

[GAS DETECTOR]

REFERANC MANUSL

MODEL: EW-506 (LNG.LPG)



[NOTICE]

- Surely be aware of the specifications by skilled worker prior to using the product
- Surely keep the specifications to where you are always able to see

[LIST]

1. Specifications
 - 1.1. Indicator
 - 1.2. Sensor
2. Part & Function
 - 2-1. Indicator
 - 2-2. Main panel
 - 2-3. Unit panel
 - 2-4. Sensor
3. Functional diagram and wiring diagram
 - 3-1. Receiver internal function diagram
 - 3-2. Detector internal functional diagram and wiring diagram
 - 3-3. POWER function diagram Wiring Diagram
4. Operational system
5. Installation
6. Instructions & Cautions
7. Dimensions

***User's manual is not responsible for unauthorized changes**

1. Specifications

1-1. Indicator

Model	Gas Detector EW-506
Detectable Gases	LPG, LNG, City gas, Combustible gas
Power supply	AC 220V. 60 Hz
Power consumption	4W(per circuit) 4W(MAIN)
Operating Temperature	0°C~ 40°C.
Operating Humidity	Below 95% (Rh)
Detection Range	0~100% LEL
Alarm point	Combustible gas-below 25% LEL (The alarm point is 16%LEL now)
Gas concentration display	3Digit (7Segment LED 20bar LED)
Visual Alarm	Gas alarm indication 1st low alarm (yellow). 2nd high alarm (red) warning light Flashing and beeping 10 0dB or more
Operating	BLUE LED
Output	1st LOW alarm no-voltage contact (COM NO) LEL 25% 2st HIGH alarm no-voltage contact (COM NO) LEL 50% proportional output 4~20mA
Operating	BLUE LED
Fault	RED LED short sound
Warm up time	About 1 min
Cabling	VCT, VCTF,CVVS (greater than 0.75mm)
Battery	Ni-Cd storage battery DC 24V 600m Ah
UNIT Dimensions	43x133x73mm
UNIT Weight	1channel 196g

1-2. Sensor

Model	EWEX IIB 100
Type	Catalytic combustion, diffusion
Detectable Gases	LPG,LNG, City gas, Combustible gas
Detection Technique	Catalytic combustion
Operating Temperature	-20°C~40°C
Operating Humidity	Below 95% (RH)
Explosion-Proof	Exd II B T6
Power supply. Power consumption	DC 12V/ 24V, 2.4W
Dimensions	140x117x77 mm
Weight	858g
Detection range	0~100% LEL
Response time	Within 20 sec
Housing material	Aluminum
Place to use	Indoor place

2. Part & function

2-1. indicator



① main panel_

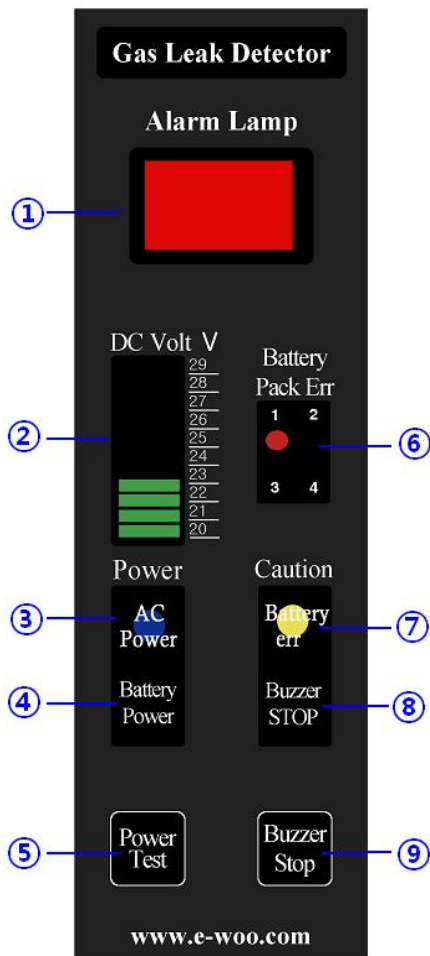
- 1.Receiving the alarm signal form unit panel, it makes Visual and Audible alarms
- 2.Receiving the fault signal from unit panel, it makes fault alarms (short sound)
- 3.It supplies the unit panel with DC power

