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GEMC-BSLC-GB

SLC Glass-Break Detector with Tamper

Installation Instructions

WI2080 12/13

GENERAL DESCRIPTION

The GEMC-BSLC-GB is an advanced Commercial/Residential acoustic glass-break detector designed for use with Napco GEMC-BSLC *Burglary Signaling Line Circuit Module*. The GEMC-BSLC-GB connects onto the SLC Bus (polling loop terminals on the GEMC-BSLC board) along with such other accessories as GEMC-BSLC-1PT and GEMC-BSLC-4PT modules. For greater false-alarm immunity, the glass break sensitivity can be adjusted and customized to match the acoustics of the room.

The GEMC-BSLC-GB is easy to install; when wiring to the polling loop, the terminals (1 and 2) are non-polarized and so can be connected to either side of the SLC loop. Assuming no other SLC devices are used on the loop, up to 42 GEMC-BSLC-GB modules may be used with any one GEMC-BSLC. A total of 84 GEMC-BSLC-GB units may be used with any one Gemini C-Series control panel.

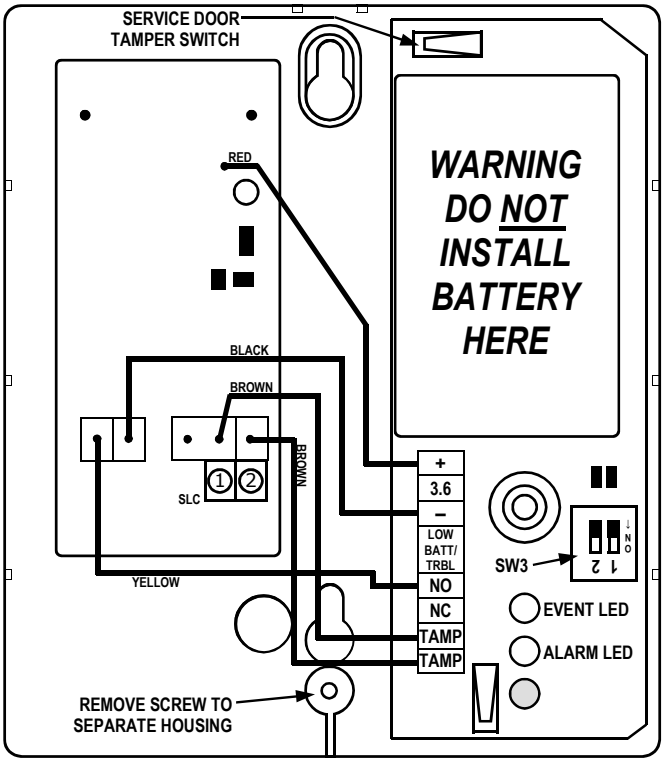

Fig. 1. GEMC-BSLC-GB detector, front housing removed. Note location of SLC Loop terminals 1 and 2.

SPECIFICATIONS

Electrical Ratings

Input Power: 13.6-16.3VDC, 8mA supplied by GEMC-BSLC control unit.

Maximum Wiring Length: 3000 feet (#16 AWG). Refer to GEMC-BSLC documentation (WI1648) for complete wiring information.

Operating Temperature: 32° to 120°F (0° to 49°C). Refer to the PCD-Windows Quickloader download software calculation tools for 24V standby current calculation.

Note: Detector stabilizes within 3 minutes of power up.

Relative humidity: 85% (non-condensing)

Glass types:

- Minimum size: 10⅞ x 10⅞ in. (276 x 276mm) plate, $^{3}/_{32}$ - ⅜ in. (2.4 x 9.5mm) plate;
- ⅛ in. - ⅜ in. (3mm - 9.5mm) tempered;
- ⅛ in. - $^{9}/_{16}$ in. (3mm - 14mm) laminated;
- ¼ in. (6.4mm) wired;
- ⅝ in. (16mm) overall sealed insulated

Note: Coated glass with security films, including films for solar protection, up to 12 mil. (12/1000 in.) thick may be used. **This product has been evaluated with a maximum range of 6m (20 feet) with sensitivity set at maximum for protecting 3mm (1.8 in.) sealed insulating glass and 3mm (⅛ in.) laminated glass**. **Note:** (1) Use 20 feet (6m) radius if unsure of glass type. (2) If not using a FG-700 or FG-701 glassbreak simulator to verify range, reduce range to 15 feet (4.5m) for windows with blinds or unlined drapes. (3) Reduce coverage 50% for armor-coated glass.

Housing material: Flame-retardant ABS plastic

Dimensions (HxWxD): (122 x 106 x 33mm) 4.8 x 4.16 x 1.25in.

