

# GS Smoke Alarm USI Issue 1.2, July 2012

Important! Please read carefully and save. This manual contains important information about your Smoke Alarm's operation. If you are installing this Smoke Alarm for use by others, you must leave this manual- or a copy of it – with the end user.

General

S-9102 Smoke Alarm is designed for domestic usage such as a house, villa and apartment, etc. Built with high-quality components and advanced technology, the alarm has an excellently stable performance and low power consumption. A 9V battery will operate up to one year. It can be easily installed, no commission required.

The internal buzzer provides a loud local alarm. By using the output terminal, the alarm can be linked to other alarms in a common alarm network (up to 30 alarms) or can be interfaced to other systems.

## II Technical Specifications

- Power Supply: PP3 (H6F22) DC9V battery 1.
- Indicator: Red, flashes in every 50 seconds in normal condition.
- Output Interface: Available for optional use
- 4. Network Output: Maximum 30 alarm in one system, available for optional
- Photoelectric Output: 5mA /30VDC, Optional 5
- Local Alarm>80dB 6
- Detection Area: 40m<sup>2</sup>
- Operating Environment: 8.
- Temperature: -10°C ~ +50°C
- Relative Humidity: 95%
- 9 Dimension: 140 x 54mm(D x H, with base)
- 10. Material and Color: ABS white
- 11. Weight: 235g
- 12. Mounting Hole Distance: 50mm~108mm
- III Structure
- 1. Appearance of the alarm is shown in Fig. 1



### Fig. 2 Internal structure

# IV Mounting and Wiring

## 1. Location of Alarms

The major threat from fire in a family living unit is at night when everyone is asleep. The principal threat to persons in sleeping areas comes from fires in the remainder of the unit; therefore, the alarm(s) is best located between the bedroom areas and the rest of the unit. Following locations are for reference. 1) In units with only one bedroom area on one floor, the alarm should be

located between the sleeping area and the rest part. The best position is shown in Fig. 3.



#### Fig. 3 Mounting of the alarm

2) In family living units with more than one sleeping area or with bedrooms in different stories, a alarm should be provided to protect each sleeping area in addition to alarms required in bedrooms, as in Fig. 4.



## Fig. 4 Mounting of the alarm

3) For spaces other than sleeping areas, a alarm should be located on each story including the basement as shown in Fig. 5.



#### Fig. 5 Mounting of the alarm

On basement, the alarm should be installed close to the staircase leading to the floor above. When installed in an open ceiling, the alarm should be placed on the bottom of the joists. The alarm should be positioned relative to the stairway so as to catch the smoke from the basement before it enters the stairway.

# 2. Mounting Position

1) Recommended location

The placement of the alarm is critical if maximum speed of fire detection is desired. This alarm can be mounted on a ceiling or wall. Thus, the best location for a alarm is the center of the ceiling. At this location, the alarm is closest to all areas of the room.

- When mounted on ceilings, the edge of the alarm should be at least 10cm a) to any wall.
- When mounted on walls, the top edge of the alarm should be at least 10cm to the ceiling, but not over 30cm, see Fig. 6a and 6b.
- c) Recommended location in rooms with sloped or gabled ceilings is shown in Fig.7.



Best Location

Acceptable Location

Dead Air Sna

Mount on ceiling at least 10

ount on wall at

least 10 cm from

cm from wall

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**|4**−−→**|** 



Fig. 7 Mounting of the alarm

- 2) Locations to avoid
- To avoid false alarms, do not place alarms:
- a) In or near areas where combustion particles are normally present such as kitchens. In garages where there are particles of combustion in vehicle exhausts. Near furnaces, water heater, or gas space heaters. The alarms should be installed at least 6 meters away from kitchens and other areas where combustion particles are normally present.
- b) In air streams passing by kitchens. Fig. 8 shows how a alarm can be exposed to combustion particles in normal air movement paths, and how to correct this situation.



## Fig. 8 Correct alarm locations

- c) In damp or very humid areas, or next to bathrooms with showers. The moisture in humid air may cause false alarm. Install alarms at least 3 meters away from bathrooms. d)
  - Under ultra high or low temperature, where the temperature can go above or below the operating range of the alarm.
- e) In very dusty or dirty areas. Tiny dust and dirt can go through the filter and build up in the chamber to make the alarm over-sensitive or block
- openings to the sensing chamber and keep the alarm from sensing smoke. Near fresh air inlets or returns or excessively draughty areas. Airflow from air-conditioners, heater, fans or air inlets will blow smoke away from the alarm, making the alarm less effective.
- g) In dead air spaces at the top of a peaked roof or in the corners between ceilings and walls. Dead air may prevent smoke from reaching a alarm. See Fig. 6a, 6b and 7 for recommended mounting locations.



h) Near fluorescent light fixtures. Electrical "noise" from nearby fluorescent light fixtures may cause a false alarm. Install alarms at least 1.5m away from such light fixtures.

