

TAKEX GLASS BREAK SENSOR

GS-1100E

Instruction Manual

Thank you for purchasing the TAKEX product. This sensor will provide long and dependable service when properly installed. Please read this Instruction Manual carefully for correct and effective use.

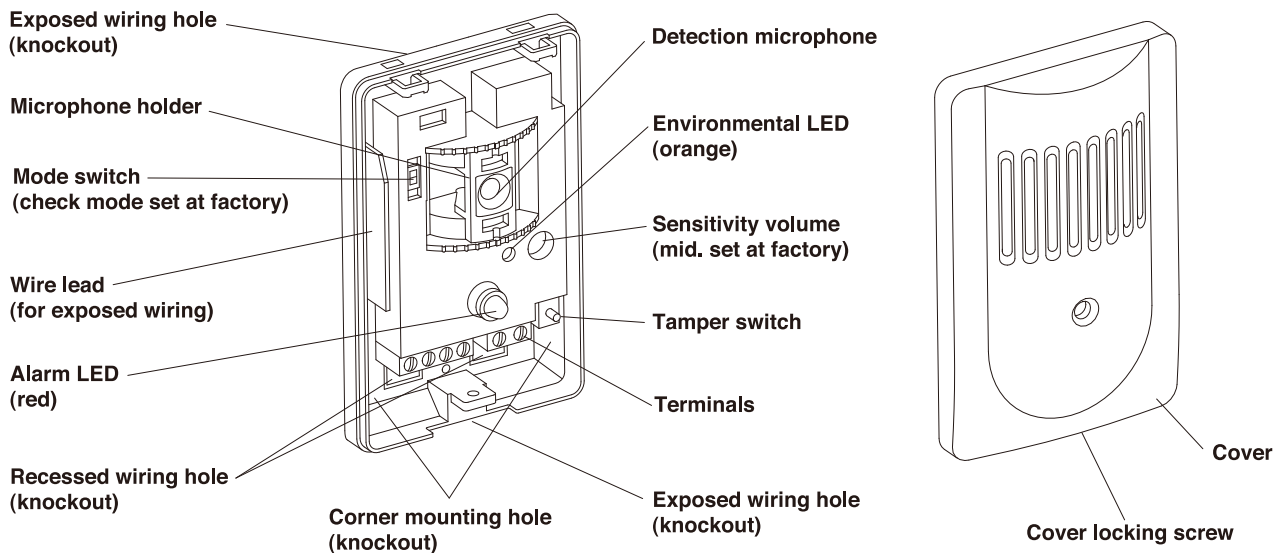
Note : This sensor is designed to detect intrusion and to initiate an alarm ; it is not a burglary-preventing device.

TAKEX is not responsible for damage or losses caused by accident, theft, Acts of God (including inductive lightning), abuse, misuse, abnormal usage, faulty installation or improper maintenance.

1 PRODUCT DESCRIPTION

GS-1100E is an ultrasonic sensor designed to detect the sound of breaking glass such as plate glass windows, doors, showcases etc.

