

# **GAS STOVE GUARD**

## **for natural gas and propane stoves**

**OPERATING INSTRUCTIONS**  
**February 8, 2019**

***STOVE GUARD is not designated for use with gas stoves with pilot light.***

*STOVE GUARD* is an electronic safety device for use with gas stoves. It turns the gas stove OFF when you forget by using the advanced technology found in security monitoring devices and a specially programmed micro-controller.

*STOVE GUARD* controls the stove's gas supply system to help prevent food and pots from burning, as well as reducing the risk of fire caused by unattended cooking.

***STOVE GUARD is preset at the factory at the highest fire safety setting of 1 minute.***  
***This is the recommended setting for use by anyone with Alzheimer's or similar medical condition.***

- When properly installed, *STOVE GUARD* will automatically shut the gas stove off if no one is present in the monitored cooking area for a preset period of time.
- *STOVE GUARD* can also be used in a Timer mode to set a maximum cooking time of 7 hours, after which the stove will be automatically turned off.

### **IMPORTANT TECHNICAL SAFEGUARDS**

- **DO NOT INSTALL** the Electronic Monitoring Unit:
  - **Directly above a heat source or where hot/cold air or steam will blow onto it.**
  - **On or above a microwave or toaster oven.**
  - **Directly on or above the gas stove.**
- Do not allow grease to build up on the motion sensor. This will reduce *STOVE GUARD'S* sensing range and possibly turn the stove off even when someone is in front of the gas stove.
- Clean the outer surface of the EMU with a clean, damp cloth only. Do not use soaps or cleaning liquids.

### **IMPORTANT PERSONAL SAFEGUARDS**

*STOVE GUARD* must be tested with the Individual who requires this device and adjusted to their personal needs, as well as adjusted to the home environment of use to ensure proper functioning. Additional fire safety devices; such as smoke detectors & fire extinguishers must also be used to ensure complete cooking fire safety.

### **WHAT'S INCLUDED (UNPACKING CHECKLIST)**

- Electronic Monitoring Unit
- Wall adapter
- Gas Valve
- Instruction Manual
- Mounting Hardware

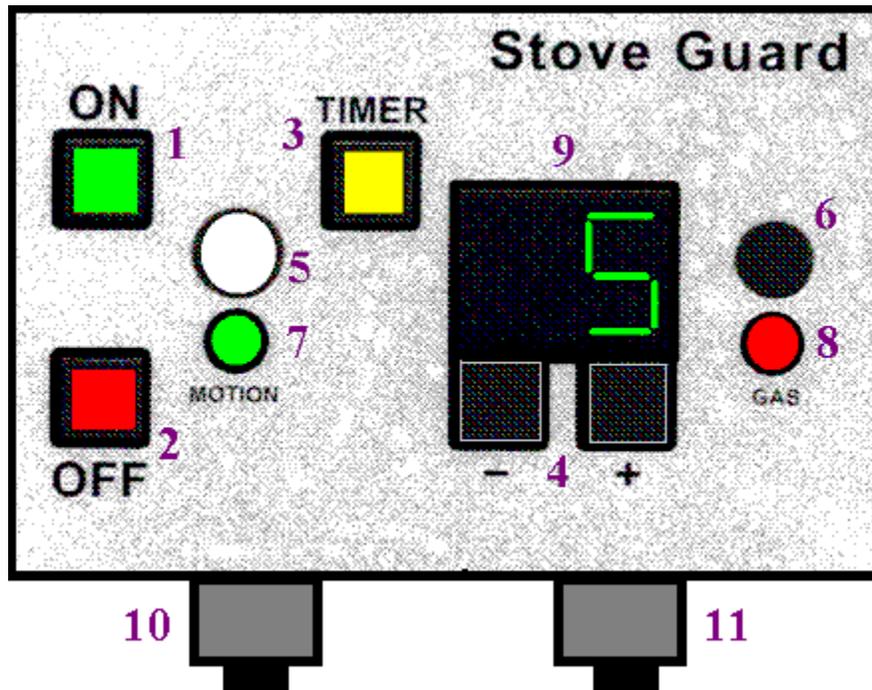
## WALL ADAPTER

The power source for *STOVE GUARD* is a 12V DC 2.5 A wall adapter.

## GAS VALVE

The gas valve controls gas supply to the gas stove. It is a normally closed gas shutoff valve for ½ “ pipe size.  
12V DC 22.6W.