Note: Never disconnect a alarm to silence a nuisance alarm. Open a window or fan the air around the alarm to remove the smoke. The sound will automatically turn off when the smoke in the air is completely

Do not stand close to the alarm. The sound produced by the alarm is loud and may be harmful to your hearing. 3. Mounting Method

Note: For new building, do not install the alarm until fit up completely and cleaned up.

1) Checking

Before installation, verify that the enclosure and labels complete.

2) Mounting Warning: Installation of the alarm must comply to local standards. Failure may result in damage to life and property.

The alarm can be mounted with base (Fig. 9a) or directly to the ceiling, (Fig.

With base

a) As in Fig. 9a, fix the alarm base on the ceiling by φ 4 screws.
b) Align the small mark on the side of the alarm with the center of "Open Close" mark on the base and rotate the alarm clockwise.



Fig. 9a Alarm base surface mounted

Direct installation:

As shown in Fig. 9b, fixing the alarm bottom onto the ceiling.



Fig. 9b Directly mounting the alarm onto the ceiling

3) Testing:

Connect the battery and press the test button (as in Fig. 1), the buzzer will generate alarm and the LED flashes quickly. Release the button, the alarm resumes to normal operation. The test button can simulate the alarm condition

## V Role and Function of the Alarm

#### 1. Role of the alarm

This alarm is designed to sense smoke. It does not sense gas, heat or flame. This alarm can monitor the air and, when it senses smoke, activates its built-in alarm buzzer to provide precious time for you and your family to escape from vour residence before a fire spreads. Such an early warning however is possible only if the alarm is located, installed, and maintained as specified in this manual.

Note: If the alarm is not used in a network, it can only be used within single residential living units, that is, it should be used inside a single-family home or one apartment of a multi-family building. In a multi-family building, the alarm may not provide early warning for residents if it is placed outside of the residential units, such as on outside porches, in corridors, lobbies, basements, each residential unit should have alarms to alert the residents of the unit.

#### 2. Main functions of the alarm

- a) Testing: The alarm can work properly after applied power, and the indicator flashes about every 50 seconds. Press the test button, the buzzer generates alarm and the indicator flashes quickly. Release the button, the alarm resumes proper operation.
  - Alarming: When smoke density reaches a certain level around the alarm, the alarm LED will flash quickly, and the buzzer generate alarm sound after about 10 seconds. When the smoke disappears, the alarm can resume automatically
- c) Indication of low battery: When the battery voltage is lower than 7.35V, the

alarm will give short "chirp" sound with visual indication and the buzzer alarms about every 50 seconds. These shows the alarm is of low battery.

- d) Indication of low sensitivity: When sensitivity of the sensing chamber or its amplifying circuit is reduced, the alarm will give short "chirp" sound between two flashes of the indicator.
- Other functions and usage of the alarm (optional)
- a) Network operation: A maximum of 30 alarms can be connected into a network. When one alarm (active alarm) alarms fire, other connected alarms (passive alarm) will sound together. But, the passive alarms' LED will not be lit. To connect a alarm into a network, plug one of the two jumpers on PCB board to PIN1 and PIN2 of XT2 and the other one to PIN1 and PIN2 of XT3.
- b) Photoelectric output: The alarm can provide a photoelectric output (normally open 5mA/30VDC), This output can be used to control connected devices. When this output is needed, plug one of the two jumpers on the circuit board toPIN2 and PIN3 of XT2 and the other one to PIN2 and PIN3 of XT3.
- c) Wiring: Open the cover from the mark "Open here" in Fig. 1. Thread wires from the wiring hole on bottom of the alarm. Position of the wiring hole is shown in Fig. 10. Connect the wires according to the wiring position in Fig. 2 in the following two ways.
- For alarms used in network, respectively connect terminal C (+) and E (-) to C (+) and E (-) of next alarm.
- If photoelectric output is needed, connect C (+) to anode of power supply and E (-) to cathode.
- After wiring, close the cover



Fig. 10 Wiring hole at bottom of the alarm

#### 4. Limitations of the alarm

The alarm will not work without power. This alarm is powered by batteries; it will not work without batteries, with dead batteries or if the batteries are not installed properly.

The alarm may not sense fire that starts where smoke cannot reach it. such as in chimneys, in walls, on roofs, or on the other side of closed doors. The alarm also may not sense a fire on another level of a residence building. For example, a second-floor alarm may not sense a fire on first floor or in basement. Therefore, alarms should be placed on every level of a residence or building.

The buzzer in the alarm meets or exceeds audibility requirements of relative standards. However, if the alarm is located outside a bedroom, it may not wake up a deep sleeper, especially when the bedroom door is closed or only partly open. Therefore, for bedrooms that door usually closed at night, alarms should be placed in each bedroom as well as in the common hallway between them

If the alarm is located on a different level of a residence than the bedroom, it is even less likely to wake up people sleeping in the bedroom. In such cases it's recommended to use networked alarms so that a alarm on any level of the residence will "inform" the alarm in the closed bedroom to sound an alarm to awaken sleepers.

