

GD518 SERIES USER'S MANUAL

INTRODUCTION

Sentek's GD518 Series Gas Detector is effective for detecting any buildup of natural gas and liquefied gas in your residence. The GD518 gas detectors are engineered to perform the following features:

- (1) Easy to install. It allows connecting to fire control panel or security monitoring system.
- (2) Monitoring any accidental leaks of natural gas or liquefied gas in a continuous manner.
- (3) Giving a loud alarm (≥ 75 dB) when it detects a buildup of natural gas and liquefied gas.
- (4) Self-testing its operative functions continuously
- (5) Offering a 5-year warranty for the gas sensing unit.

GASEOUS FUEL IN OUR DAILY LIFE

Either natural gas or liquefied gas has become one of the major energy sources for our modern life, which has been found its numerous applications in many sectors such as household, business, industrial usage and heating systems in the buildings. At home, we use gas for cooking, heating, and other purposes. However, any accidental gas leaks into the air may lead to possible hazards such as fire and explosion, which is definitely a potential threat to the lose of our lives and household properties. Most likely sources of leaks come from natural gas appliances such as heaters, stoves, refrigerators, and furnaces. Gas leaks from outside or below ground level can also seep into your home. However, as natural gas builds up, it mixes with oxygen to produce a mixture that can be combustible and explosive if it is ignited by a spark or flame. That's why we should be more cautious to any accidental leaks of natural gas or liquefied gas in a continuous manner. The sensor vent port of the gas detector would allow natural gas to enter the sensor chamber to be monitored by the sensing circuit built inside.

LOCATIONS WHERE WE NEED TO INSTALL GAS DETECTORS

1. Liquefied gas is heavier than air, the leak of such gas collects near to the floor or in the lowest levels of rooms. To detect a dangerous concentration of liquefied gas, you should install your detector under 30 cm above the floor and less than 4 m of horizontal distance to the gas appliance in the same room.
2. Natural gas is lighter than air, therefore, it collects in the ceiling of rooms. In order to reach effective sensibility of natural gas leaks, you should install your gas detector as close to the ceiling as possible, i.e. under 30 cm from the ceiling and less than 8 m of horizontal distance away from gas burner or a kitchen stove in the same room, as shown in Figure 1.

Gas detector can only perform sensitively to the same location where the gas appliances exist. Since the unusual gas leaks may occur in other locations in your home, it is strongly recommended that gas detectors are installed in the areas where a gas burner or a kitchen stove is used such as kitchen, living rooms, bed rooms, garage, and basement. (see Figure 2).

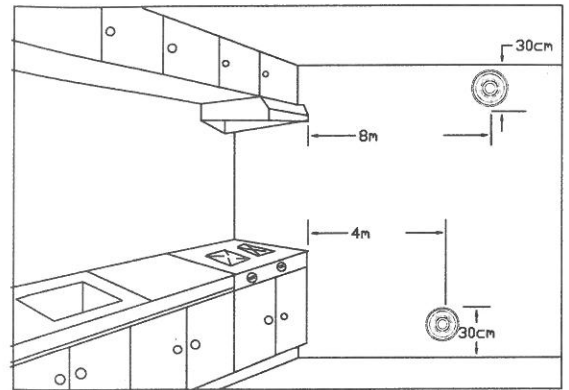


Figure 1. Suggested installation positions for GD518 series gas Detectors

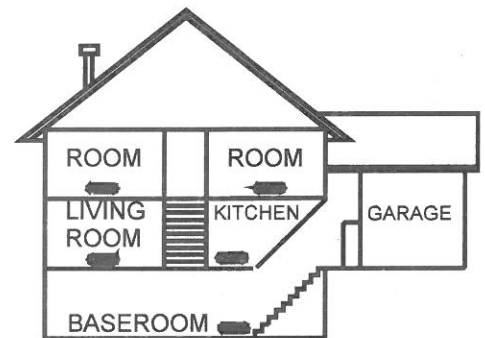
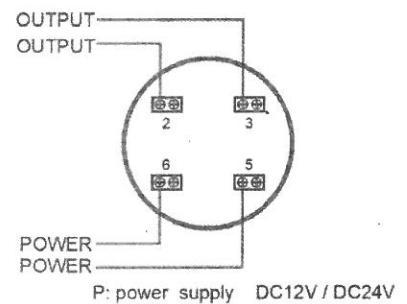


Figure 2. Locations for installing gas detectors in your home

WIRING DIAGRAM FOR GD518 SERIES GAS DETECTORS

Figure 3 shows the wiring diagram for GD518 series gas detectors (only GD518-R have relay output).



