Pursuant to Administrative Code Section 27-131, the following equipment or material has been found acceptable for use subject to the terms and conditions contained herein.

MEA 407-06-E

Manufacturer: System Sensor, Unincorporated Division of Honeywell International Inc., 3825 Ohio Avenue, St. Charles, IL 60174

Trade Name(s): System Sensor

Product: Fire Alarm Equipment

Pertinent Code Section(s): Subchapter 17 and Reference Standard, RS 17

Prescribed Test(s): UL 268

Laboratory: Underwriters Laboratories, Inc.

Test Report(s): S911 Project 05NK03788, issued 5/26/06

Description: Model 5808W3 – Battery-operated smoke-automatic detector and RF transmitter for open-area protection
Honeywell

INSTALLATION AND SETUP GUIDE

General Information

Before installing detector, please thoroughly read these installation instructions and Manual AS-1003-012, Guide for Proper Use of System Smoke Detectors, which provides detailed information on detector spacing, placement, testing, wiring, and special applications. Copies of this manual are available from Honeywell.

NOTICE: This manual should be left with the owner/user of this equipment.

IMPORTANT: This detector must be tested and maintained regularly following NFPA 72 requirements. The detector should be cleaned at least once a year.

General Description

The S85W/S86W photoelectric smoke/heat detector with built-in wireless transmitter is intended for use with wireless alarm systems that support 860 series devices. Refer to control/names customer installation instructions for compatibility.

The S85W/S86W smoke/heat detector can be used with any 860 series wireless receiver/transmitter for residential installations. For commercial installations, the S866X/HNDC or the S866X receiver is required. The transmitter can send alarm, tamper, maintenance (when control panels are equipped to process maintenance signals), and battery condition messages to the system's receiver. The maintenance signal can only be seen with the sensitivity test requirements specified in NFPA 72, 7-0-2, and 7-0-3.

Refer to the wireless system's instructions for the maximum number of transmitters that can be supported.

The S85W/S86W incorporates a state-of-the-art optical sensing chamber and an advanced microprocessor. The microprocessor allows the detector to automatically maintain proper operation at factory calibrated detection levels, even when sensitivity is altered due to the presence of contaminants entering into the optical sensing chamber. In order for this feature to work properly, the chamber must never be opened while power is applied to the smoke detector. This includes cleaning, maintenance, or screen replacement. All models also feature a rechargeable, built-in, fixed temperature (129°F) thermal detector and in-situ capable of setting a pre-defined condition if the temperature is below 47°F.

The S866W contains a piezoelectric horn which guarantees the ANSI 89.41, temporal pattern in an alarm condition. In alarm, a message is also sent to the wireless control panel and the smoke detector's zone number is displayed on the console. The alarm message is transmitted every 4 seconds until the smoke or heat condition has cleared and the detector has reset. During an alarm condition, pressing the detector's test switch will silence the piezoelectric horn for 6 minutes. Once the detector has reset, a SENSE22 message is transmitted to the control panel and ID number can be cleared from the panel. The built-in Drift Compensation algorithm automatically maintains the sensitivity of the detector. Once the detector reaches its limit of compensation, it transmits a maintenance signal to the panel. The maximum time installation is simplified by the incorporation of electrical components compatible with drywall finisher or other methods that provide a method for securing the detector in place.

Two LEDs are a viewer on the detector provide visual and audible indication of the detector's status.

Table 1: Detector LED Modes

<table>
<thead>
<tr>
<th>Mode</th>
<th>Green LED</th>
<th>Red LED</th>
<th>Piezoelectric Horn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power-up (Normal)</td>
<td>Blinks every 10 sec</td>
<td>Blinks every 10 sec</td>
<td>Off</td>
</tr>
<tr>
<td>Out of sensitivity</td>
<td>Off</td>
<td>Blinks every 10 sec</td>
<td>Off</td>
</tr>
<tr>
<td>Failover</td>
<td>Off</td>
<td>Blinks every 10 sec</td>
<td>Off</td>
</tr>
<tr>
<td>Smoke Alarm</td>
<td>Off</td>
<td>Blinks every 1 sec</td>
<td>Temporal Pattern</td>
</tr>
<tr>
<td>Thermal Alarm</td>
<td>Off</td>
<td>Blinks every 4 sec</td>
<td>Temporal Pattern</td>
</tr>
<tr>
<td>Low Battery</td>
<td>Off</td>
<td>Blinks every 45 sec</td>
<td>Chip every 45 sec after LED blinks for 7 days</td>
</tr>
</tbody>
</table>

During initial power-up, the red and green LEDs will blink synchronously once every 9 seconds. It will take approximately 10 seconds for the detector to finish the power-up cycle (see Table 1).

