K14379 4/07 Rev. A

Honeywell

ADEMCO 5870API

Wireless Indoor Asset Protection Device

INSTALLATION AND SETUP GUIDE

GENERAL INFORMATION

The ADEMCO 5870API is a wireless, supervised asset protection device that uses patented Micro-Electro-Mechanical System (MEMS) technology, which references the Earth's gravitational field. When affixed to a protected high-value asset the device will trigger an alarm if an attempt is made to move or disturb the asset.

ADEMCO VISTA P-series control panels (VISTA-10P, 15P and 20P) provide configurable zone types that allow the installer to customize a zone for asset protection (i.e., 24 hour supervisory alarm, trouble by day/alarm by night, etc.) Refer to the control panel installation instruction for full details.

The 5870API is intended for use in systems that support 5800 series devices. Each transmitter has its own unique serial number, assigned during manufacture, which must be "enrolled" in the control panel before the device can be used with the system. Refer to the control panel's Installation and Setup Guide for programming details.

One 5870API is required for each asset that will be protected.

Typical Protected Assets

The 5870API can be used for many residential and commercial applications such as:

Residential
- Electronic equipment
- Jewelry boxes
- Paintings and Art
- Entertainment devices
- House or Gun Safe
- Antiques and Collectables

Commercial
- Office Equipment
- Museum Art
- Laboratory Equipment

> ⚠ **The 5870API sensor is for use on objects that do not move frequently or vibrate. Mounting the sensor near sources of vibration may cause false alarm conditions to occur.**

Operating Modes

The 5870API is equipped with three programming options. A three minute inhibit prevents excessive RF transmissions and preserves battery life by transmitting alarm signals three minutes apart.

Short Travel Time Detection (Loop 1) – This is a high-security, minimum movement mode in which the sensor detects the movement of the device over a short time period and sends an alarm signal after one second of continuous movement. When the motion has stopped for period of three seconds, a restore signal is sent.

Long Travel Time Detection (Loop 2) – The sensor detects the movement of the device over a longer time period in this mode and sends an alarm signal after five seconds of continuous movement. When the motion has stopped for period of three seconds, a restore signal is sent.

Open/Close Sensor (Loop 3) – This mode is intended for boxes with lids that can be opened (e.g.; jewelry boxes).

The sensor detects tilt with respect to the horizon. If the unit is tilted more than 30° of tilt with respect to the Earth the sensor will send an alarm signal. If the unit is tilted back to less than 15° a restore signal will be sent.

> ⚠ **The 5870API is not watertight, and therefore should not be used in damp locations. Do not use the device in applications that may be exposed to moisture. The device may be used in garages, sheds, etc., as long as it is not at risk from rain, snow, humidity or condensation. The device should not be installed in locations where temperatures may drop below 14° F.**

OPERATION

Upon initial battery power up, the unit will transmit every time it is faulted or restored, which enables you to program and test the device. To conserve battery life the sensor's normal operating mode has a three-minute lockout on Loops 1, 2 and 3. Once a restore has been sent on any loop, further transmissions on that loop are inhibited for three minutes. Other loops are not affected. The sensor automatically switches from installer test mode to normal mode after the first supervisory transmission is sent. This will occur approximately 72 minutes after the last fault/restore message has been sent.

To return to the installer test mode remove and reinstall the battery.

TAMPER SUPERVISION

The 5870API tamper supervision feature (Loop 4) causes a trouble signal to be sent to the control if the sensor is removed from the asset being protected or if the unit's cover is removed from the base.   The tamper switch is also used to program the unit's serial number and loop assignments to the control panel.

SETTING THE OPERATING MODE

You must enroll the 5870API serial number in the control panel during zone programming. The control panel's Installation and Setup Guide provides detailed programming procedures. Table 1 provides a list of the various operating modes of the 5870API with the respective Loop numbers for each. Before programming, perform the following:

1. To cause the transmitter to transmit, remove the "PULL TO CONNECT BATTERY" tab (see Figure 1). (For additional transmissions, move or rotate the sensor.)

2. When the battery is connected the sensor powers up in the installer test mode. In this mode the sensor will transmit fault and restore messages on all loops when it detects the corresponding motion (or lack thereof).
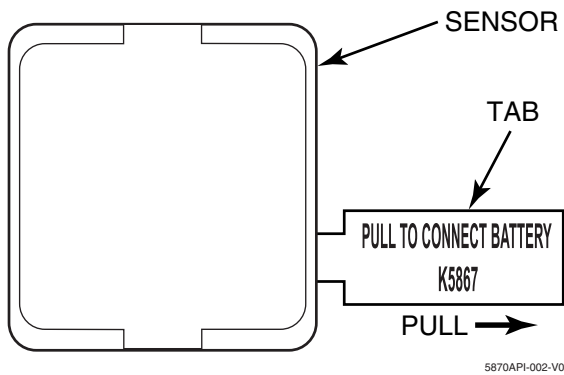
SENSOR