Weight: 5.5oz (160g) [without batteries or transmitter]

Accessories: FG-700 & FG-701 glassbreak simulator (not included) **NOTE:** The GEMC-BSLC-GB detects shattering of framed glass by a direct impact. It may not consistently detect breakage by blows that only crack the glass, by high velocity projectiles such as bullets, or glass broken without an impact.

FEATURES

- **Sound data processed** in parallel rather than sequentially for faster, more accurate detection decisions and superior immunity to false alarms
- **Maximum range** of 25 feet (7.6m) to the glass with no minimum range
- **Excellent detection**, even through blinds and light drapes
- **Automatic test** for easy installation
- **"Hand-clap"** test for sensor verification
- **Indicator LEDs** for testing flex and audio technologies
- **Warning Flag** alerts installer that the indicator LEDs are enabled
- **Easy Installation** on any wall or ceiling
- **Selectable Sensitivity:** Two dip switches (SW3) make it easy to customize the sensitivity to match the acoustics of the room; four different sensitivity levels are available, ranging from very low to high
- **Alarm Memory** LED can be set to latch upon alarm

LED INDICATORS

CONDITION	GREEN EVENT LED	RED ALARM LED
Normal	OFF	OFF
Normal, event detected	Flicker	OFF
Normal, break detected	OFF	ON 5 seconds
Normal, alarm latched	OFF	ON continuous
Power up	ON 1 second	ON 1 second
Test Mode	Flash once per second	OFF
Test Mode, event detected	Flicker	OFF
Test Mode, alarm	Flash once per second	ON 5 seconds

INSTALLATION STEPS

Note: For reference purposes in this text, the unit will be considered oriented with the LEDs at the bottom, as shown in Fig. 1.

Before mounting the GEMC-BSLC-GB, reference Fig. 1 and prepare the unit as follows:

1. Gently swing open the Service Door (avoid opening the door too far or too fast).
2. Remove the screw located near the **LED ENABLE** switch.
3. Carefully separate the front and rear housings.
4. Determine the optimum location for the GEMC-BSLC-GB unit (see "**SELECTING A MOUNTING LOCATION**" below).
5. Wire the terminals. Run the wiring through the access slots in the rear case and wire terminals 1 and 2 to either side of the SLC loop (terminals 1 and 2 are not polarized). In Commercial installations, wiring must be mechanically protected with conduit or equivalent.
6. Determine the GEMC-BSLC-GB final mounting location and run wire to the GEMC-BSLC as required.
7. Test the unit and make any necessary adjustments (see "**TESTING THE UNIT**" below). **Note:** When an alarm is triggered, the alarm LED stays on for five seconds.
8. After determining the location is appropriate, permanently mount the detector. (see "**SELECTING A MOUNTING LOCATION**" below).
9. Re-test the detector and transmitter to ensure proper operation. See the GEMC-BSLC installation instructions (WI1648) for additional system requirements.

SELECTING A MOUNTING LOCATION

The GEMC-BSLC-GB can be mounted on flat surfaces, such as ceilings and walls. The unit is not orientation sensitive, but the sensor must be in direct line of sight of all windows being protected. Reliable detection cannot be expected around corners, in other rooms, etc.

Mounting location for best detector performance:

- within 7.6 m (25 feet) of the protected glass;
- within clear view of the protected glass (there is no minimum range);
- at least 2 m (6.5 feet) from the floor;
- at least 1 m (3.3 feet) from forced air ducts;
- at least 1 m (3.3 feet) from sirens or bells greater than 5 cm (2 inches) in diameter;
- between the protected glass and any heavy window coverings that may be present. Alternatively, when heavy window coverings are present, the detector can be mounted on the frame of the window.

Avoid installing the unit:

- in rooms with lined, insulating, or sound-deadening drapes;
- in a corner;
- on the same wall as the protected glass;
- on free-standing pillars;
- in rooms with noisy equipment, such as air compressors, bells, power tools, etc., if this equipment is operated when the detector is armed;
- in rooms with closed wooden window shutters inside;
- in rooms smaller than 10 x 10 feet (3 x 3m), and in rooms with multiple sounds, such as kitchens, glass booths, noisy areas, garages, etc.
- within 4 feet (1.2m) of noise sources such as televisions, speakers, sinks, doors, etc.
- on ceilings higher than 15 feet (4.5m), if mounting on ceiling;
- on 24-hour loop applications (perimeter loop okay);
- where white noise (such as air compressor noise) is present (may cause false alarms by saturating glass-break frequency spectrum)

NOTE: Temporarily mount the detector in the desired mounting location and test the detector before drilling mounting holes.
NOTE: Detectors not suitable for post / pole mounting.