After power-up has completed and the detector is functioning normally within its listed sensitivity range, the green LED blinks once every 10 seconds. If two depressors or if the detector is in need of maintenance because its sensitivity has shifted outside its listed limits, the red LED blinks once every 3 seconds. When alarm has been activated by smoke, the red LED blinks every 3 seconds. During a thermal alarm condition (>195°F), the red LED blinks once every 4 seconds. The LED indication must not be used in place of the tests specified under Testing in a Factory Maintenance Condition, the red LED will blink once every 15 seconds (refer to Table 1). If the detector senses a low battery condition, the red LED blinks every 45 seconds.

To measure the detector's sensitivity, the 32 Series Model SEN- SER32 Infrared Sensitivity ReaderBoss (see Figure 4) should be used. Refer to instruction manual D806-60-01 for proper use of the SENS- SER32.

Low Battery Detection

The 866W is powered by a single 9-volt CR122A or DL122A Lithium battery (included). The detector checks for a low battery at least every 68 minutes. If a low battery is detected, the transmitter sends a low battery message to the control panel, which is seen and displays the detector's ID. In addition, the red LED of the 866W will blink every 48 seconds and the test switch will be disabled. This condition will exist for a minimum of 7 days, and then the detector's horn will "chirp" about every 48 seconds. Presuming the test switch during this time will silence the chirps for 12 hours. The battery should be replaced BEFORE the chirps begin. Be sure to replace the battery with a fresh one.

Battery Installation and Replacement

To replace the battery:

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1. Remove the detector from its mounting base by twisting the detector counterclockwise. Remove the battery, and dispose properly.

2. To ensure proper power-down sequence, wait a minimum of 20 seconds before installing new battery.

3. Install a new 9-volt CR123A Lithium battery in the battery compartment. Follow the polarity diagram inside the compartment.

4. Reinstall the smoke detector onto the mounting base by turning the detector clockwise.

5. Test the detector as described in the TESTING SIGNAL STRENGTH section of this manual. The green LED should blink about once every 10 seconds to indicate normal operation. If the battery is not installed correctly, the smoke detector will not operate and the battery may be damaged. If the detector does not appear to be sending a signal during any of the tests, check for correct battery installation and for a fully charged battery.

6. When the serial number is displayed, transmit from the detector a second time by activating the tamper switch again as described in Step 5. The current loop number (4) will begin to flash.

7. Manually change the loop number to the desired loop number for the zone (according to the application). When programming for operation in other zones for the transmitter as necessary (except for Tamper Loop 4, which does not require programming). WARNING: The fire protection zone enrolled must always be Loop 1. Otherwise, fire annunciations will not be reported by the control.

8. Exit Programming mode when programming is complete, and test the detector. Refer to the Testing Section. See the control unit's installation instructions for further details.

Mounting
First, determine the best location for the smoke detector, one that provides a strong wireless transmission path and proper smoke detection. A GOOD TRANSMISSION PATH MUST BE ESTABLISHED FROM THE PROPOSED MOUNTING LOCATION BEFORE PERMANENTLY INSTALLING THE DETECTOR. To check, perform the test described in the TESTING SIGNAL STRENGTH section of this manual. Prior to mounting the detector to the mounting base, you must "enroll" the detector's serial number into the system (see the PROGRAMMING section). To mount the detector, perform the following steps:

1. Once a suitable location has been determined, install the mounting base on the ceiling or on the wall (if local ordinances permit). Use the two screws and anchors provided.

2. Turn the detector in a clockwise direction in the mounting base until it clicks into place.

3. Test the detector immediately after completing the installation (as described in the TESTING section of this manual) and refer to the control system's instructions for additional information concerning the use of wireless smoke detectors.

NOTE: Loop 2 High/Low Maintenance is supported only on commercial control panels such as the Vista-128FB.