TAB

PULL TO CONNECT BATTERY

K5867

PULL →

5870API-002-V0

Figure 1 - 5870API Battery Tab

PROGRAMMING THE UNIT

✓ **If you are enrolling this device on a LYNXR-Series control panel refer to the *56 Enhanced Zone Programming Mode section in the LYNXR Installation Guide for programming information.**

Once you have selected an operating mode you must enroll the transmitter in the control panel. When programming the transmitter in the control panel, note that you must program a separate zone for each loop you are using on the transmitter. To program:

1. Enter the control's Zone Programming mode.
2. Enter the zone number to be programmed.

✓ **If the asset being protected should not be moved (i.e., a painting) it can be programmed as a 24 hour zone type. If the asset will occasionally be moved, when the system is disarmed, it can be programmed as a perimeter zone type .**

3. When prompted, enter zone type.
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 pressing the tamper switch.
6. When the serial number is displayed, transmit from the detector again by pressing the tamper switch.

   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—see Table 1).
8. If you are enrolling this device on a Vista-series control, press the * key to skip the confirmation screen.
9. Exit Programming mode when programming is complete, and test the detector. Refer to the Testing section.

MOUNTING

✓ **1. Replace the adhesive when relocating the device.**
   2. Ideal application temperature range of the tape is 70-100°F (21-38°C). Initial tape application to surfaces below the suggested minimum temperature is not recommended because the adhesive becomes too firm to adhere readily.

The 5870API can be permanently or temporarily mounted directly to the asset to be protected via 3M VHB double-sided tape or removable adhesive double-sided tape. Two types of tape are provided with the device and the selections should be based on the end use environment and conditions. Once cured the black tape (with red

release liner) has a stronger bond, except in low temperature applications where the gray tape should be used.

1. Determine the optimum mounting location taking care to avoid damp locations. To maximize the transmitter's range avoid mounting the device to metal objects, if possible.
2. Temporarily mount the device to the asset to be protected using masking tape or any suitable method.
3. Before the transmitter is permanently mounted, conduct Go/No Go tests (refer to the Control Panel's instructions) to verify adequate signal strength from the mounting location.
4. Always verify range by holding the sensor in the approximate mounting location and moving the asset. The panel (in test mode) should respond to the transmissions. If not, find a more suitable mounting location.
5. If your application ("permanent") requires the black tape, remove the gray tape. Clean any fingerprints and adhesive residue and install the black tape on the sensor.

✓ **Take care to align the hole in the tape with the device's tamper switch plunger.**

6. Clean the area, where the sensor will be mounted, with a mixture of water and isopropyl alcohol.

✓ **To obtain proper performance with all 3M VHB tapes, it is important to ensure that the surfaces are dry and free of condensed moisture.**

7. Once the surface has been cleaned, remove the tape backing paper and firmly press the sensor in the desired mounting location. Apply pressure for 30 seconds.

✓ **Firm application pressure develops better adhesive contact and helps improve bond strength. After application, the bond strength will increase. At room temperature approximately 50% of ultimate bond strength will be achieved after 20 minutes, 90% after 24 hours and 100% after 72 hours.**

8. Verify operation by moving the asset. Always check the alarm panel keypad to verify that the zone has tripped.

REPLACING THE BATTERY

A 3-volt lithium battery powers the 5870API. If the battery voltage gets too low, the device sends a low battery signal to the control panel.

The 5870API consume less battery power when stationary than when in motion. Maximum battery life will be obtained when used on assets that are moved infrequently (e.g.; televisions, paintings, sculpture, etc.)

✓ **Replace the battery with Ademco 469, Sanyo CR2, Panasonic CR2 or Duracell DLCR2. Use of another battery may present the risk of fire or explosion**

1. Using a screwdriver, release the case's retaining tabs.
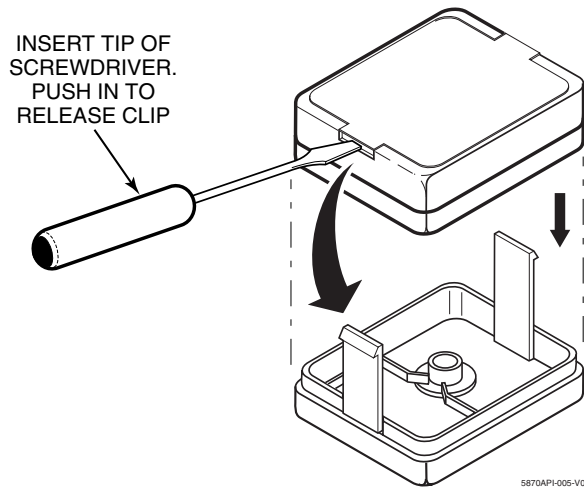2. Carefully remove the sensor's cover. (see Figure 2)