2 PARTS DESCRIPTION



3 DO'S AND DON'T'S

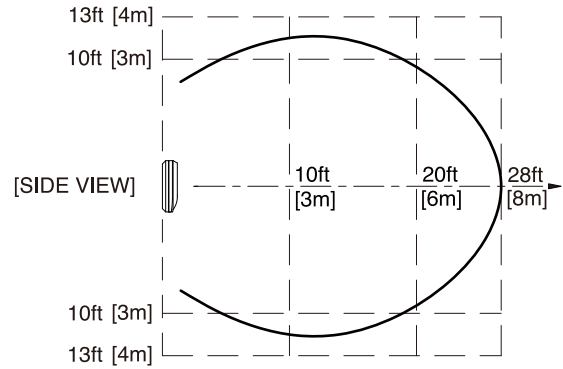
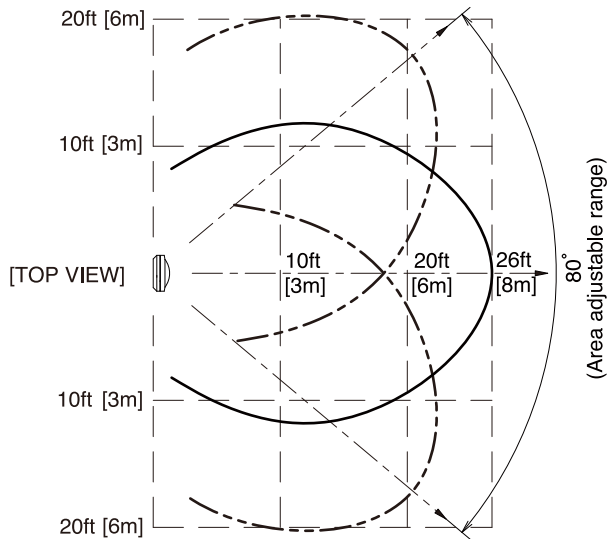
Precautions for use

- This unit is designed to detect the sound given when glass is broken due to impact. If glass is broken due to stress or other means this may not be detected.
- Use of input voltage exceeding specifications may result in fire.
- Use of equipment exceeding contact capacity of 30V (AC/DC) may result in fire.
- Unit should not be disassembled or modified due to risk of electric shock or fire hazard.
- Do not drop unit or subject to hard knocks.
- Liquids, metallic and inflammable materials should not be allowed to enter the unit.

Precautions on installation

- Unit is designed for Indoor use only.
- Unit is designed for use in an enclosed environment only.
- Do not install in an environment subject to electrical noise or intense vibration.
- Do not install in an environment subject to smoke, steam, excessive humidity or dust.
- Do not install near products generating ultrasonic noise, such as 'bell' telephones, printers, air conditioning vents, or in environments generating similar ultrasonic sounds.
- Do not use in environments with poorly fitted window panes.
- Unit is designed for unmanned (vacant) protection only. Alarms may be generated in the case of ultrasonic sounds artificially generated.
- Ensure target to be protected is within protection area. (Horizontal: 8m Max. Vertical : 7m Max.)

4 COVERAGE



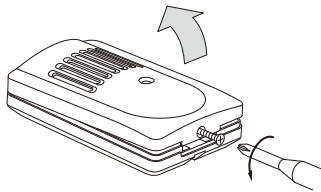
*The above coverage is available when sensitivity volume is set at Max.

*Install the sensor so that sensor coverage could cover all surface of protected window. For reference, glass surface to be protected is 25 square meters or less.

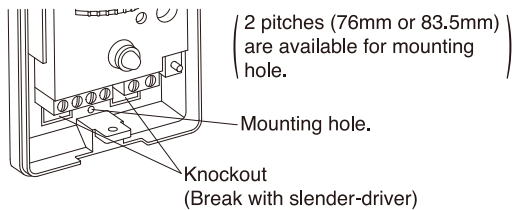
5 INSTALLATION

(1) Installation

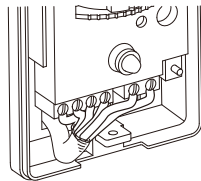
- Loosen cover locking screw to detach cover.



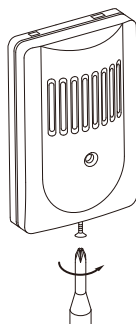
- Check protection direction and install base on wall.
*Break knockouts and attach sensor with the screws provided.



- Connect as per wiring diagram 5. (2).
- Set coverage and check operation.
Refer to 5. (3) Area setting and 6. Operation check.