4. When prompted, enter Input Type 03 (3 on some controls) - Supervised RF Transmitter.

5. When prompted for the serial number, transmit from the detector by activating the tamper switch. To do this, hold the base of the detector in one hand, and rotate the detector counter-clockwise on the base until it snaps open. Then return to clockwise position until the detector snaps into place.

6. DO NOT attach the detector to removable ceiling panels. Attach the detector across panel support as shown in Figure 3.

Tamper Protection
This detector has a built-in tamper switch that will cause a CHECK signal to be displayed at the console of the alarm system if it is
removed from its mounting base. The 598SW3 detector includes a tamper-resistant feature that prevents removal from the mounting base without the use of a tool. To engage the tamper-resistant feature, cut the small plastic tab located on the mounting base (Figure 2), and then install the detector. To remove the detector from the base once it has been made tamper resistant, use a small screwdriver to depress the square tamper release tab, located on the skirt of the mounting base, and turn the detector counterclockwise.

Dust covers are an effective way to limit the entry of dust into the smoke detector sensing chamber during construction. However, they may not completely prevent airborne dust particles from entering the detector. Therefore, it is recommended that the detectors be removed before beginning construction or other dust producing activity. When returning the system to service, be sure to remove the dust covers from any detectors that were left in place during construction.

Smoke detectors are not to be used with detector guards unless the combination has been evaluated and found suitable for that purpose.

Testing the Sensor
NOTE: Before testing, notify the central station that the smoke detector system is undergoing maintenance, in order to prevent unwanted alarms.

During initial power-up, do not use SENS-RDR or canned smoke to test the detector. The SENS-RDR and canned aerosol can be used after power-up sequence has completed. Detectors must be tested after installation and following periodic maintenance. The 598SW3 may be tested as follows:

A. Test Switch
1. A recessed test switch is located on the detector housing (see Figure 4).
2. Push and hold the recessed test switch for a minimum of 5 seconds. Use a small screwdriver or Allen key with maximum diameter of 0.18 inch (the alarm panel will trigger and then the smoke detector will go into alarm. If the tool is removed from the recessed switch the sounder will shut off.)

If the detector is within the listed sensitivity limits, the LED on the detector should blink once per second and the horn should sound within 5 seconds.

![Figure 4. Recessed Test Switch Opening and SENS-RDR Position](image)

B. Smoke Entry Test
Hold a smoldering punk stick or cotton wick at the side of the detector and gently blow smoke through the detector until the unit alarms. Canned aerosol is also an acceptable method.

C. Direct Heat Method (Hair dryer of 1000-1500 watts)
Direct the heat toward either side thermistor. Be sure to hold the heat source about 12 inches from the detector to avoid damage to the plastic. The detector will reset only after it has time to cool.

Smoke detection testing is recommended for verifying system protection capability.

A detector that fails to activate with any of these tests should first be cleaned as outlined in this manual’s MAINTENANCE section. If the detector still fails to activate, return for repair.

Testing Signal Strength
NOTE: Remove battery tab before installation.

This test should be performed before installation to determine a strong communication path with the control panel and after installation is complete. Also, the owner/user should test the unit at least weekly.

1. Activate the wireless system's GONG TEST mode from the keypad.
2. Depress and hold the smoke detector's TEST switch. If the detector has not previously detected a low battery condition and it is within proper sensitivity limits, the detector should immediately transmit an alarm signal to the control panel. The built-in horn will start to sound about 2.5 seconds after depressing the button.
3. The wireless system's keypad should emit at least three audible sounds when the alarm transmission is received and will display the transmitting detector's zone number.
4. When the console has received the test signal, release the TEST switch. The horn will immediately stop and a few seconds later the detector's zone number will clear from the console display.
5. If the console does not respond as noted, check the polarity of the battery and be sure it is fresh. If this is an initial installation, try moving the detector to another location that provides proper reception. Also be sure that the detector has been "enrolled" by the control panel (see PROGRAMMING). Then, repeat the test.
6. Turn off the system's TEST mode from the keypad (security code + OFF).

Testing Programmed Loops
This test should be performed before installation to ensure that all loops intended to be used have been programmed and are operational in the system.