② unit panel_

- 1.Connected with sensor, it shows the concentration of gas and visual alarm
- 2.When there are faults in the sensor, it show fault alarm
- 3.It can perform the test of the circuit

③ Instruction_ It shows specifications, serial number, cautions and manual

2-2. main panel



1. Warning light(alarm)

-YELLOW light blinks when gas is Detected. Eliminated in normal Condition.

2. Voltmeter

-It displays the electromotive force in Volts of the main power or battery

3. Main power light

-GREEN LED is lit while supplied by AC220V

4. Battery light

-GREEN LED is lit while supplied by battery (in case of power-failure) Battery test

button(power test)

-It allows the user to check the power supply of battery pressed, it switches from

Main power supply mode to battery mode

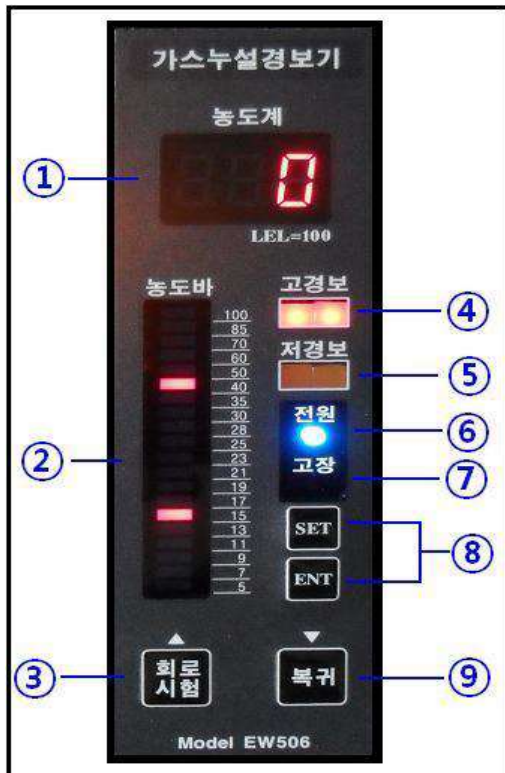
6. Battery monitoring light

7. Battery warning light – YELLOW LED gets lit when battery has troubles or It is disconnected or its fuse has blown. Or it is switched off

8. Alarm mute warning light(BZ stop)- YELLOW LED blinks if the alarm mute Button is pressed. And during this time, the audible alarm is mute In spite of the alarm condition. And if the button is pressed again. The light is eliminated and the buzzer becomes audible again

9. Alarm mute button (Buzzer stop)-It allows the user to silence the buzzer when it's alarm condition. If pressed one time. Buzzer becomes mute. And pressed again. Buzzer becomes audible again