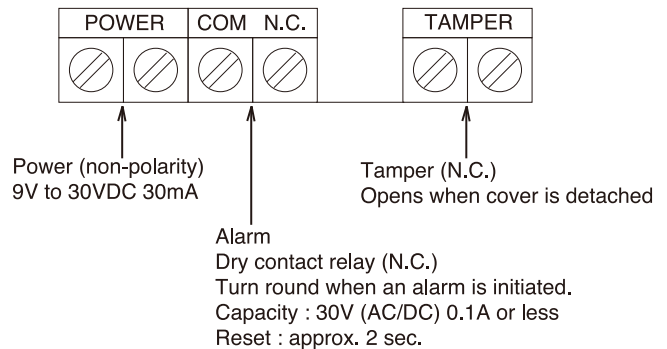


- Replace cover and tighten cover locking screw.



(2) Wiring

[Terminal arrangement]



[Allowable wiring distance between sensor and power source]

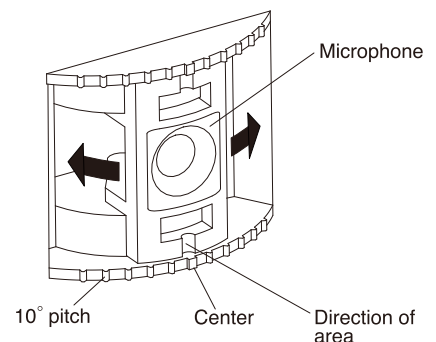
Size of wire used	Distance at 12VDC
AWG 22 (ϕ 0.65mm)	830 ft. (250m)
AWG 20 (ϕ 0.8mm)	1460 ft. (450m)
AWG 18 (ϕ 1.0mm)	2300 ft. (700m)

Note 1) The maximum wire length, when two or more units are connected, is the above distance divided by the number of units.

2) The protection circuit can be wired to a distance of 3,300 ft (1,000m) with AWG 22 (ϕ 0.65mm) wire.

(3) Area setting

Rotate mic holder to set area direction to center of protected glass.

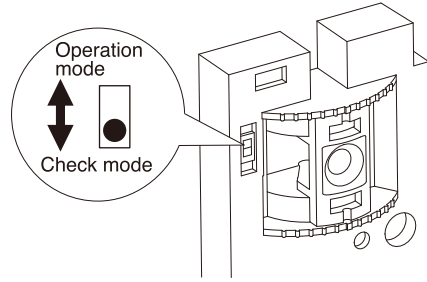


6 OPERATION CHECK

Optional testing unit EG-1000 is recommended for precise operational check.

- Supply power with the cover open and select "Check" mode with the mode switch.

Note : After power ON, an alarm is initiated for approx. 2 sec.

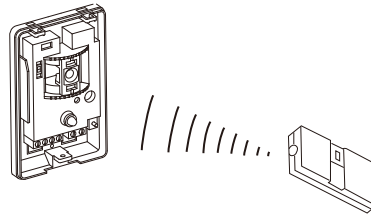


- Ensure the alarm LED (Red) and environmental LED (Orange) are lit when the EG-1000 is activated from close proximity.

- To test correctly operate the EG-1000 from the furthest point of required protection.

If the alarm LED (Red) lights, sensitivity is too high. If neither alarm LED or environmental LED (Orange) light, then sensitivity is too low.

Sensitivity is correct when JUST the environmental LED operates.



- Whilst still in check mode, activate all devices likely to emit ultrasonic sounds within the environment and ensure the ORANGE LED does not operate.

If this occurs either remove the cause device, or increase the number of sensors used so that the protection area of each unit can be narrowed.

- After operation check is completed, select "Operation" mode, attach the cover and tighten a cover locking screw.

Note: 1) A glass jar/bottle containing metal coins can be used as a substitute for the EG-1000.

Using 7 or more coins in a strong sealed glass container, the shaking of which replicates the EG-1000.

- This is an alternative method of testing unit sensitivity and operational in the absence of the correct equipment.

- Obvious special care is needed if this method is used as shaking to vigorously may result in the glass breaking and personal injury.

