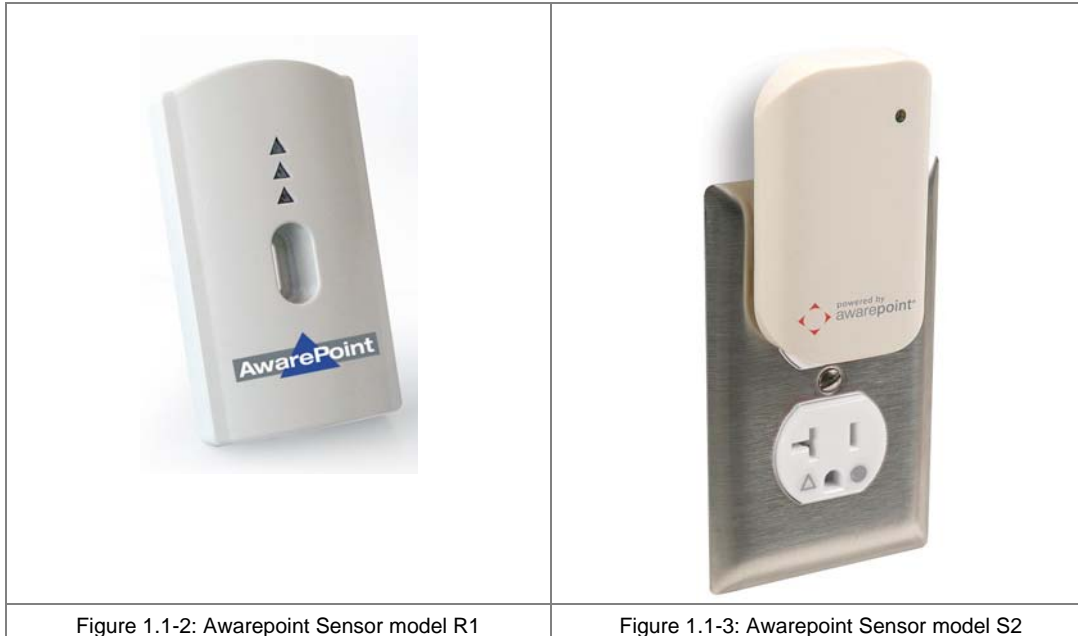


Figure 1.1-2: Awarepoint Sensor model R1

Figure 1.1-3: Awarepoint Sensor model S2

The Sensor model R1 displays its status three visual indicators in the form of Light Emitting Diodes (LEDs). The topmost LED indicates network status. Red indicates that the Sensor cannot communicate with any other devices. Yellow indicates that it can communicate with the Bridge but not the Appliance. Green means that it can communicate with the Bridge and Appliance. The middle LED indicates network activity. In normal operation, it will occasionally blink. The bottom LED (blue) indicates power. If the device is plugged into an outlet that has power then it is illuminated.

The Sensor model S2 displays its status with one LED visual indicator. If it is off then the device is defective or not powered. Red indicates that the Sensor cannot communicate with any other devices. Yellow indicates that it can communicate with the Bridge but not the Appliance. Green means that it can communicate with the Bridge and Appliance.

## 2 Awarepoint Sensor Installation

Sensors need to be located throughout the coverage area, including along the perimeter. When installing Sensors, begin by installing Sensors near the Bridge and work progressively outward in concentric circles. In this manner, you will minimize the number of Sensors that must be moved.

**Prior to installing the Sensors, the Appliance and Bridge must be installed correctly.**

### 2.1 Physical Installation

The Sensors are installed in standard electrical power receptacles. Prior to installing the Sensor you must locate a powered outlet. Verify that the receptacle has power by using an electrical tester.

## 2.2 Secure Awarepoint Sensors

Once you have optimized the mesh network, remove the Sensor; apply double-sided tape strip to the top of the output faceplate and reinstall the Sensor, pressing firmly to adhere.



**CAUTION:** To remove a sensor that has been secured in place, use the insulated blade screwdriver to first remove the electrical faceplate and sensor from the wall, then separate the sensor from the faceplate. **NEVER reach behind the sensor in an effort to insert or remove it from the outlet as electrical shock may occur if you contact the electrical prongs while they are still inserted in the outlet.** For insertion or removal, grasp the sensor by the sides only.