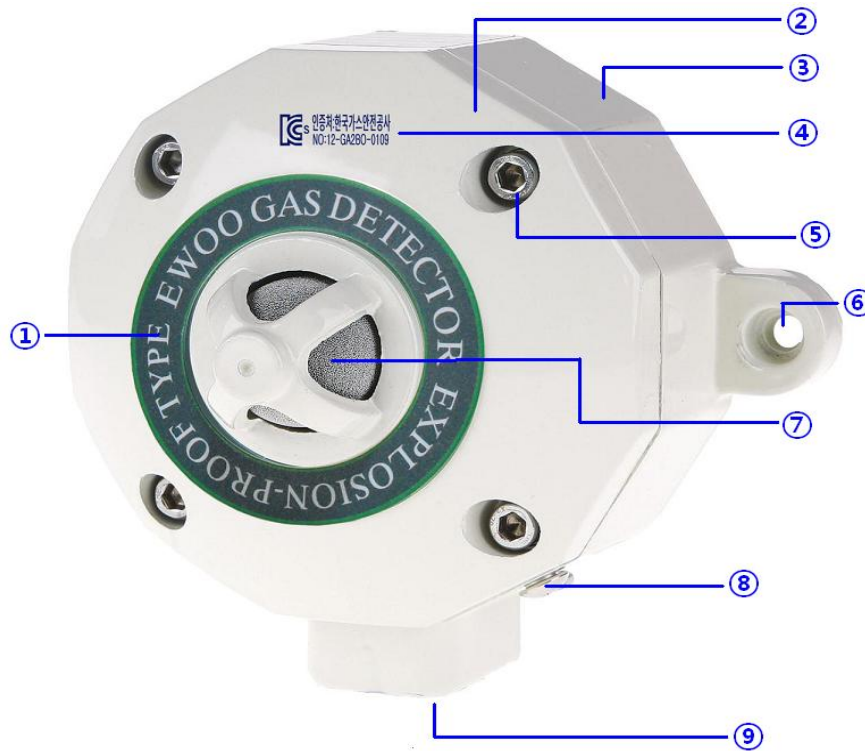
2-3. UNIT panel



- ① Concentration meter - numeric representation of the concentration of the leaked gas.
- ② Concentration Bar - Indicate the concentration of the leaked gas on the LED bar.
- ③ Circuit test button - This button checks the circuit operation of the receiver. If you press the button The concentration value rises as if gas was actually detected, and the value exceeds the alarm set point. When it is exceeded, the warning light turns on and an alarm sounds.
- ④ High alarm lamp - The red LED flashes when a gas leak warning is issued.

- ⑤ Low alarm lamp - Amber LED flashes during gas leak alarm
- ⑥ Power light - Displays the power status of the district alarm unit.
(Initial stabilization time 60 seconds)
- ⑦ Fault lamp - if the detection unit is open circuit and short circuit or Lights up when there is an abnormality in the detection unit itself.
- ⑧ [SET] Product Settings Button [Setting other than our designator is prohibited.]
[ENT] This is the button for saving the setting when the product is set up. [Do not use the auto-zero function arbitrarily]
- ⑨ Return Button - If the gas concentration is below the alarm setting, press the return button The alarm is cleared. (If the gas concentration exceeds the alarm setting, the button is set Pressing does not return the alarm.)