7 OPERATION DESCRIPTION

[Check mode]

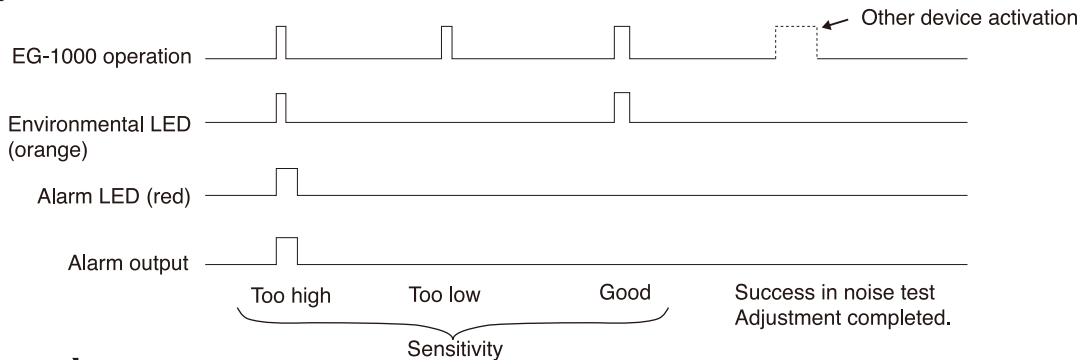
Select "Check" mode for operation check and sensitivity adjustment.

In this mode, both environmental LED (Orange) and alarm LED (Red) activate.

Adjust sensitivity by the Sens volume.

It shows good if only.

The Environmental LED lights and Alarm LED does not when a signal is issued by EG-1000 at the furthest point of required protection.

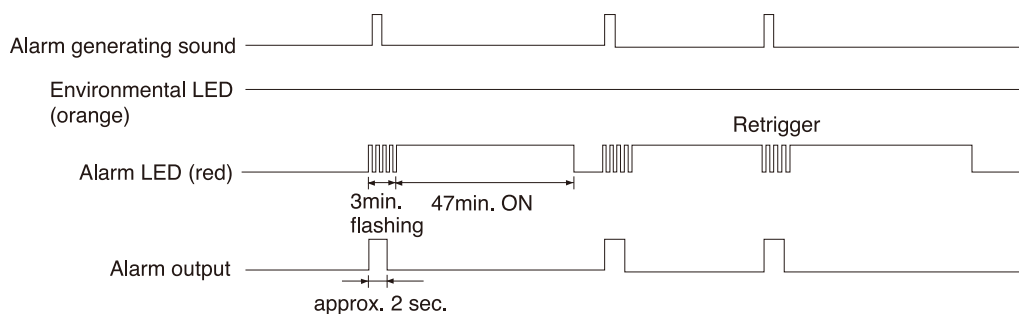


[Operation mode]

When the unit has been activated the Alarm LED will flash for 3 minutes, after which it will remain constantly lit for 47 minutes.

This will enable identification of triggered devices in a multiple use scenario.

This can be manually reset by either interrupting the power supply or switching unit to "Check" mode, (please note removal of cover will initiate tamper alarm).



