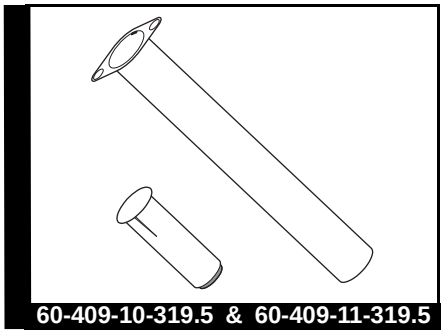
Recessed Mount Door/Window Sensor

Document Number: 46-545 Rev. C
August 1998



60-409-10-319.5 & 60-409-11-319.5

INSTALLATION INSTRUCTIONS

About This Document

This document describes how to install, learn, and test the ITI® Learn Mode™ Recessed Mount Door/Window Sensor.

Product Summary

The Recessed Door/Window Sensor (60-409) can be installed in doors and suitable windows. The sensor uses ITI's patented Learn Mode technology, which simplifies sensor programming. The installer merely trips the tamper switch of the sensor by opening its cover, pulling out the circuit board about $^1/_2$". The sensor transmits its ID to the panel, which LEARNS the sensor.

The sensor transmits open and close signals to the panel when a magnet (mounted in the door or window) is moved away from or closer to the sensor. When the door or window is opened, the sensor transmits open (TRIP) to the panel. Similarly, when the door or window is closed, it sends close (RESTORE) signals to the panel. These signals are sent to the panel whether it is armed or not. The sensor also sends supervisory signals to the panel approximately every 64 minutes.

The sensor contains an RF transmitter that can transmit at least 1000 feet in open air. It also contains one reed switch and one built-in tamper switch. Removing the sensor circuit board trips the tamper switch and causes the sensor to transmit its ID to the panel's CPU.

The sensor is powered by a 3.6 volt lithium battery, which typically lasts from 5 to 8 years. If the battery becomes low, the sensor transmits a Low Battery (Trouble) Report to the panel.

Tools Needed

- electric drill
- $^7/_8$" paddle or spade type drill bit, with a 4 $^3/_4$" minimum length
- $^1/_2$" twist type drill bit
- standard ($^1/_8$") screwdriver
- needle-nose pliers
- tape measure or ruler
- pencil, pen, or piece of chalk

Installation Guidelines

- Keep each sensor within 100 feet of the panel.
- Avoid mounting a sensor in an area where it will be exposed to moisture.
- Avoid mounting a sensor where temperatures exceed 120° F (49° C).
- Avoid mounting a sensor where temperatures fall below 10° F (-12° C).
- Avoid mounting a sensor where it will be jarred excessively, as this reduces battery life.
- Avoid mounting the sensor in metal frames, near excessive wiring, or near metal appliances (such as in utility rooms).

WARNING: Some installations have electrical wiring running through door or window frames. Touching electrical wires can injure or kill you.

- Whenever possible, mount the sensor in the door or window frame.
- To avoid electrical wiring, mount the sensor in the header (top) of the door or window frame.
- If the sensor is to be used on double doors, mount it in the least used door, with the magnet in the other door.
- For door installation, drill far enough into the center of the frame to avoid accidentally drilling through walls or siding.

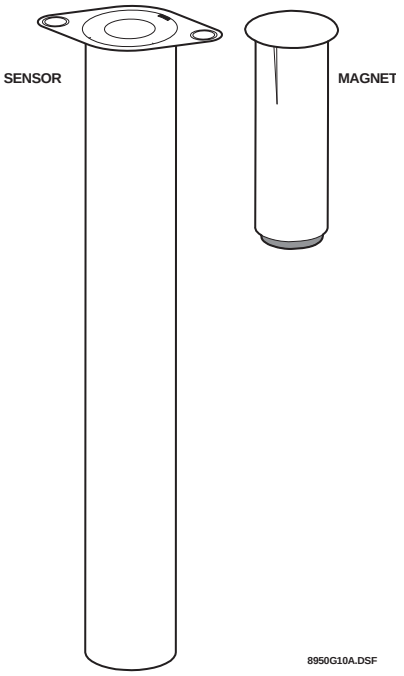


Figure 1. Recessed Mount Door Window Sensor

Installation

Install the Sensor First

CAUTION: You must be free of all static electricity. You should touch a grounded, bare metal surface or wear a grounded wrist strap before touching a circuit board.

1) Determine suitable application site for the sensor (see Figure 2).

WARNING: To minimize the risk of electrical shock from concealed wires, mount the sensor in the top of the door or window frame.

2) Measure and mark where the sensor will be installed in the door or window frame.
3) **Conduct a Dealer Sensor Test before drilling (see *Testing* later in this manual).**
4) Using a $^{7}/_{8}$" spade or paddle bit, drill a hole to the minimum depth of 4 $^{3}/_{4}$" in the door (or window) frame as illustrated in Figure 2.
5) Using a small screwdriver, remove the sensor tube cap (see Figure 3).