## ELECTRONIC MONITORING UNIT



The control device of Gas Stove Guard:

1. ON button with green ON LED
2. OFF button with red OFF LED
3. TIMER button with yellow TIMER LED
4. Two TIME ADJUST buttons
5. Motion sensor
6. Gas detection sensor
7. Motion Sensor green indicator LED
8. Gas Sensor red indicator LED
9. Display
10. Gray cord for the gas shut off valve
11. Black cord with a plug for 12 V DC power

## INSTALLING THE GAS STOVE GUARD

**Failure to use a professional will result in possible loss of life, warranty & property insurance.**

1. Shut off the gas stove and disconnect the gas supply.
2. Mount the gas valve on gas supply pipe. IN and OUT are marked on the valve.
3. Connect the Gas Valve to the *STOVE GUARD* Electronic Monitoring Unit with included cord. Connect one red wire from valve to the black wire from Stove Guard and another red wire from valve to the red wire from Stove Guard. Green/Yellow wire from valve is a ground wire, no need to connected it for 12V valve. Power is 12 V direct current. Wires to the valve have polarity, but it is not important how wires are connected to the electric shut off valve. Valve works well both way.
4. Plug wall adapter to Electronic Monitoring Unit. Plug the wall adapter to AC plug.
5. Check the Electronic Monitor Unit:
  - The red OFF LED on the OFF button should be lighting.
  - Two dashes should appear on display.
6. Connect the gas supply. Gas valve should be closed, prevents gas to reach the stove.
7. Press the ON button on the Electronic Monitor Unit. It opens the gas valve, and brings gas to the stove. The green ON LED on the On button should light and display should show “1” – default number of minutes before the Stove Guard will shut off the stove if no movement is detected.
8. When movement is detected (you walk in front of Electronic Monitor Unit) the green movement indicator LED lights. Check it.
9. Light the stove. Stand out of the Electronic Monitor Unit’s motion detection area. After 1 minute, gas supply to the stove should be disconnected and stove should be shut off. The buzzer in the Electronic Monitor Unit should beep.
10. Manually turn off the stove. Press the ON button. Gas supply to stove is established, and the gas stove is ready for use with Stove Guard’s safety features.

If user’s personal needs are different from the factory default settings, adjust settings of Stove Guard. Refer to the HOW TO ADJUST THE STOVE GUARD part of manual.

## MOUNTING THE ELECTRONIC MONITORING UNIT

The best location for mounting the EMU is under an upper kitchen cabinet approximately 8” (20cm) from the right or left side of the gas stove, or on the wall approximately 16” (40cm) from the right or left side of the stove.

***Remember: DO NOT place it directly on or above the stove.***

If you mounting the EMU lower than stove's top elements height, it could be placed closer to the stove.

The main reason for mounting Stove Guard to the side of the stove is to avoid false movement detection caused by flame. Movement sensor detection range is about 60 degrees. If movement sensor “see” the flame, it will reset countdown timer, and Stove Guard will not turn off the stove if no one is in front of the stove.

It is important to check if Stove Guard turns off the stove if no one is in the kitchen. If stove remain turned on, could be that monitor unit is too close to the stove, and flame from the stove triggers the movement sensor. Stoves are different, the best way is to check what mounting position works well in your kitchen.

## USING GAS STOVE GUARD

After a power failure or the first use, only the red Off LED (number 2 on the picture) will light and display will show "--". For the safety reason the valve is closed and the stove remain turned off until user press the ON button (1). Preset time is restored. The Stove Guard keeps this user setting even if there is a loss of power.

The Stove Guard has 3 operating modes to control the stove: **ON**, **TIMER** and **OFF**.

### **ON MODE**

Green ON (1) indicator lights. The ON mode allows the passive infrared detector to automatically shut down the stove (close the valve) if user is out of the sensing area for longer than the preset time (factory default is 1 minute). Green movement indicator (7) lights every time when movement was detected and resets clock to the preset time. When the user enters the sensing area, the Stove Guard will turn the Stove Guards timer back onto the preset time. Display (9) shows number of minutes left before Stove Guard will turn off the stove if no movement is detected. If no movement was detected for the preset time (user lights stove and left the kitchen) Stove Guard will turn off the stove, display will show " 0", red Off LED (2) will light and the buzzer in the electronic monitor unit will make two short beeps every minute. If you press the OFF button (2) the buzzer stops beeping, display is cleared, but the Stove Guard keeps the valve closed and the stove remains turned off. If ON button is pressed, the stove has gas supply again. To prevent fire/explosion, turn stove burner knob to the OFF position before turning Stove Guard ON. The user must restart the ignition of the stove's burner manually; Stove Guard will not restart the stove burners.

