

## Specifications

Dimensions	Enclosure - ABS high impact plastic. 1.25 in H x 3.75 in W x 0.875 in D (32 mm H x 95 mm W x 23 mm D).
Input power	12 VDC (6 VDC min to 15 VDC max), 23 mA nominal @ 12 VDC (29 mA max in the LED Latch mode)
Standby power	Connect to power sources capable of supplying standby power of 23 mAh for each hr of required standby time.
Alarm relay	Normally Closed (NC/C) reed relay contacts rated 3.5 Watts, 125 mA @ 28 VDC for DC resistive loads. Protected by a 10 ohm resistor in the common "C" leg. The contact opens for 3 seconds upon a glassbreak alarm. For a magnetic contact alarm, the contacts remain open as long as the magnet is more than 1 - 2 inches away from the detector.
Tamper	Normally Closed (NC/C) rated 125 mA @ 28 VDC maximum.
Operating temperature	-20° to +120°F (-29° to +49°C)
Accessories	DS1110i Glass Breakage Tester. Plate glass (DSB).

## Coverage

10 ft (3 m) maximum to farthest point of glass being protected. For glass sizes over 12 in x 12 in (30 cm x 30 cm); types of 1/4 in (64 mm) Plate, Tempered, Laminated, and Wired glass; and 1/8 in (32 mm) Plate glass (DSB).

## Mounting

Directly (or using the supplied bracket) to a ceiling, wall, door or window frame.



**Glass Break Detector**  
DS1109i



**en** Installation Guide  
**ru** Руководство по установке

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## 1 | Overview

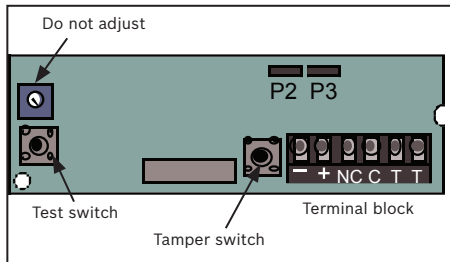


Figure 1.1: Board layout

## 2 | Installation considerations



### NOTICE!

Always pretest the detector's location using the DS1110i Glass Breakage Tester.

### Do Not:

- Mount the detector on iron or steel surfaces if you plan to use the magnetic contact. Aluminum and stainless steel frames are acceptable.
- Mount the detector with obstructions between the glass being protected and the detector.
- Mount closer than 2 ft (61 cm) to heating or cooling outlets; mount as far away as possible. If drafts from these outlets blow on the detector, select a different location for the detector. Use the environmental test (refer to Section 6) to verify good installation locations.
- Install alarm contacts on 24 hr protection circuits.

### If you must install the DS1109i in a zone that is armed when occupied:

- Avoid acoustically live areas such as kitchens and bathrooms.
- Use a delay zone to allow time to acknowledge user caused false alarms.
- Instruct users of the system how to respond to such an alarm.

### Remember:

- The best mounting location is less than 10 ft (3 m) from the glass, and in direct line of sight of the glass. Do not exceed the maximum range.
- Range is reduced in areas that are acoustically soft. This may be due to carpeting, drapes, plants, or other sound absorbing materials. Use the DS1110i Glass Breakage Tester to verify range in all installations.
- Glass break detectors are intended only as a component of a perimeter protection system. Use in conjunction with motion sensors.
- Glass breakage detectors are designed to detect the breakage of framed glass and may not detect such things as bullet holes, spontaneous breakage of glass (with no impact), and removal of glass.

### Maximum Range:

- The maximum detection range is 10 ft (3 m) from the farthest corner, for glass sizes 12 in x 12 in (30 cm x 30 cm) and larger.

## 3 | Selecting a mounting location

This section explains where to mount the detector.

### 3.1 | Opposite wall mounting using the door contact

- Mount the detector where there are no objects between it and the glass.
- Make sure the detector is no farther than 10 ft (3 m) from any corner of the glass (line A in Figure 3.1).

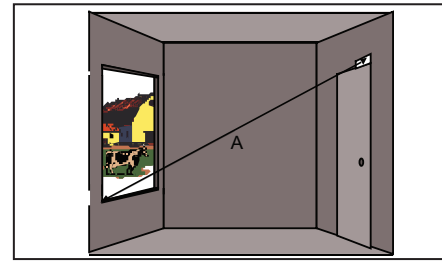


Figure 3.1: Opposite wall mounting using door contact

### 3.2 | Mounting above glass doors

- Mount the DS1109i at the top of the door frame with the Sensor Aperture pointing downward.
- Mount the magnet to the top of the door. The magnet should be placed so that it aligns with the side of the DS1109i. Do not allow the magnet to cover the front of the detector. Refer to Figure 3.2.
- The detector must be mounted so that the door swings outward from the detector. Refer to Figure 3.3.