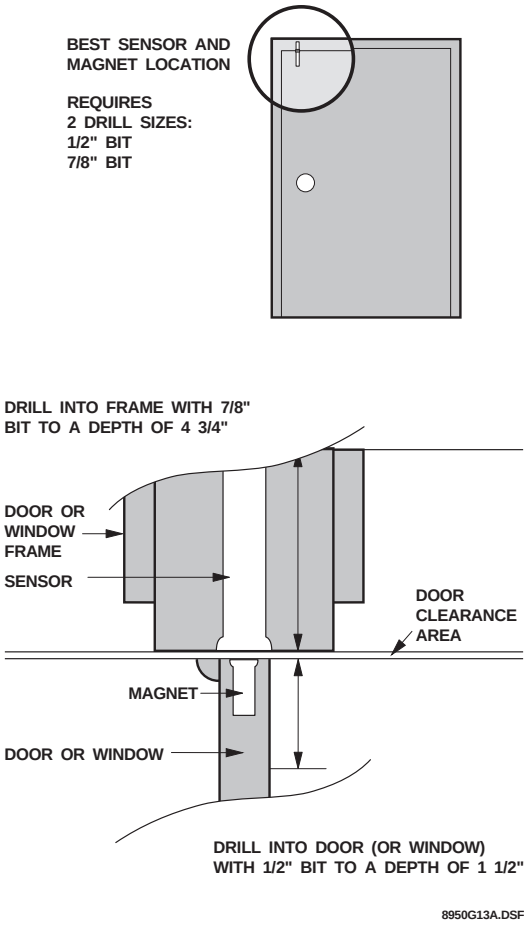


Figure 2. Mounting Diagram

6) Using a needle-nose pliers, remove the circuit board from the sensor tube (see Figure 4). To avoid static damage to the board, set the board on a nonmetallic surface.

WARNING: Do not grasp the reed switch lead as it may break (see Figure 3).

7) Slide the sensor tube into the hole in the frame. The lip of the sensor tube should fit snugly against the frame surface.
8) Push the circuit board back into the sensor tube. Make sure the tamper spring is not bent (see Figure 4).
9) Again, perform a Dealer Sensor Test to verify that the sensor is working properly (see *Testing* later in this manual).
10) After verifying that the sensor is working properly, use the screws provided to secure the sensor in place.

Install the Magnet Second

1) Measure and mark where the magnet will be installed in the door or window (see Figure 2).
2) Verify that the magnet marks are properly aligned with the installed sensor.
3) Drill a $^1/_2$" diameter hole for mounting the magnet. The hole should be 1 $^1/_2$" deep and centered opposite the sensor.
4) Place the magnet in the hole; it should fit tightly. If it does not, secure it with adhesive.
5) Verify that the sensor and magnet are properly installed by checking that the door or window properly opens.
6) Close the door or window.
7) Perform a Dealer Sensor Test (see *Testing* later in this manual) to verify that the sensor and magnet are working properly.
8) Close and latch the door or window. Next, gently rattle the door or window to verify that the sensor will not cause a false alarm.

Programming the Sensor

To Program the Sensor

Below are general steps on how to learn the sensor into your panel:

NOTE: Refer to your panel's ***installation instructions*** **o**r ***reference manual*** for complete details.

1) Set the panel to Program mode.
2) Proceed to the LEARN SENSORS menu. Refer to the appropriate panel *Installation Instructions* for specific details on this step.
3) Select the appropriate sensor group and sensor number.
4) Remove the sensor cover by inserting the tip of a small screwdriver or file into the notch of the cap and gently pry it from the sensor tube (see Figure 3).
5) Trip the sensor's tamper switch by carefully pulling the circuit board out of the sensor tube, until the tamper spring is released. Use a needle-nose pliers to carefully grasp the end of the circuit board.

WARNING: Do not grasp the reed switch lead as it may break (see Figure 3).

6) Push the circuit board back into the sensor tube. Make sure the tamper spring is not bent.
7) Replace the sensor cap.
8) Exit Program mode.

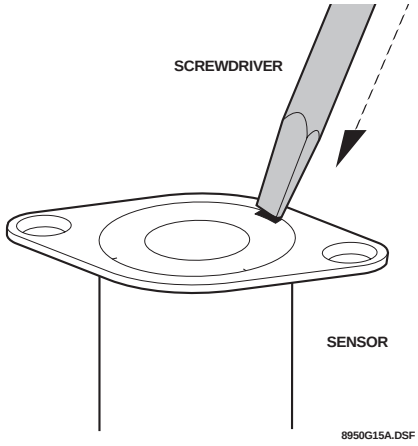


Figure 3. Removing the Sensor Cap

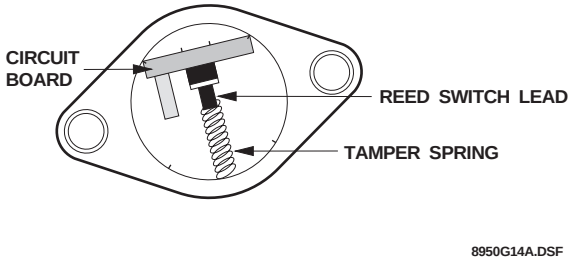


Figure 4. Internal Sensor Components

Testing

The following steps describe general guidelines for testing the sensor. To simulate its operating conditions, we recommend that you test the sensor by tripping it near its final installation site. Refer to your panel's *Installation Instructions* or *Reference Manual* for details.

General guidelines for performing a Dealer Sensor Test are:

WARNING: Always conduct a Dealer Sensor Test before drilling into the door or window frame.

1) Set the panel to the Dealer Sensor Test mode.
2) Hold the sensor on the exterior side of the door frame.
3) Trip the sensor by opening and closing the door or window to verify that it has an acceptable transmitting range with the panel.
4) Listen for interior siren beeps to indicate how many rounds the panel receives from the sensor. You should hear 6 to 8 beeps.

Specifications

Operating Temperature Range:	10° to 120° F (-12° to 49° C)
Compatibility:	All Learn Mode panels
Power Source:	3.6 volt lithium battery
Transmit Range:	At least 1000 feet, open air

FCC Notice

This device complies with FCC Rules Part 15. Operation is subject to the following two conditions:

This device may not cause harmful interference.

The device must accept any interference that may be received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by Interactive Technologies, Inc. can void the user's authority to operate the equipment.

Interactive Technologies, Inc.
2266 second street north
north saint paul, mn 55109
t: 651/777-2690
f: 651/779-4890

WIRELESS
Security
Automation
Access Control