ShatterPoint™ Glassbreak Sensor

Models
5600-W, 5605-W, 5620-W, 5625-W
Installation Instructions
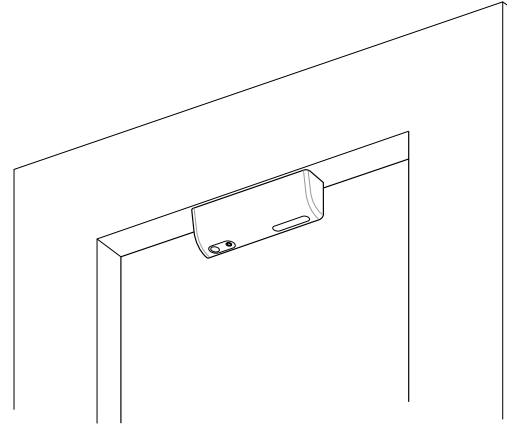

Figure 1a. Frame Mounting

Description

The 5600 Glassbreak Sensors are designed to detect breaking glass caused by forced entry into a protected window or door. The 'Tru-Dual' transducer design provides excellent false-alarm immunity in noisy environments.

The 5600 Sensors process both acoustic and vibration information to identify breaking windows. Frame mounting the 5600 Sensors eliminates detection concerns with drapes and blinds. The built-in reed switch models provide protection against forced opening of windows or doors, as well as breaking glass.

> **Note** These sensors may not consistently detect cracks, bullets, or similar breaks. Glassbreak sensors should always be backed up by interior protection such as a motion detector.
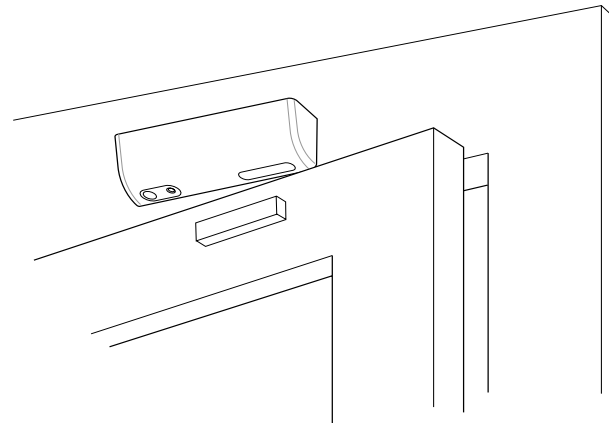

Figure 1b. Facing Mounting

Mounting

The 5600 sensors are designed to mount either inside the frame (see Figure 1a) or on the facing (see Figure 1b). Refer to Figure 3 for recommended mounting locations and coverage range. The mounting location should provide good mechanical coupling from glass to sensor and an unobstructed microphone view of the glass. If structural integrity of the frame is poor, temporarily mount the sensor and follow the steps in *Testing* for range testing. Do not exceed the tested range of the sensor.

> **Note** For applications with more than one framed window, use multiple 5600s or a ShatterPro II.

Use the screws provided to mount the sensor securely to the frame. A loosely mounted sensor will not perform correctly. The small cover screw must be used to permanently attach the cover (see Figure 2).
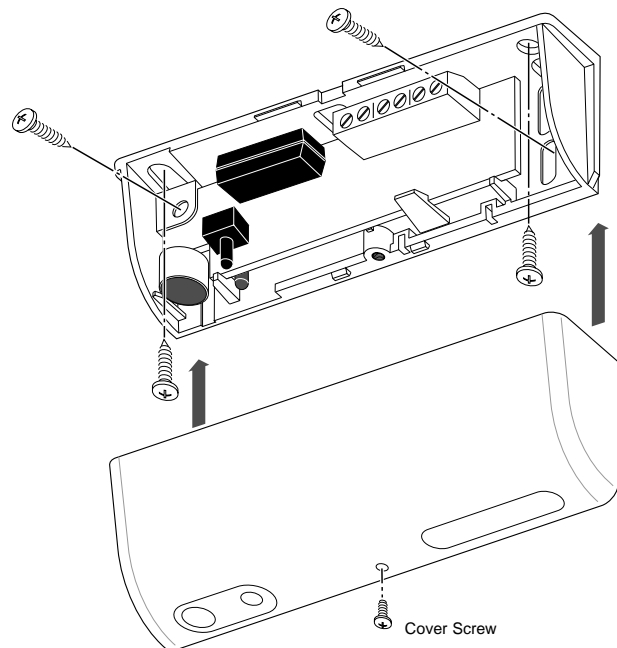