2-4. sensor

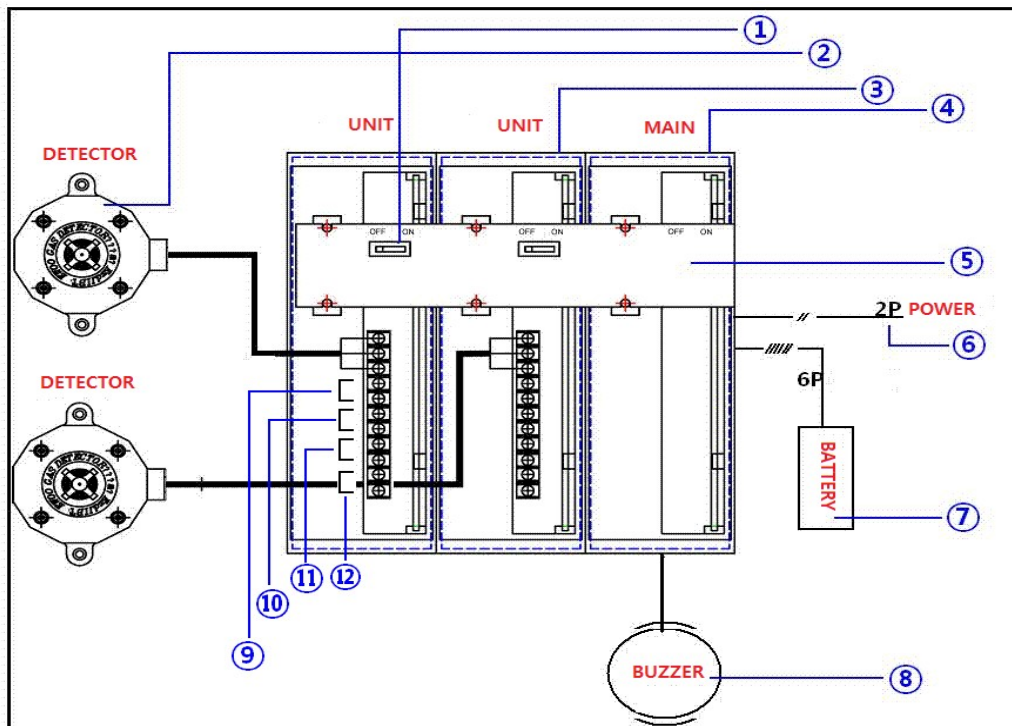


- ① Sticker (Explosion proof)
- ② Sensor cover ③ Sensor body
- ④ Explosion proof approval sticker (Korea gas safety corporation approval)
- ⑤ Cover fixing bolt: The bolt for fixing cover and body of detector
(Wrench bolt M5*15)
- ⑥ Sensor fixing hole: The hole for fixing the detector by bolts or nails
- ⑦ Sensor protection filter: sensor protection filter(bronze 300mesh)
- ⑧ Ground earth: M4*6mm
- ⑨ Cable grand: Do sealing fitting properly or access using cable glands passed the Safety certification. When the way of inlet pipes and tubes of metal wires in areas that Require explosion-proof



