**FlexGuard® FG-1625/FG-1625T Glassbreak Detector Installation Instructions**

**Select Mounting Location**

- Wall Mount: (Top View)
- Ceiling Mount: (Side View)

**Test Location w/ 9V Battery**

- Connect detector using 18 to 22 AWG wire, with ends stripped approximately 6mm (1/4 in.). Use the appropriate wiring method as shown in these diagrams:

  - **Normally Closed Loop/No EOL Resistor**
  - **Normally Open Loop/No EOL Resistor**
  - **Normally Closed Loop/With EOL Resistor**
  - **Normally Open Loop/With EOL Resistor**

**Enable Wall Tamper (FG-1625T only)**

- Remove plastic tab from rear of detector.
- Install wall tamper screw as shown.
- Set screw depth to make contact with bottom of tamper cavity when device is installed.

**Mount Detector**

- Place unit over wall tamper screw, if used!
- Use mounting holes as template to mark ceiling or wall.
- Mount detector using appropriate hardware.

**Connect Detector**

Connect detector using 18 to 22 AWG wire, with ends stripped approximately 6mm (1/4 in.). Use the appropriate wiring method as shown in these diagrams:

- **Normally Closed Loop/No EOL Resistor**
- **Normally Open Loop/No EOL Resistor**
- **Normally Closed Loop/With EOL Resistor**
- **Normally Open Loop/With EOL Resistor**

**Test Detector Installation**

Enter Test Mode using FG-701 (see Testing the Detector on the next page) or manually by shorting the Test Mode pads (as below).

**Install Cover Screw (optional)**

- 2.9 mm (#4) screw, 6 mm (1/4-in.) long

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**Set Sensitivity & LED Configuration**

<table>
<thead>
<tr>
<th>SENSITIVITY</th>
<th>APPROXIMATE RANGE</th>
<th>SENS1</th>
<th>SENS2</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAX</td>
<td>7.6m (25 ft)</td>
<td>OFF</td>
<td>OFF</td>
</tr>
<tr>
<td>MEDIUM</td>
<td>4.6m (15 ft)</td>
<td>ON</td>
<td>OFF</td>
</tr>
<tr>
<td>LOW</td>
<td>3m (10 ft)</td>
<td>OFF</td>
<td>ON</td>
</tr>
<tr>
<td>LOWEST</td>
<td>1.5m (5 ft)</td>
<td>ON</td>
<td>ON</td>
</tr>
</tbody>
</table>

**NOTE:** Ranges are approximate and vary with each room’s acoustic properties. Always verify range with a FG-701 Glassbreak Simulator.

The LATCH and LED DIP switches configure LED indicator behavior.

<table>
<thead>
<tr>
<th>SWITCH</th>
<th>OFF</th>
<th>ON</th>
</tr>
</thead>
<tbody>
<tr>
<td>LATCH</td>
<td>Red LED lights for 5 seconds during alarm</td>
<td>Red LED lights ON when detector goes into alarm</td>
</tr>
<tr>
<td>LED</td>
<td>Link standard setup for power up and test mode</td>
<td>LED always enabled</td>
</tr>
</tbody>
</table>

* The timing of the alarm relay is not affected by the latched Alarm LED.
* Reset the Alarm LED by removing/restoring power, or by toggling the detector in and out of Test Mode.
* LEDs can be enabled/disabled using FG-701.

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**Enable Wall Tamper (FG-1625T only)**

- ** Tamper Switch
d- ** Rear Tamper (FG-1625T only)
- ** Wire Entry Hole (FG-1625T only)
1. General Information
The FG-1625/FG-1625T glassbreak detector senses the sound of breaking plate, tempered, laminated, wired, coated and sealed insulating glass. This product is both UL Listed and C-UL Listed.

2. Choosing Mounting Location
The preferred mounting location for the device is on a wall or ceiling, opposite the protected glass. For the best detector performance, select a mounting location where:
- within 7.6 m (25 feet) of the protected glass;
- within clear view of the protected glass;
- at least 2.1 m (6.5 feet) from the floor;
- at least 1 m (3.3 feet) from sills or bells greater than 5 cm (2 inches) in diameter.
- between the protected glass and any heavy window coverings may be present.