Cover Screw

Figure 2. Mounting and Cover Screws

Picture Window

Double Slider

Horizontal Slider

Vertical Slide

Double Hung

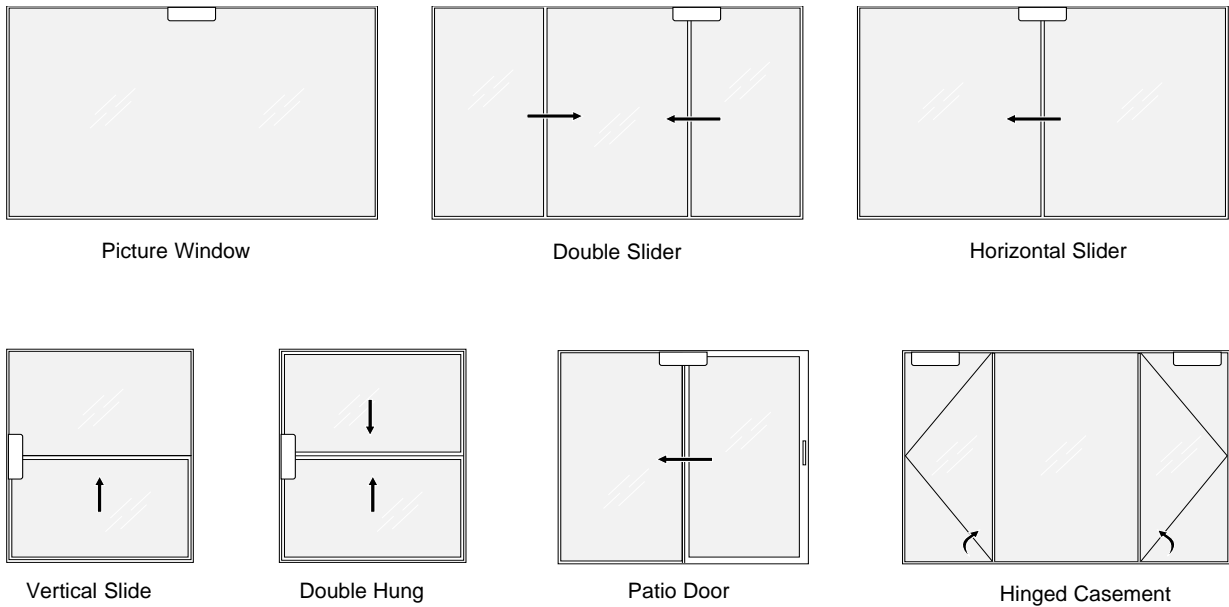Patio Door

Hinged Casement

Figure 3. Mounting Locations

Reed Switch Models

Models 5620 and 5625 require the magnet be mounted on the moving portion of the window or door. Magnet placement must be within 3/4" (19mm) of sensor, either behind or below (see Figure 4). Center magnet as marked on the printed circuit board (see Figure 5).

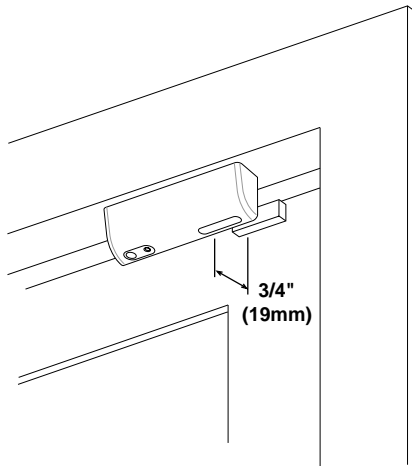> **Note** Mounting sensor or magnet on steel surfaces will reduce gap.