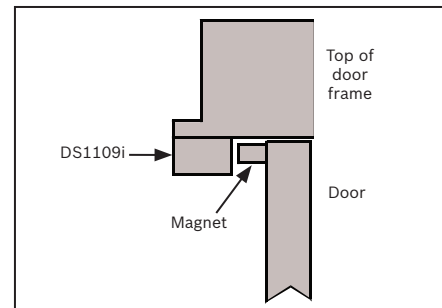


Figure 3.2: Side View

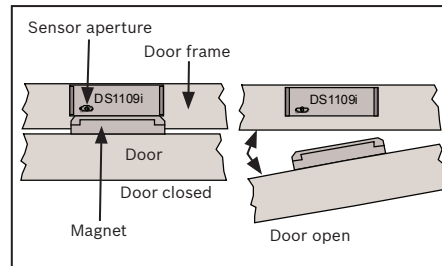


Figure 3.3: View looking up from floor

### 3.3 | Single window coverage using the magnetic contact

- Mount the detector where there are no objects between it and the glass.
- Make sure the detector is no farther than 10 ft (3 m) from the farthest corner of the glass (line A in Figure 3.4).
- Do not mount the unit with the Sensor Aperture facing away from the window.

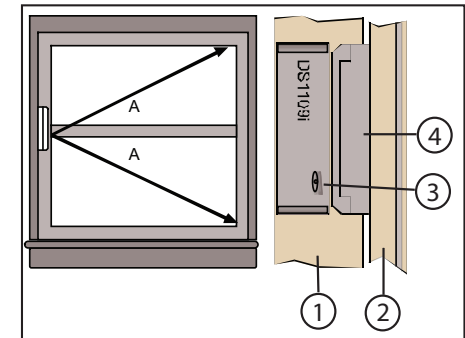


Figure 3.4: Single window coverage using the magnetic contact

### Callout – Description

1 – Window frame
2 – Window
3 – Sensor aperture
4 – Magnet

### 3.4 | Ceiling mounting without the magnetic contact

- The recommended location is half the distance between the glass and the opposite wall or 7 ft (2.1 m) whichever is smaller.
- Mount the detector where there are no objects between it and the glass.
- Make sure the detector is no further than 10 ft (3 m) from any corner of the glass (line A in Figure 3.5).
- The detector should be within  $\pm 30^\circ$  of the center of the glass to be protected (line B in Figure 3.5).
- Install Jumper P3 to disable the magnetic contact. Refer to Section 5.

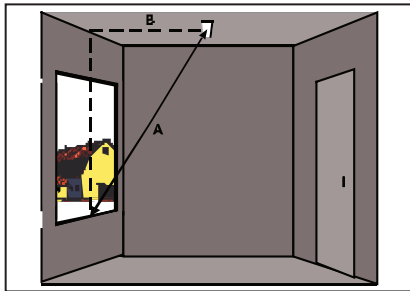


Figure 3.5: Ceiling mounting without the magnetic contact



#### NOTICE!

Adjacent wall mounting is not recommended for this detector.

### 4 | Wiring the detector

- Wire the detector as shown in Figure 4.1. Leave extra wire so the case can be opened for testing.

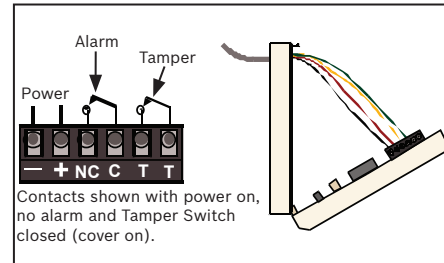


Figure 4.1: Wiring the detector

### 5 | Setting the jumpers

The DS1109i has two jumpers located on the main board. P2 allows the LED to latch on to a glass breakage alarm. P3 determines if the magnetic contact is used.

- Remove the jumper from P2 if you do not want the LED to latch into alarm when a glass breakage occurs. The relay contacts will only change state for approximately 3 seconds upon a glass breakage alarm. The LED may be reset by a momentary interruption of the power.
- Remove the jumper from P3 if you want to use the magnetic contact.