Wall Mounting

Since the sound of breaking glass travels outward from the source, the best location for the GEMC-BSLC-GB detector is on the wall opposite the windows being protected (assuming, of course, that the wall is within the sensor's range). Detection is reduced with same-wall mounting since such detection is partially dependent upon sound reflected off the opposite wall. See Fig. 2.

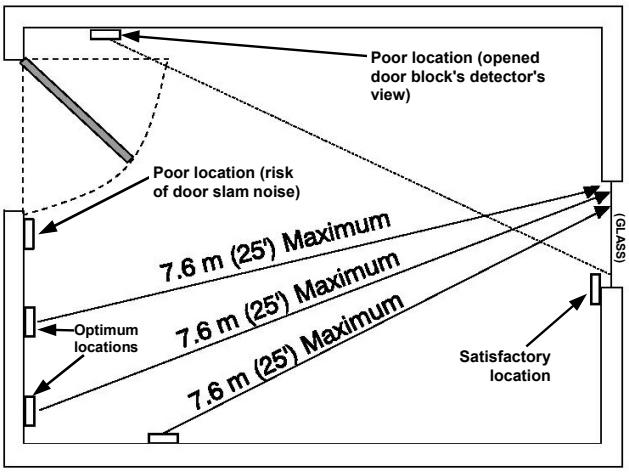

Fig. 2. Wall Mounting (Top View)

Ceiling Mounting

Similarly, a ceiling-mounted sensor will detect better if mounted 6 to 10 feet (2-3m) away from the glass, rather than directly above it. Mount the detector on any type of ceiling in direct line of sight of the windows being protected, at least 1 foot (0.3m) and preferably 3 feet (1m) from the glass. See Fig. 3.

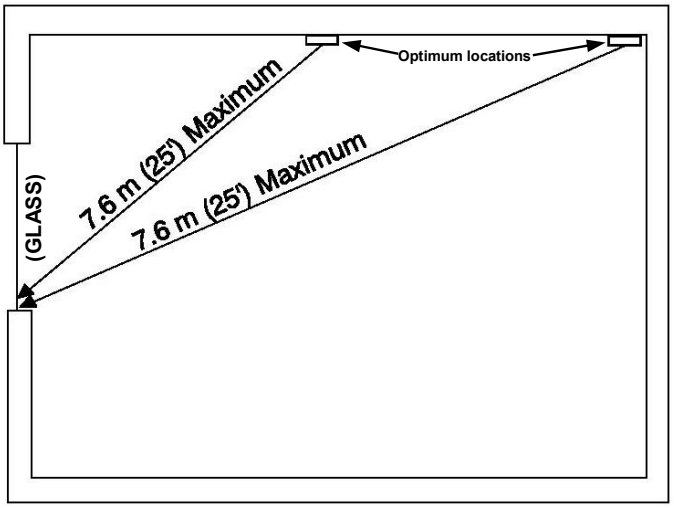

Fig. 3. Ceiling Mounting (Side View)

TESTING THE UNIT (Test Annually)

SENSITIVITY SETTINGS (RANGE ADJUSTMENT)

The GEMC-BSLC-GB has a maximum detection range of 7.6m (25 feet) with a range selection of "Max" to "Lowest" in four settings. Sensitivity can easily be selected at the location labeled "**SENS1**" and "**SENS2**" on the front housing, behind the Service Door (see Fig. 1). Maximum range for protecting 3mm (1/8 in.) sealed insulated and laminated glass is 6m (20 feet) with sensitivity set to maximum.

To reduce the range sensitivity:

1. If the front housing is attached, carefully open the Service Door (avoid opening the door too far or too fast).
2. Enable the LEDs for test purposes by sliding the LED ENABLE switch in the direction the arrow is pointing. (When the LEDs are enabled, an orange flag will protrude from the side of the unit).
3. Use a small screwdriver to move the **SW3** switch to the desired position (see **Sensitivity Settings** table).
4. Turn on any sources of noise in the vicinity, observe the green event LED for approximately 1 minute. If green LED flashes, unit should be relocated.
   Note: The GEMC-BSLC-GB is shipped with **SW3** switches "**OFF**" (maximum sensitivity).

SENSITIVITY SETTINGS (SWITCH SW3)			
SENSITIVITY	**SENS1**	**SENS2**	**APPROX. RANGE**[1]
Maximum	OFF	OFF	7.6m (25 feet)
Medium	ON	OFF	4.6m (15 feet)
Low	OFF	ON	3m (10 feet)
Lowest	ON	ON	1.5m (5 feet)

[1] Verify range with the FG-701 or FG-700.