8 TROUBLESHOOTING

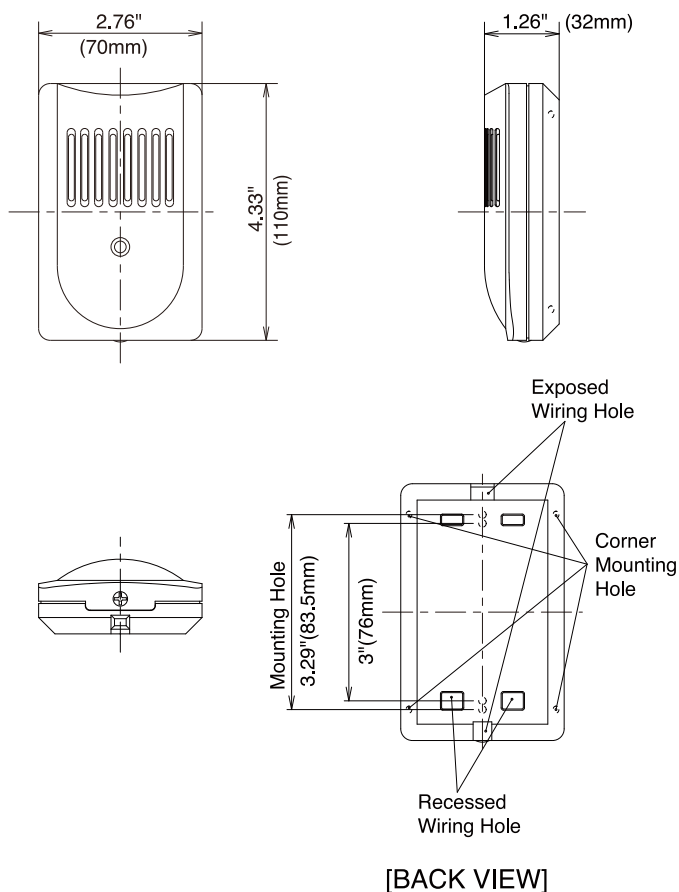
Analyze possible problems according to the following table .
If normal operation cannot be restored by this means, contact either the dealer from whom you bought the unit or TAKEX.

Trouble	Possible cause	Remedy
Completely inactive.	No power supply.	Check power and wiring.
	Sensitivity too low.	Set sensitivity to midium and recheck.
Frequent alarm with no detection. (alarm LED often lights.)	There is noise making source nearby such as bell, ultrasonic sensor, etc.	Keep distance 3m or more from the noise source. Set sensitivity lower and perform operation check 6.
	There is an electrical noise source such as power source or its wiring is located nearby.	Change installation site. Change path of wiring.
	Improper power voltage.	Adjust to proper voltage.
Control panel is inactive though LED works normally.	Broken/improper wiring of signal line.	Check wiring with tester and remove the cause.

9 SPECIFICATIONS

10 EXTERNAL DIMENSIONS

Model	GS-1100E
Detection system	Ultrasonic microphone
Coverage	Horizontal : 8m max. Vertical : 7m max. (plate glass of 400 square cm or more, one side 20cm)
Angle adjustment	Horizontally $\pm 40^\circ$
Power voltage	9V to 30V DC (non-polarity)
Current consumption	30mA or less
Alarm output	Dry contact relay N.C. Reset : Approx. 2 sec. 30V (AC/DC) 0.1A or less
Alarm LED	Red LED lights at alarm
Alarm memory	Alarm LED is flickering for 3 min., lighting for 47 min. and then automatically reset at detection.
Tamper signal	Dry contact relay N.C.
Environmental LED	Light at bad environments (at check mode)
Ambient temperature range	+14° F to +122° F (-10° C to +50° C)
Mounting position	Indoor (wall)
Wiring	Terminals
Weight	3.86oz (120g)
Appearance	ABS resin (white)



This sensor is designed to detect breaking sound of plate glass with a shock.

Note that glass breaking without a shock (glass breaking caused by distortion of building) may cause undetection.

Limited Warranty :

TAKEX products are warranted to be free from defects in material and workmanship for 12 months from original date of shipment. Our warranty does not cover damage or failure caused by Acts of God (including inductive surge by lightning), abuse, misuse, abnormal usage, faulty installation, improper maintenance or any repairs other than those provided by TAKEX. All implied warranties with respect to TAKEX, including implied warranties for merchantability and implied warranties for fitness, are limited in duration to 12 months from original date of shipment. During the Warranty Period, TAKEX will repair or replace, at its sole option, free of charge, any defective parts returned prepaid. Please provide the model number of the products, original date of shipment and nature of difficulty being experienced. There will be charges rendered for product repairs made after our Warranty period has expired.

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