3/4" (19mm)

Figure 4. Magnet Placement

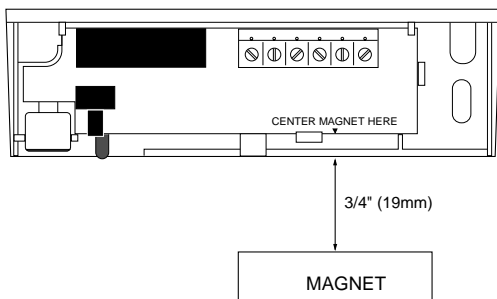CENTER MAGNET HERE

3/4" (19mm)

MAGNET

Figure 5. Centering the Magnet

Wiring

The 5600 sensor provides multiple wiring entrances (see Figure 6). Use rear holes or knock-out as needed. It is recommended to tape over unused holes.
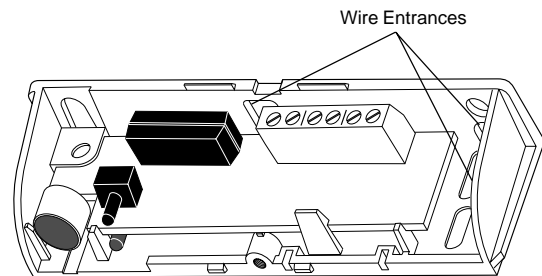
Wire Entrances

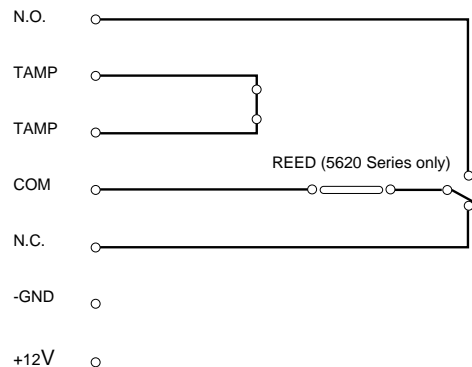**Figure 6. Wire Entrances**

N.O.

TAMP

TAMP

REED (5620 Series only)

COM

N.C.

-GND

+12V

Figure 7. Output Circuit (shown powered)

Testing

The 5600 features installation tests and a hand-clap end-user test.

Installation Test

The sensor is ready to test once installed with cover on and powered, no test mode is necessary. To test sensor, perform range testing to ensure adequate vibration coupling to sensor. After range is verified, perform alarm test.

1. **Range testing** – The LED blinks slowly two times to indicate the sensor is within detection range. To test, rap the glass lightly with the handle of a screwdriver. Start close to the sensor and proceed to furthest point of glass. If LED flashes quickly, better coupling between glass and sensor may be needed.

2. **Alarm testing** – Using the 5709C hand-held tester (set for proper glass type), hold tester at furthest point of glass and press test button while simultaneously rapping lightly on the glass with the handle of a screwdriver. When in alarm, the relay will open for 4 seconds and the LED will turn on solid for 1 minute then turn off. This verifies that the sensor triggers an alarm with the control panel. The reed switch is in series with the alarm loop and can be tested by opening the window or door a few inches.

> **Caution** Hinged style doors or windows will significantly reduce range. Test seismic signal thoroughly.

End-User Test

Simply clap hands within 3 feet (1m) of the sensor and the LED will flash quickly indicating the sensor is powered and functioning properly.

Alarm Memory

All 5600 Sensors include the alarm memory feature. This helps the installer find which sensor alarmed. After an alarm, the LED will turn on solid for 1 minute then turn off. Any subsequent hand claps or raps to the window will result in the LED turning on solid for 15 seconds and then turning off (relay remains closed unless sensor alarms during this test). To reset the sensor's alarm memory, briefly disconnect power.

Sensor Self-Tests

All 5600 Sensors perform a processor self-test at power up. If the processor finds a faulty condition, the LED will stay lit and the relay will not energize.
Normal operation will clear the LED and energize the relay.

During operation, the processor periodically tests itself for conditions that could impede performance. If the processor malfunctions, it will reset itself and perform a power-up self-test. If memory fails, the LED will blink continuously at 1Hz (1/2 second on, 1/2 second off) to signal the trouble.

Promptly replace a sensor which indicates a faulty condition.

> **Note** Test sensors at least annually for proper operation.