1. Activate the system's TRANSMITTER ID SNIFTER mode from the keypad (see the control panel's instructions). All programmed wireless zones will be displayed, one by one, on the system keypad. Make sure all smoke detector zones are displayed in the sequence. (If they are not, recheck that all zones have been properly programmed.)
2. With the detector mounted to the bracket, press the smoke detector's TEST switch. All zones associated with the smoke detector should disappear from the keypad on the next display cycle. This means that the system has received a transmission from each loop you programmed.
3. When testing is complete, enter the Installer code + the OFF key to exit TEST mode.

When all system testing has been completed, notify the central station that the system is back on line.
Maintenance

NOTE: Before performing maintenance on the detector, notify the proper authorities and the central station that maintenance is being performed and the system will be temporarily out of service. Disable the zone or system undergoing maintenance to prevent any unwanted alarms. Power must be removed from the detector before performing maintenance of any kind by removing the detector’s battery.

1. To ensure proper power-down sequence, battery must be removed from detector for a minimum of 20 seconds before removing chamber top.
2. Remove the detector cover by turning counterclockwise.
3. Vacuum the cover or use canned air to remove any dust or debris.
4. Remove the top half of the screen/sensing chamber by lifting straight up (Figure 5).
5. Vacuum or use canned air to remove any dust or particles that are present on all chamber sections.
6. Replace the top half of the screen/sensing chamber by aligning the arrow on the screen/sensing chamber with the arrow on the housing. Press down firmly until the screen/sensing chamber is fully seated.
7. Replace the detector cover by placing it over the screen/sensing chamber and turning it clockwise until it snaps into place.
8. Reinstall the battery into the battery compartment noting proper orientation.
9. Reinstall the detector and test. (See the Testing section.)
10. Notify the central station when the system is back in service.

Figure 5. Removing Screen/Sensing Chamber

Specifications

Power Source: One 3-volt CR123A Lithium Batteries (included). (Replace with Duracell DL123A, Panasonic CR123A or AHS3000-466.)

Height: 2.3 inches (58 mm)
Diameter: 5.3 inches (135 mm) with mounting base
Weight: 8.5 oz. (241 g) without battery
Operating Ambient Temperature Range: 32°F to 100°F (0°F to 38°C)
Operating Humidity Range: 0% to 95% Relative Humidity
Heat Sensor: 155° F Fixed Temperature Electronic Thermistors
Freeze Warning Sensor: 41°F (5°C)
Agency Listings: UL 268 – Commercial and Residential Installations

FOR WARRANTY INFORMATION AND FOR DETAILS REGARDING THE LIMITATIONS OF THE ENTIRE ALARM SYSTEM, REFER TO THE INSTALLATION INSTRUCTIONS FOR THE RECEIVER/CONTROL WITH WHICH THIS DEVICE IS USED.

FCC ID: CFS80DL5808W3

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.

IC: 573F-5808W3

Honeywell

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www.honeywell.com/security
Pursuant to "Promulgation of the Rules relating to Material and Equipment Application Procedures" dated November 5, 1992, the Bureau of Fire Prevention has no objections Letter dated October 18, 2006, F.P. Index #0606048B.

**Terms and Conditions:** The above equipment is accepted provided that:

1. All uses, configurations, arrangements and functions, application and installations comply with the provisions of New York City Building Code, specifically Subchapter 17 and Reference Standard RS 17-3.

2. The installation, use and spacing shall be in accordance with the manufacturer’s recommendation, NFPA 72 (2002 edition, section 6.16) and UL standard.

3. Periodic maintenance and sensitivity tests shall be conducted in accordance with the requirements of 3RCNY§17-06. Signal strength shall be tested at least weekly and record of such testing shall be kept on the premises for inspection.

4. The above-referenced product shall be used only with MEA-approved compatible fire alarm panels, devices and accessories.

5. Underwriters Laboratories, Inc.’s listing requirements and limitations shall be complied with.

6. Final installation and use shall be subject to Fire Department inspection and approval.

7. All shipments and deliveries of such equipment shall be provided with a metal tag, suitably placed, certifying that the equipment shipped or delivered is equivalent to that tested and acceptable for use, as provided in Section 27-131 of the Building Code.

Final Acceptance November 3, 2006

Examined By [Signature]