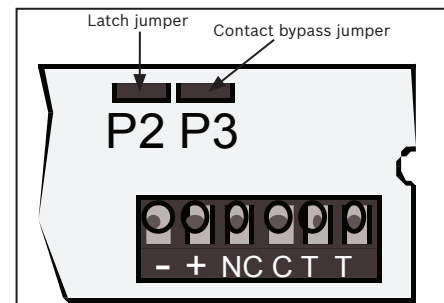


Figure 5.1: Setting the jumpers

### 6 | Installing the tamper screw

Install the tamper screw.



Figure 6.1: Installing the tamper screw

### 7 | Testing

This section explains how to test the detector before permanently mounting.

#### 7.1 | Testing the location

Temporarily mount the detector using 2-sided tape.

- Power the detector using a 9 Volt battery.
- The detector will enter the test mode for five minutes as soon as power is applied. The detector will indicate that it is in the test mode by flashing the LED for 10 seconds. At the end of five minutes the detector flashes the LED again for 10 seconds to indicate the test period is over. Restart test mode at any time by powering the unit off and then on or by pressing the Test Switch (refer to the Board Layout drawing). Pressing the Test Switch when the unit is in the test mode terminates the test.



#### NOTICE!

All testing should be done with the detector's cover in place.

### 7.2 | Test #1 environmental test

Remember: The detector must be in test mode to perform this test. During the 5 minute test mode, the LED indicates low or high frequency disturbances by flashing at specific rates. Occasional (random) flashes of the LED are normal. To rule out random flashes affecting this test, observe the LED for the full 5 min.

- Turn on all sources of noise (e.g. forced air blowers, air conditioners, compressor motors, etc.).
- The LED flashes 5 times per second each time a low frequency disturbance is detected. If the 5 flashes per second occur more than once every 15 seconds or if the unit alarms, then do not mount in this location.
- The LED flashes once each time a high frequency disturbance is detected. If any flashes occur more than once every 15 seconds, do not mount in this location.

Remember: If the detector happens to alarm during this test, the alarm relay activates as well.

### 7.3 | Test #2 response test

**Remember:** The detector must be in test mode to perform this test.

This test should be performed using the DS1110i Glass Breakage Tester. The DS1110i produces a high frequency tone designed to alarm the unit to further verify proper location.

- Hold the DS1110i Glass Breakage Tester against the window being tested and point it at the detector. If there are curtains or blinds covering the window, close them over the Tester. Refer to *Figure 7.1*.



Figure 7.1: Test #2 Response Test

- Activate the tester. Setting the Tester to automatic mode causes it to activate every 6 seconds. This will allow you to better observe the detector's LED.
- For large windows, perform this test at different placements along the window.
- The alarm/test LED and the alarm relay will activate for three seconds if this is an acceptable detector placement.



#### NOTICE!

The low frequency response of the detector can be tested (while still in the test mode) by opening a door about 1 inch and slamming it shut. The detector should indicate an alarm.

- During the last 10 seconds of the detector's test mode, its LED will pulse. To end the test mode before the 5 minute time-out period, press the Test Switch.

### 7.4 | Automatic sound check

This detector features Automatic Sound Check, to allow the end user to test the unit on a periodic basis. To perform the test, simply clap your hands or create some other loud sound. When the detector hears this sound the LED (but not the alarm relay) activates. This feature works in the normal operating mode and does not require that the detector be in the test mode.

It is recommended that a full Response Test (as outlined above) and magnetic contact test (if used) be performed on an annual basis.

### 8 | Mounting the detector

- After verifying an acceptable location, permanently mount the detector. Use the two mounting holes in the enclosure to secure it to the mounting surface.
- Mount the detector and the Contact Magnet within 1 in (2.5 cm) of each other. The Contact Magnet must be mounted facing the side of the detector with the Sensor Aperture. Refer to *Figure 8.1*.

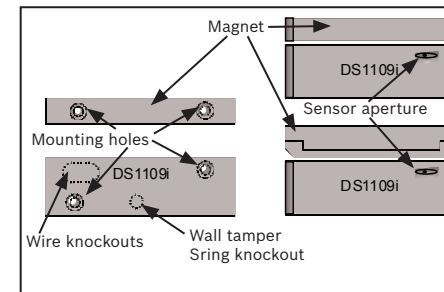


Figure 8.1: Mounting the Detector

- Do not mount the magnet so it covers the sensor aperture.
- Avoid misaligning the detector and the magnet.

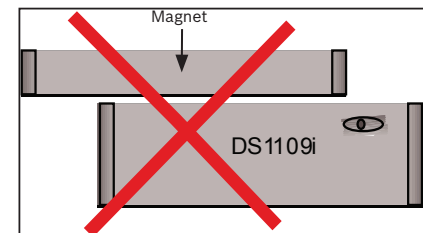


Figure 8.2: Alignment Caution

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