SELF TESTS

The GEMC-BSLC-GB automatically performs a series of self-tests during power-up. If any self-test fails, the detector signals a trouble condition by flashing its LEDs alternately about once every second. If possible, the detector will continue to identify alarm situations.

To reset the detector, either remove the detector's power, or enter and exit Test Mode (see below). If the detector fails its self-test, return it for service, even if the condition corrects itself. The GEMC-BSLC-GB should be tested at least once each year. Test the detector with FG-700 & FG-701 glassbreak simulator.

ENTER TEST MODE

You must place the GEMC-BSLC-GB in "Test Mode" before you can test the unit. You can enter the Test Mode manually, or by using the FG-701 glassbreak simulator. In Test Mode, the GEMC-BSLC-GB LED disable switch is overridden.

To enter the Test Mode using the FG-701 glassbreak simulator:

1. Stand within 3m (10 feet) of the detector.
2. With the FG-701 to **ACTIVATE** and **MANUAL** modes.
3. Point the front [speaker] of the glassbreak simulator towards the detector and press the red **START** button. The simulator buzzes a short activation code.
   When the detector enters Test Mode, the green LED on the GEMC-BSLC-GB flashes about once per second. If the green LED does not flash, move closer to the detector and repeat the procedure.

TESTING FLEX AND AUDIO SIGNALS

To test the GEMC-BSLC-GB, do the following:

1. Place the detector in Test Mode, as described above.
2. Set the FG-701 switches to the **TEST** and **FLEX** positions.
3. Press the red **START** button. The simulator clicks on and starts an eight-second armed period.
4. Position the FG-701 near the farthest point of the protected glass, and point the speaker directly at the GEMC-BSLC-GB. If window coverings are present, close them fully and hold the FG-701 between the coverings and the protected glass during testing.
5. Generate a flex signal by carefully striking the glass with a cushioned tool. The FG-701 responds by producing a burst of glassbreak audio.
   If the GEMC-BSLC-GB receives both the flex and audio signals properly, its red Alarm LED lights.

TESTING 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 GEMC-BSLC-GB flickers its green Event LED.

FINAL TESTING

To ensure maximum protection against false alarms, activate any device in the area that may automatically cycle: pumps, generators, heating/air conditioning units, etc. If the cycling devices trigger an alarm, mount the detector in a different location.

EXITING TEST MODE

When you have completed testing, exit Test Mode by following the same procedure used to enter the Test Mode. Alternately, the GEMC-BSLC-GB automatically exits Test Mode five minutes after the last event is detected.

HAND-CLAP TEST

The GEMC-BSLC-GB can be tested by the installer or the end user while in its normal mode simply by clapping loudly under the sensor. The LED will blink twice, but the detector will not trip. This verifies visually that there is power to the detector and that the microphone and circuit board are functioning. The hand-clap activation is momentary so there is no appreciable effect on battery life.

DISABLING THE LEDs

After testing, you can disable the LEDs without opening the Service Door. Simply push the orange **LED ENABLE** flag gently back into the GEMC-BSLC-GB.

PERMANENT MOUNTING

After installing and successfully testing the unit, permanently mount in the selected location.

Use the following procedure to mount the unit:

1. The front housing should be removed from the GEMC-BSLC-GB before mounting (see **INSTALLATION STEPS**).
2. If necessary, move the transmitter out of the way.
3. Use the rear housing as a template to mark the mounting holes on the wall or ceiling.
4. Drill the holes and insert the mounting screws part way into the wall or ceiling.
5. Place the rear housing on the screws and slide the narrow part of the mounting holes onto the screws.
6. Tighten the screws to secure the unit in place.
7. If you had to move the transmitter, replace it in its original location inside the housing. Make sure that all connections are still secure.
8. Replace and fasten the GEMC-BSLC-GB front housing.
9. To ensure proper detection, re-test the GEMC-BSLC-GB detector and make any necessary adjustments (see **TESTING THE UNIT).**

Recommendation: To guarantee the integrity of the whole system, disable the LEDs and test the detector and transmitter to the control panel.

TAMPER SWITCH

The GEMC-BSLC-GB is equipped with a combination normally-closed (NC) cover and wall tamper. Each unit is shipped with the cover tamper operational, and the wall tamper disabled.

To enable the wall tamper:

1. Remove the plastic tab on the back of the detector using needle-nose pliers. The wall tamper arm will then extend through the hole.
2. 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 (#8 or #10) screw.
3. After installing the wall tamper screw, position the rear housing of the detector over the screw and mark the location for the mounting screws.

Opening the Service Door will trigger the tamper.

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