When the device is mounted on the frame of the window:
- Avoid mounting the device on the same wall as the protected glass, on free-standing posts or pillars, or in rooms with noisy equipment (air compressors, belts, power tools, etc.), if this equipment is operated when the detector is armed.

3. Testing Mounting Location With 9V Battery
You may test the device in the desired mounting location before drilling/wiring. If the 9V battery cannot supply sufficient power, the detector will not operate and the red and green LEDs will flash on/off. Follow the steps described in “Testing the Detector” (next column) to confirm proper operation.

4. Configuring Sensitivity (Range)
DIP switches SEN1 and SEN2 set detector sensitivity (range), as shown:

- OFF: 
  - SENS1: LOW
  - SENS2: LOW

Sensitivity must be set to match the distance between the detector and the protected glass, as described with the FG-1701 Glassbreak Simulator.

5. Configuring LED Switch
The LATCH and LED DIP switches determine LED indicator operation:

- OFF: 
  - LATCH OFF
  - RED LED OFF

- ON: 
  - LATCH ON
  - RED LED ON

LEDs always enabled

* Switch OFF ON

6. Enabling Optional Rear Tamper (FG-1625T only)
The FG-1625T is equipped with a combination normal (NC) cover and wall tamper switches. Each unit is shipped with a cover tamper operational, and the wall tamper disabled.

To enable the rear tamper, remove the plastic tab on the back of the detector, using needle-nose pliers. The wall tamper arm will then extend through the hole. Proceed with the following mounting instructions to install the wall tamper screw.

7. Mounting the Detector
NOTE: 
- If ceiling mounted, the end with the hole (microphone end) should face the glass being protected.
  - If using option Wall Mounting (FG-1625T): Make a hole in the mounting location for the wall tamper screw based on the final location of the detector. Install the wall tamper screw so that it will just make contact with the bottom of the tamper cavity when the unit is mounted.
- Use a flat head 4.2mm or 4.8mm screw (#8 or #10).
- Position the unit on the wall or ceiling, oriented so the microphone has the best line of sight to the protected glass.

8. Wiring the Detector
Refer to the wiring diagram (page 1) to select the appropriate wiring configuration.

NOTE: 
- This sensor must be connected to a UL Listed power supply or UL Listed tamper control unit capable of supplying a minimum of four hours of standby power.

9. Testing the Detector
The detector should be tested at least once each year. Test the detector with the FG-1701 Glassbreak Simulator. The model FG-1625T Glassbreak Simulator can also be used if it is set for the TEMPered glass sound. Other simulators will not give accurate indication of range.

To enter Test Mode manually:
- Open the front cover.
- Use a screwdriver to short the Test Mode pads on the PCB board (see diagram on next page).
- Close the cover.

The green LED flicks approximately once per second to indicate that it has entered Test Mode.

To enter the Test Mode with the FG-701:
- 1. Stand within 4.6 m (15 feet) of the detector.
- 2. Switch the FG-701 to the ACTIVATE and MANUAL modes.
- 3. Point the front (speaker) of the glassbreak simulator 30 inches from the detector. Press the red START button to send a short activation code.

When the detector enters Test Mode, the green LED on the detector remains illuminated for seven seconds. If the green LED does not flash, move closer to the detector and repeat the procedure.

Testing the Detector (flex and audio signals):
To test the FG-1625/FG-1625T, do the following:
- 1. Place the detector in Test Mode.
- 2. Set the FG-701 switches to the TEST and FLEX positions.
- 3. Position the FG-701 near the farthest point of the protected glass, and point the speaker directly at the detector. If window coverings are present, close them fully and hold the FG-701 between the coverings and the protected glass.
- 4. Press the red START button. The simulator clicks on and starts an 8-second armed period.
- 5. Generate a flex signal by carefully striking the glass (example: tool or hammer) near the detector. The FG-701 responds with a burst of glassbreak audio. If the detector receives both the flex and audio signals properly, its red Alarm LED lights. (Red Alarm LED does not latch in Test Mode).

Testing the Detector (audio signals only):
The FG-701 can also be used to test the detector’s ability to receive audio signals only. See the FG-701 Operating instructions for additional information. When it receives the audio signal, the detector flickers its green Event LED.