### **TIMER MODE**

Yellow Timer (3) and green ON indicators (1) light. In the TIMER mode stove will operate for the preset time (default is 5 minutes) which can be adjusted to the cooking time of specific dish. Timer mode is recommended only for cooking that doesn't require presence in front of stove. Display shows number of minutes left before Stove Guard turns off the stove. Once the preset time is over, the Stove Guard will turn the stove off. The movement detection does not work in the Timer mode. When display does not show decimal points, time is displayed in minutes. When two decimal points light, remaining time is displayed in hours on the first character on display, and quarters of hours on second character on display. Every quarter of hours (15 minutes) is shown as a horizontal line. No lines, one, two or three lines means, 0, 1, 2 or 3 quarters of an hour (0, 15, 30 or 45 minutes). For time less than 1 hour display shows minutes. When countdown timer reach 0, the Stove Guard will turn off the stove, red Off LED will light and the buzzer will beep.

### **OFF MODE**

Red OFF indicator (2) lights. When the Stove Guard is in OFF mode, the valve is closed, gas is disconnected and the stove remains turned off.

## HOW TO ADJUST THE STOVE GUARD

### **ON BUTTON (1)**

Turns ON mode from OFF or TIMER mode, and resets preset countdown time. Connects gas supply.

### **OFF BUTTON (2)**

Turns OFF the Stove - disconnects gas supply.

### **TIMER BUTTON (3)**

Turns Stove Guard in TIMER mode from ON mode. Gas supply is connected. Motion detection is disabled.

### **TIME ADJUST BUTTONS (4)**

TIME buttons are used for adjusting the preset time for **ON** and **TIMER** mode. User can choose between 1 and 15 minutes in ON mode with movement detection enabled, and between 1 minute and 7 hours in TIMER mode. Left Time button decrease, and right time button increase time for 1 minute. For time greater than 1 hour, time is changing in quarter of an hour.

## GAS SENSOR

Additional safety device is a gas sensors. If the gas sensor detects presence of natural gas or propane in the kitchen, it will shut off the gas supply to the stove. Buzzer will continuously give alarm sound, and red gas LED will light as long as the sensor detects gas. Display will show "AL". When no presence of gas is detected, red gas indicator turns off, but display will show "A0" as a remainder that gas was detected in the past. The stove remains disconnected from the gas supply. User has to manually turn off the stove to prevent gas leaking. After that user can press the ON button, Stove Guard will open the gas valve (supply gas to the stove). Now the stove can be restarted. For the safety reason, pressing the ON button will not open the valve as long as gas is detected – red gas LED lights.

The Gas sensor needs to reach the working temperature in order to detect gas properly. In the first 3 minutes after a loss of power or after first use of Gas Stove Guard, gas sensing is disabled. For stable gas presence detection Stove Guard have to be powered (sensor heating) for a couple of days. Gas sensor is warm, it is sensor normal working condition.

## BUZZER

The buzzer gives an audio signal when countdown timer reach "0". This happens in ON mode when nobody is in movement detecting area for preset time (user turn on the stove and leave the kitchen). In Timer mode this happens when cooking is finished – preset time elapsed. The buzzer will repeat two short beeps every minute three times or till user presses the Off button.

## ADDITIONAL SETTINGS

Most users will change only countdown time as described before. For users with specific needs, additional settings are available:

- Stove Off Lock mode. Gas supply to the stove remains off till a special button sequence is entered in the right order. This prevents gas stove use.
- Changing gas sensor sensitivity, or turn off gas sensing completely. Useful in case of false gas alarms.
- Number of repeats of audible signal after Stove Guard turns the gas supply to the stove off. 3 beeps are factory default. It is possible to set between 0 (no buzzing), 1 to 7 beeps or repeating two short beeps every minute till user press the Off button.

### Stove Off Lock mode.

It is possible to lock the stove in Off mode. Pressing the On button will not open the valve, cooking will not be possible till button pressing sequence is entered.

To lock Stove Guard in Off mode:

Press the Off button (if not already in Off mode). Red indicator should light.

Press and hold "+" time setting button for 7 seconds. When "L1" is on display release "+" button.

Press the Off button. Display is changing to "L2".

Press the Timer button. Display is changing to "L3".

Press the "-" time setting button. Display will show "LL" for 10 seconds. Stove Guard is in Stove Off Lock mode.

Pressing the On button will not allow gas supply to the stove. Even if power went off, and back on, Stove Guard buttons remain "locked". In case of time out for pressing buttons, or wrong button sequence was pressed display will show "LF" - lock failed, stove buttons remains unlocked.

To unlock Stove Guard from Stove Off Lock mode:

Press and hold "+" time setting button for 7 seconds. When "U1" is on display release "+" button.

Press the On button. Display is changing to "U2".

Press the Timer button. Display is changing to "U3".

Press the "-" time setting button. Display will show "UU" for 10 seconds. Stove Guard is in regular Off mode. Pressing the On button will allow cooking (gas supply to the stove). In case of time out for pressing buttons, or wrong button sequence was pressed display will show "UF" - lock failed, stove buttons remains locked.