INSTALLING THE BASE OF DETECTOR

- (1) All the wires in the base compartment should be flattened and are not touched to any connectors to ensure that the detector head be smoothly fastened to the base.
- (2) When using the jump wires to check the connectivity for each gas detector in the circuit loop (e.g. connecting point 2 and point 3 with a jump wire as shown in Figure 3), be sure to remove all the jump wires before attaching the detector head onto the base.
- (3) Be sure that the components used in the circuit loop as shown in Figure 3 should be coupled up with those components used in the transceiver circuitry of the control panel.
- (4) The base is allowed to be installed within an available wiring box including octagon box (3", 3.5", or 4"), circular box (3") and rectangular box (4" long), without using any other additional mechanical adapters.

INSTALLING THE DETECTOR HEAD

- (1) up the position of head to the base, see Figure 4.
- (2) Screw the detector head into the base in clockwise direction.

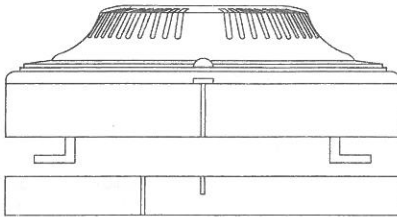


Figure 4: Alignment of detector head and its base.

MAINTENANCE OF GAS DETECTORS

A gas detector constantly monitors any gas leaks under its normal operational conditions. The following maintenance procedures for gas detectors will assure its desired performance:

- (1) Use a vacuum cleaner to clean the dust around the vent holes of gas detector cover.
- (2) Carry out a regular or weekly test of gas detectors.

TYPES FOR DETECTOR SIGNALING

The gas detector has to be warmed up for at least 10 minutes after being energized, then the test procedure can be followed. There are three types of detector signaling:

- (1) Green LED lighting indicates that the detector in the normal monitoring condition.
- (2) When the gas leak is detected, green LED light will change to flashing red LED light, accompanying the alarm sounds (3 beeps).
- (3) If the detector is not in normal operation, the buzzer will chirp once every 30 seconds to indicate that the malfunction is detected by the built-in self-monitoring circuitry.

ACTIONS TO BE TAKEN WHEN ALARM OCCURS

We should take the following actions immediately when alarm occur:

- (1) Turn off the valves of gas burners or gas tanks.
- (2) Slowly open windows. Do not open windows too fast or the possible sparking may occur.
- (3) Do not use an electrical fan or an air ventilator to disperse the leaked gas. Instead you can disperse the leaked gas by stirring a hand fan.
- (4) Avoid anything involved with any source that may incur fire Do not turn on electrical light or strike a match to prevent any potential explosion.
- (5) If any gas leak is found or detected, use duct tape or wet cloth to wrap the leaking pipes to reduce or stop ongoing gas leak.
- (6) Inform the Gas Company or your gaseous fuel supplier. You may report to the fire department about the accident as well.

SPECIFICATIONS

Model	Gas Monitored	Operating Voltage	Min Gas Level for Alarming	Alarm Sounds	Operating Temp. (°C)	Power Consumption	Output Optional
GD518-N	Natural Gas	12~24Vdc	Less than 10% LEL	> 75 dB with Auto-reset	-10 ~ 40	2 W	Relay
GD518-L	Liquefied Gas	12~24Vdc	Less than 10% LEL	> 75 dB with Auto-reset	-10 ~ 50	2 W	Relay

Mode	2/4 Wire	Voltage DC min/max	Standby Current 12V /24V	Alarm Current 12V/24V	Humidity	Base Mode
GD518-N	2	12V/24V	90mA / 56mA	80mA/50mA	30%-90%	P/N854001
GD518-NR	4	12V/24V	90mA / 56mA	80mA/ 46mA	30%-90%	P/N854001
GD518-L	2	12V/24V	90mA / 56mA	80mA/50mA	30%-90%	P/N854001
GD518-LR	4	12V/24V	90mA / 56mA	80mA/46mA	30%-90%	P/N854001

** "R" mean with relay output

WARNING AND LIMITATION

Note that GD518 series gas detector is not supposed to be used as smoke detector or fire alarm. In addition, this detector should not be installed in a "danger area" as defined by National Electrical Code. A gas detector will operate normally under regular power supply, therefore, it will not perform at any situation when power outage occurs.

WARRANTY INFORMATION

Under the normal operation conditions, the manufacturer provides five-year warranty for the sensor head of gas detector and one-year warranty for other parts for repairing without charge. Part and labor charge will be required after the warranty is expired.

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