## VI Fire Protection Plan

This Smoke Alarm can quickly alert you to the presence of smoke, but it cannot prevent fire. Please note that there are hazards against which smoke detection may not be effective, such as smoking in bed, explosions, when a closed door separates the alarm from the source of the smoke, etc. The ultimate responsibility for fire protection rests solely on you.

- To minimize fire hazards, avoid improper storage of flammable liquids and don't leave small children home alone.
- 2. Bedroom doors should be closed while sleeping if a smoke alarm is installed in the bedroom. They act as a barrier against heat and smoke.
- 3 Establish an escape plan
- Post a detailed floor plan depicting the chosen escape routes.
- Each bedroom should have at least two escape routes. Make sure your children know what to do in case of fire and teach them to C)
- follow the escape plan you have posted.
- d) Agree on an outside meeting place. Conduct fire drills at least twice a year
- Be sure each member of the family is familiar with the smoke alarm so they can react properly.
- If the alarm should sound.
- Never waste time dressing or gathering valuables. a)
- Follow the escape route and leave the house immediately.
- Check bedroom doors before opening. If the door is hot or smoke is leaking in around the edges DO NOT OPEN use the alternate escape c) route.
- d) If there is smoke in the escape route, keep close to the floor and take short breaths If possible cover your nose and mouth with a wet cloth.
- e) Do not use your own telephone call the Fire Department from your

neighbor's house. Once out do not re enter your house but proceed to your prearranged meeting place.

#### VII Troubleshooting

- If the alarm alarms on power-up Make sure there is not too much smoke, dust or vapor in the room; The alarm may be in an unstable state. Please press the test button for 3 2)
- seconds then release it to resume the alarm back to proper operation; If the alarm doesn't alarm when testing
- Open the top cover to check connection of the battery with battery snap. 1) Fasten it if not connected well.
- 2) Replace the battery.

#### VIII Maintenance

- 1. The alarm should be tested after installed and after every one week. For any problems, please contact our local distributor or agent for technical support.
- 2. In normal environment, the battery can last for about one year. But adverse circumstance like high temperature and humidity may shorten its life. Please replace battery when the alarm alarms low battery. Please use Model PP3-H6F22M 9V battery or equivalent.
- Note: Please use recommended batteries. Otherwise the alarm may be

#### damaged. Replacing the battery

Push the battery out of its holder, as shown in Fig. 11. a)



Fig. 11 Taking out battery b) Disconnect one polarity of battery snap, and then the other, as in Fig. 12.



Fig. 12 Taking down battery snap c) Change a new battery and connect it with battery snap, as in Fig. 13.



Fig. 13 Changing new battery

- Slightly push the battery into its holder.
- After the alarm has been in operation for a long period or it's installed before completion of the construction, the alarm may have dirt build-up in the chamber, which could cause false alarm. In case of this, please clean the chamber following the simple washing procedure, to restore your alarm back to its original condition.

Failure to follow full cleaning instructions could result in damage to this alarm. Do not remove all alarms at the same time for cleaning.

a) Open the top cover (See mark "Open here" in Fig. 1). Take out the battery as in Fig. 14.



Fig. 14 Opening the top cover

- b) Loosen the fixing screw to take down the alarm.
- Gently wipe the enclosure and clean dirt in enclosure grid. d) Hold the sensing chamber cover by fingers and take it down by slightly
- shaking, as shown in Fig. 15.



Fig. 15 Take down the sensing chamber cover

e) Clean the chamber inside and lens by cotton swab dipped in alcohol. Note: Make sure not to remain any cotton fiber in the sensing chamber, otherwise it will result in false alarms.



Fig. 16a Cleaning the sensing chamber



- Fig. 16b Cleaning the sensing chamber cover
- After cleaning, fix back chamber carefully.

Connect the battery and put the top cover back. Note: Be careful when removing and installing the chamber to avoid damage

- 5. If the alarm gives short "chirp" sound and visual indication, and the buzzer whistles about every 50 seconds, this means the alarm is not working properly. Please do not try to repair it by yourselves. This will void your warranty. See "To Return a Alarm" for instructions to return the alarm. Or you can inform local distributor or agent. We will respond as soon as possible.
- It's recommended to replace the alarm for every 10 years. Warning:
- a) Never use an open flame of any kind to test your alarm. You may ignite and damage the alarm as well as your home. The test button is designed to accurately simulate smoke conditions and test the alarm's functions as required by relative standard.

c)



b) Do not cover, paint or tape the cover of the alarm, otherwise you will block the sensor grids and make the alarm not functioning. Failure to regularly clean this alarm will result in false alarms. Please do clean the chamber regularly.

# IX Return a Alarm

Should you experience problems, please follow the procedure to return the faulty alarms:

- Disconnect the power and take out the battery.
- Carefully pack (the manufacturer cannot be responsible for consequential damage) and return to the manufacturer (or local distributor and agent). Please attach complete details as to exact nature of difficulties being experienced and date of installation.



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