## 2.3 Verify the Sensor Connects to the Network

Once you plug the Sensor into an outlet, it will attempt to connect to the Awarepoint network. This process will take approximately one minute. When the Sensor has completed this process, the Network LED will be illuminated Green. If the Sensor is unable to connect to the network (out of range of a network or network not properly configured), the Sensor will continue to attempt to connect to the network and the Network LED will be Red.

Once the Sensor has successfully connected to the network, mark the Sensor location and its MAC address on a paper copy of the map.

## 2.4 Place Awarepoint Sensor on Map

Open the System Manager and click on the Positioning: Configuration tab. The Sensor you just installed should show up in the Unassigned section of the device tree. If it is functioning correctly, the icon for the Sensor should be green.

In the device tree, expand the Campus and Building so that you can see the floor. Click on the floor to display the map for the floor. Drag the Sensor icon onto the map and place it where it is located.

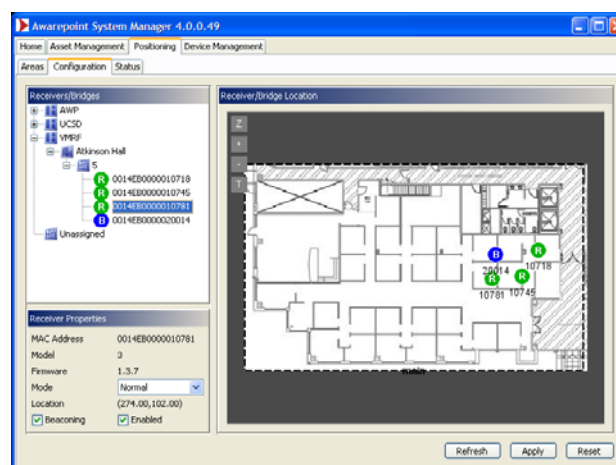


Figure 2-1: Positioning: Configuration Tab - Placing Awarepoint Sensor

**Finally, click the *Apply* button.**

Continue to place all Sensors. As they are placed, they will join the network. Some routing lines will be displayed as shown below.

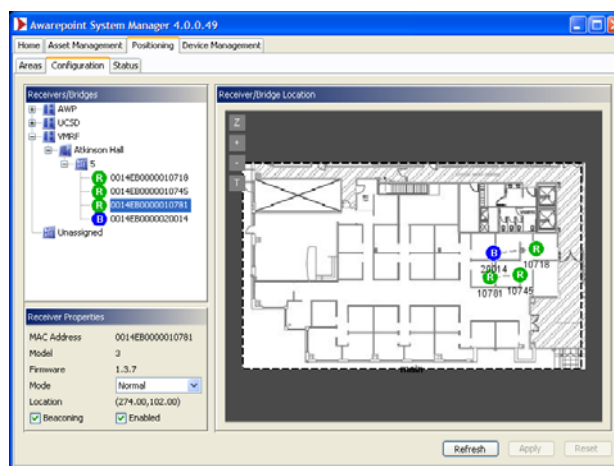


Figure 2-2: Positioning: Configuration Tab - Placing all Awarepoint Sensors

## 3 Troubleshooting

Customer Support: 1-888-TAGIT-NOW

### 3.1 Awarepoint Sensor

If the Sensor appears Red in the Positioning: Configuration tab or on the Awarepoint Network Operations Center, the Sensor has a problem. Try the following steps:

1. Verify the Bridge nearest the Sensor is functioning correctly. Verify the Appliance is functioning correctly.
2. If multiple Sensors were down and they are all grouped together, likely these were all routing through one Sensor and that Sensor lost connectivity. Wait approximately one hour and check the status again. If the Sensors are still down, proceed to step 3.
3. Verify that the Sensor is physically present. If so, then proceed.
4. Unplug and replug the Sensor. If it is still red, replace the Sensor. If another Sensor is red in the same location, likely the Sensor is out of range of the next nearest Sensor. Move the Sensor closer to the Sensors that are working.