Installation Tests

Test	Action	LED Indication			
		No Flash	3 Fast Flashes	2 Slow Flashes	Solid On
Range Test	Rap Glass	Out of Range	Out of Range	Within Range	Within Range
Alarm Test	Rap Glass & Key 5709C	No Alarm	No Alarm	No Alarm	Alarm
End-User Test	Hand Clap or Key 5709C	Too Far From Sensor or Hardware Fault	Sensor Okay	Hardware Fault	Hardware Fault or Alarm Memory Indicated
Alarm Memory	Rap Glass, Hand Clap, or	Too Far From Sensor	No Alarm in Memory	No Alarm in Memory	Sensor has Alarmed Since Last Power-Up

Sensor Self-Test

Test	Condition	LED Indication
Power-up test	Normal	LED Turns Off, Relay Energizes
	Faulty	LED Solid On, Relay Never Energizes, Alarm Condition
Memory test	Normal	No Indication, Sensor Functions Normally
	Faulty	LED Flashes at 1Hz (1/2 sec. on, 1/2 sec. off)

Specifications

Voltage .... 9 – 16V DC
Current .... 12mA typical, 20mA max.
Relay Output: Normal .... <15 W (closed)
    Alarm .... >1 MW (open)
    Open 4 seconds upon alarm
    Maximum loop rating .... 16V DC, 50mA
Wire Terminals .... 22-18 AWG
Operating Temperature .... 0° to +120°F (–18° to +50°C)
Humidity .... 10% to 90% noncondensing
Lightning Suppression .... 400 Watts for 1msec pulse
RF Immunity .... 20 V/m, 1 to 1000 MHz
Glass Types
    Plate .... 3/32" (2.4mm) to 3/8" (9mm)
    Tempered .... 1/8" (3.2mm) to 1/4" (6.4mm)
    Laminated .... 1/8" (3.2mm) to 1/4" (6.4mm)
    Wired .... 1/4" (6.4mm)
Mounting Location .... Frame
Range of glass surface covered (radius from sensor)
    Single-pane window .... up to 10' (3m)
    Multi-pane window .... up to 8' (2.4m)
    Sliding-glass door .... up to 8' (2.4m)
    Armor coated glass .... up to 8' (2.4m)
Minimum Glass Size .... 12" (305mm) x 12" (305mm)
    Note: Mounting sensor or magnet on steel surface will
    reduce gap.
Magnet Gap Distance ....3/4" (19mm) maximum
Housing Material .... Flame Retardant ABS
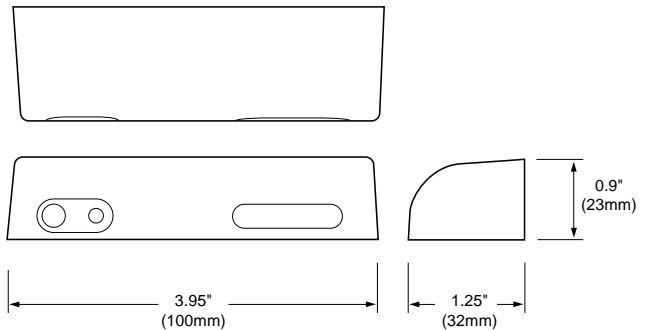Color .... White or Mahogany

FCC

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
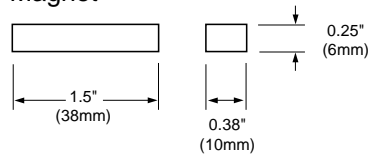interference that may cause undesired operation.

Dimensions

Sensor

0.9"
(23mm)

3.95"
(100mm)

1.25"
(32mm)

Magnet

0.25"
(6mm)

1.5"
(38mm)

0.38"
(10mm)

Ordering Information

Description	Model Number	Color Choices
ShatterPoint™	5600-W	White
ShatterPoint™, with Form C relay and tamper switch	5605-W	White
ShatterPoint™, with magnetic contact	5620-W	White
ShatterPoint™, with Form C relay, tamper switch and magnetic contact	5625-W/M	White or Mahogany
Hand-held Tester	5709C-W	White
Replacement magnet	1838-N/M	Cloud White or Mahogany