INSERT TIP OF SCREWDRIVER. PUSH IN TO RELEASE CLIP

5870API-005-V0

Figure 2 – Replacing the 5870API Battery

CR2

FCC & IC ID No's

5870API-001-V0

Figure 3 – Replacing the 5870API Battery

3. Check the battery polarity orientation before installing (see Figure 3).
4. Insert the battery securely in the sensor.
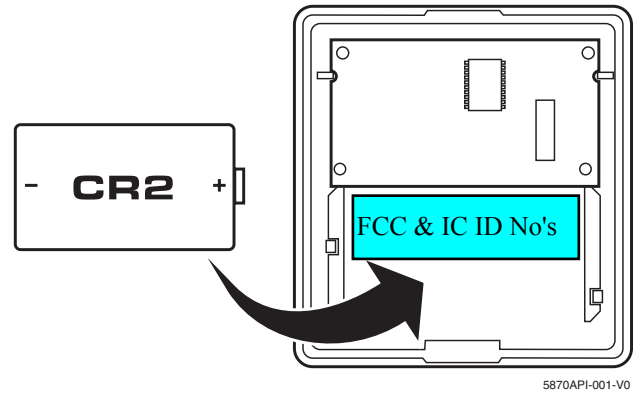5. Snap the sensor cover back in place.

Table 1: 5870API Operating Mode Choices

| Operating Mode	Loop	Faults when…	Restores when…
Short Travel Time Detection	1	Asset/sensor is moved for 1 (+1, -0) second.	Motion of the asset/sensor has stopped for 3 (+1, -0) seconds.
Long Travel Time Detection	2	Asset/sensor is moved for 5 (+1, -0) seconds	Motion of the asset/sensor has stopped for 3 (+1, -0) seconds.
Open/Close Sensor	3	Asset/sensor is tilted >30 (+/-10) degrees (with respect to the horizon)	Asset/sensor is tilted <15 (+/-5) degrees (with respect to the horizon).

SPECIFICATIONS

Dimensions:
1.8" H x 1.7" W x 0.63" D
(45.72 mm x 43.18 mm x 16.02 mm)

Power:
Single 3V Ademco 469, Panasonic CR2, Sanyo CR2, or Duracell DLCR2 Lithium Battery

Environmental Conditions:
14° to 122°F (-10° to 50°C)
<90% RH (non-condensing)

1.7"

1.8"

TAMPER

REPLACE ADHESIVE WHEN RELOCATING THIS DEVICE
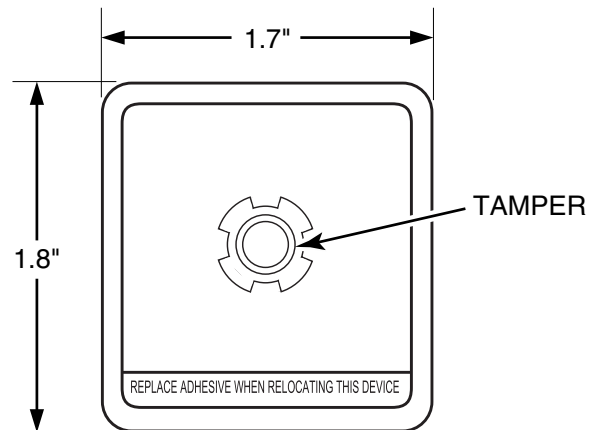
5870API
(Rear View)

5870API-003-V1

WARNING

Risk of fire, explosion, and burns. Do not recharge, disassemble, heat above 212º F (100º C) or incinerate. Dispose of used batteries properly. Keep away from children.

TO THE INSTALLER

Regular maintenance and inspection (at least annually) by the installer and frequent testing by the user are vital to continuous satisfactory operation of any alarm system.

The installer should assume the responsibility of developing and offering a regular maintenance program to the user as well as acquainting the user with the proper operation and limitations of the alarm system and its components parts. Recommendations must be included for a specific program of frequent testing (at least weekly) to ensure the system's proper operation at all times.

FCC ID: CFS8DL5870API

The FCC ID may also be found inside the battery compartment of this product, beneath the battery. Refer to "REPLACING THE BATTERY" above for information on how to remove the battery.

FCC and Industry Canada Statement

This device complies with Part 15 of FCC rules and RSS 210 of Industry Canada. 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.

Unauthorized changes or modifications could void the user's authority to operate the equipment.

FOR WARRANTY INFORMATION AND DETAILS REGARDING THE LIMITATIONS OF THE ENTIRE ALARM SYSTEM REFER TO THE INSTALLATION AND SETUP GUIDE FOR THE CONTROL PANEL USED WITH THIS DEVICE.

U.S. Patent Numbers
5,155,469
5,004,999
6,724,316
7,119,681

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