### **Changing gas sensor sensitivity.**

During time gas sensor sensitivity could change. This could cause false gas detection alarms. Increase gas alarm limit will reduce or eliminate false gas alarms. Decrease of gas alarm limit will allow faster response on smaller natural gas or propane concentration, but will increase possibility of false gas alarms. Alcohol, vinegar and smoke could also trigger gas alarm.

To check reading of gas sensor. It is better to do this reading while cooking with vapor in the kitchen. Go to the Timer mode. Press and hold Timer button for 7 seconds. Display will show two digits with decimal point between them for 12 seconds. This is current gas sensor reading. Limit always have to be bigger of this number.

To change gas alarm limit:

- Go to Off mode.
- Press and hold Off button for 7 seconds. Current limit will appear on display. For example: "5.3"
- Press "+" or "-" time changing buttons to increase or decrease gas alarm limit (sensitivity). When new setting is on display, do not press any button for 10 seconds, and new limit is saved when display become blank.

For example: If false alarm occurs with 5.3 limit, increasing this limit to 6.5 should eliminate false gas detection alarm. To turn off gas alarm completely, set the limit to the maximum of 9.9.

### **Changing number of repeats of audible signal.**

After countdown timer reaches zero Stove Guard will turn off gas supply to the stove and two short beeps signals to user that stove is off. Beeps are repeated every minute, till user press the Off button. Factory default is that beep repeats three times.

Possible setting are: 0 (buzzer completely off), 1 (only one beep), 2 (two beeps), 3, 4, 5, 6, 7 or F (beep repeats every minute till Off button is pressed).

To change gas alarm limit:

- Go to Off mode.
- Press and hold Timer button for 7 seconds. Letter "r" and number of repeats or "F" will appear on display. For example: "r3"
- Press "+" or "-" time changing buttons to increase or decrease gas number of repeats.
- When new setting is on display, do not press any button for 10 seconds, and new setting is saved when display become blank.

Even if buzzer is turned off for countdown, it will sound for gas detected alarm.

### **Changing movement sensor sensitivity.**

Usually no need for changing factory default setting for movement sensor.

If sensor have false movement detection, nobody in the kitchen but countdown time don't reach zero, you can decrease sensor's sensitivity. Decrease movement sensor detection limit will reduce or eliminate false movement detection. If small movement in front of Stove Guard is not detected you can increase sensitivity of movement sensor.

To check reading of movement sensor. Go to the On mode. Press and hold On button for 7 seconds. Display will show movement sensor reading, two numbers with decimal points after both digits. After 36 seconds of showing sensor's reading Stove Guard is going back to regular On mode. To avoid false movement detection, limit have to be bigger of this number when no movement is in front of Stove Guard. You can check this reading looking at display staying on wide angle, outside of movement sensor detection area.

To change gas alarm limit:

- Go to Off mode.
- Press and hold "-" button for 7 seconds. Current limit will appear on display. For example: "1.3." – factory default.
- Press "+" or "-" time changing buttons to increase or decrease movement sensor limit (sensitivity).
- When new setting is on display, do not press any button for 10 seconds, and new limit is saved when display become blank.

## **TROUBLESHOOTING**

### **You cannot light the gas stove:**

- The Stove Guard has shut off the gas supply. **Do not forget to press the ON button before lighting the stove.**
- Check connections between the Gas Valve and the Electronic Monitor Unit.

### **False gas detection alarm:**

- The gas sensor did not reach the working temperature. Keep the Stove Guard powered for a couple of hours.
- Change gas sensor sensitivity

### **The Electronic Monitor Unit's LEDs do not light up:**

- Check if wall adapter is plugged into the wall outlet. Check if wall adapter is connected to Electronic Monitor Unit.
- Check fuse for this outlet.

### **The green SENSOR LED flashes without any reason:**

- Avoid placing the EMU within the proximity of the following sources of interference that might accidentally trigger the passive infrared detector:
  - Flame from the stove's top elements.
  - Reflective Surfaces: direct air flow from vents, fans and windows.
  - Sources of steam or cooking oil vapor.
  - Infrared light sources: TV or other infrared Remote Controls.
  - Objects causing temperature changes: such as heaters, refrigerators, toasters and ovens.
  - Do not place objects that a pet can climb onto. In addition, do not aim the Electronic Monitor Unit at a stairway a pet may have access to.

### **There was a loss of power (*Electrical Outage*):**

- *STOVE GUARD* automatically closes the valve and gas supply to the stove remains turned off until user press the ON button.

## **FOR TECHNICAL SUPPORT PLEASE CONTACT**

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