Exiting Test Mode:
When you have finished testing, exit Test Mode by following the same procedure used to enter Test Mode.

The FG-1625/1625T will automatically exit Test Mode five minutes after the last event is detected.

10. LED Indicators
The detector is equipped with two LEDs: a green Event LED and a red Alarm LED. When the LEDs are enabled, they light in a variety of patterns to convey the detector’s operational status. The following table summarizes the LED messages.

<table>
<thead>
<tr>
<th>CONDITION</th>
<th>LED Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal, event detected</td>
<td>Green LED flashes</td>
</tr>
<tr>
<td>Normal, break detected</td>
<td>Green LED flashes</td>
</tr>
<tr>
<td>Normal, alarm latched</td>
<td>Green LED flashes</td>
</tr>
<tr>
<td>Low Voltage</td>
<td>Green LED flashes</td>
</tr>
</tbody>
</table>

11. Cover Screw
The front cover must be secured after installation. To do so, remove the cover break flash and secure the front cover with a 2.9 mm x 6.0 mm (4 x 1/4 in.) screw.

12. Remote LED Enable/Disable Mode
The detector’s Remote LED Enable/Disable Mode allows you to enable or disable the detector’s LEDs with the FG-701 Glassbreak Simulator.

To enable or disable the LEDs with the FG-701 Activation Code:
- 1. Set LED switch, S4 position, 4, to off.
- 2. Enter Test Mode, and then exit Test Mode.
- 3. Within (two) seconds, set S4 position to 4, again; this chooses enables/disables status.
- 4. Clap your hands to test the LEDs. If enabled, the green LED will flicker. If disabled, the green LED will remain off.

13. Nominal Glass Thickness Chart

<table>
<thead>
<tr>
<th>Glass Type</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate</td>
<td>3.2 mm</td>
<td>3.8 mm</td>
</tr>
<tr>
<td>Tempered</td>
<td>8 mm</td>
<td>9 mm</td>
</tr>
<tr>
<td>Laminated</td>
<td>2 mm</td>
<td>2.5 mm</td>
</tr>
<tr>
<td>Toughened</td>
<td>10 mm</td>
<td>12 mm</td>
</tr>
<tr>
<td>Sealed</td>
<td>15 mm</td>
<td>16 mm</td>
</tr>
<tr>
<td>Insulating</td>
<td>20 mm</td>
<td>22 mm</td>
</tr>
</tbody>
</table>

* Minimum size for all types is 28cm (11 in.) square: glass must be framed in the wall or mounted in a bar at least 0.9 m (36 in.) wide.
* Listed only on both sides of the unit are broken.
* Coated glass with security films up to 0.3mm (12 mils) thick (including film). Thickness is not a factor here.
* The preferred mounting location for the device is on a coated and sealed insulating glass.

14. Specifications

- Range:
  - 7.6 m (25 ft) maximum; omni directional
  - No minimum range
- Operating Temperature:
  - 10°C to +50°C (14°F to 122°F) UL: -10°C to 50°C (-14°F to 122°F) (Indoor environment)
- Storage:
  - -20°C to +50°C (-4°F to 122°F)
  - UL: -20°C to 50°C (-4°F to 122°F)
- Alarm Duration:
  - 5 seconds (unaffected by alarm LED latching)
- Alarm Relay:
  - FG-1625 Form A
  - FG-1625 Form C
  - DC maximum 25 VDC
  - AC maximum 30 VAC
- Tamper Switch:
  - FG-1625 Form A
  - Combination cover/wall tamper
  - 25 mA maximum
  - 24 VDC maximum
- EMI immunity:
  - 30 V/m, 24 VDC maximum
- RFI Immunity:
  - 30 V/m, 24 VDC maximum
- Dimensions:
  - 115 mm x 72 mm x 27 mm
  - (4.5 in. H x 2.8 in. W x 1.05 in. D)
- Weight:
  - 0.2 kg (0.5 lbs)

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FlexGuard® FG-1625/FG-1625T Glassbreak Detector Supplemental Information

Refer to Installation Instructions and diagrams (next page) when installing this product.