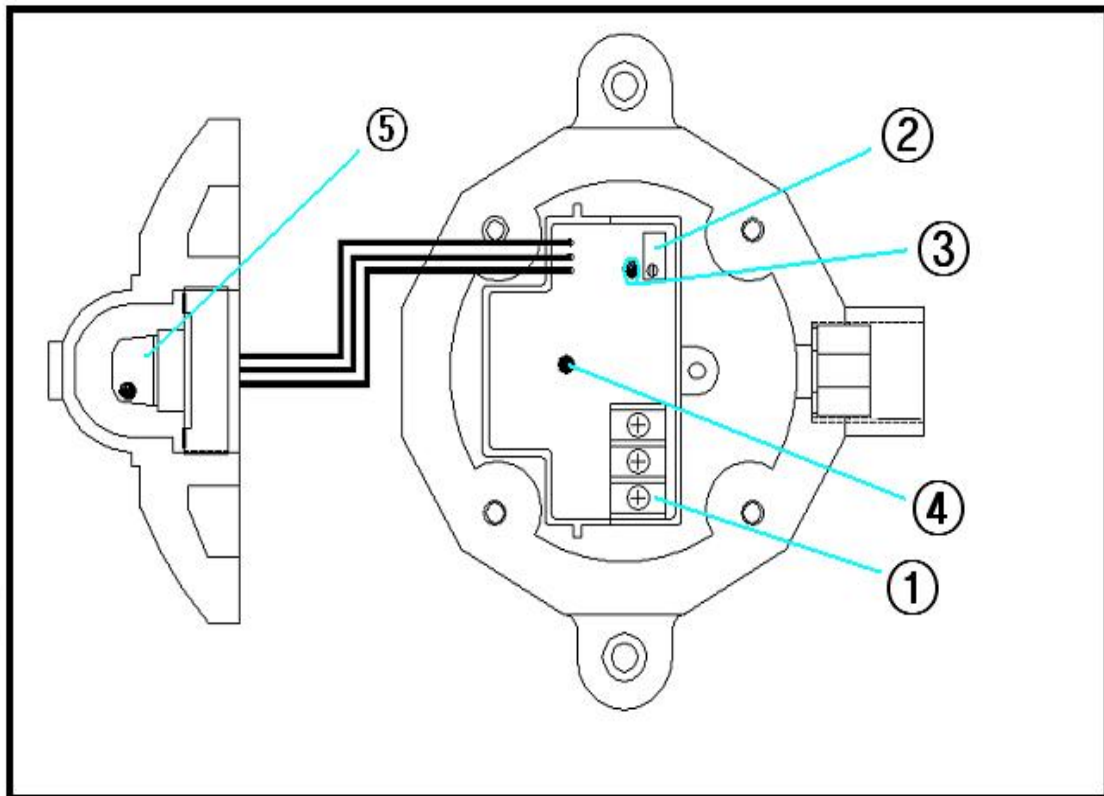
3. Wiring Diagram

3-1. Receiver internal function diagram



- ① Unit power switch: individual units can be powered on and off
- ② Detector: gas sensor
- ③ Unit panel
- ④ Main panel
- ⑤ Power Line PCB : The power of the main alarm unit is supplied to the district alarm unit through the power line pcb.
- ⑥ DC24V power supply input terminal
- ⑦ If the main power(AC 220V) is not supplied, power is supplied as a spare power source.
- ⑧ Outputs an alarm sound when a buzzer alarm occurs, and a fault sound when a fault occurs.
- ⑨ 4~20mA alarm proportional output terminal (+/-)
- ⑩ HIGH alarm contact output terminal (secondary alarm LEL 50%)
- ⑪ LOW alarm contact output terminal (1st alarm LEL 25%)
- ⑫ DC alarm output terminal : DC 21V output

3-2. Composition of sensor

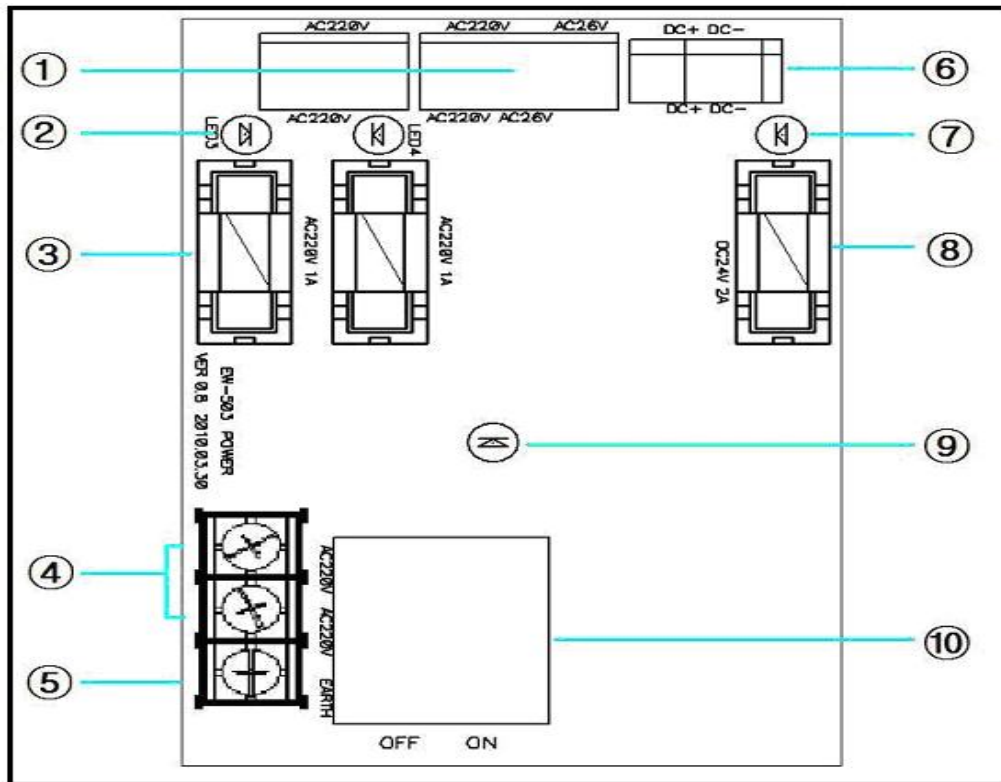


1 Connector (Terminal block)

Blue (White) +	Brown (Black)-	Green (Wire of signal)
Power supply of sensor + (DC 24V)	Power supply of sensor – (DC 24V GND)	Output of Sensor (4~20mA)

- 2 Zero Calibration - We release the detector with it being set. Do not attempt to modify.
- 3 Concentration light – The brightness of Yellow light changes in proportion to the Concentration of Gas (eliminated in normal condition)
- 4 Power supply light – Green LED is lit while supplied with Power.

3-3. Power supply

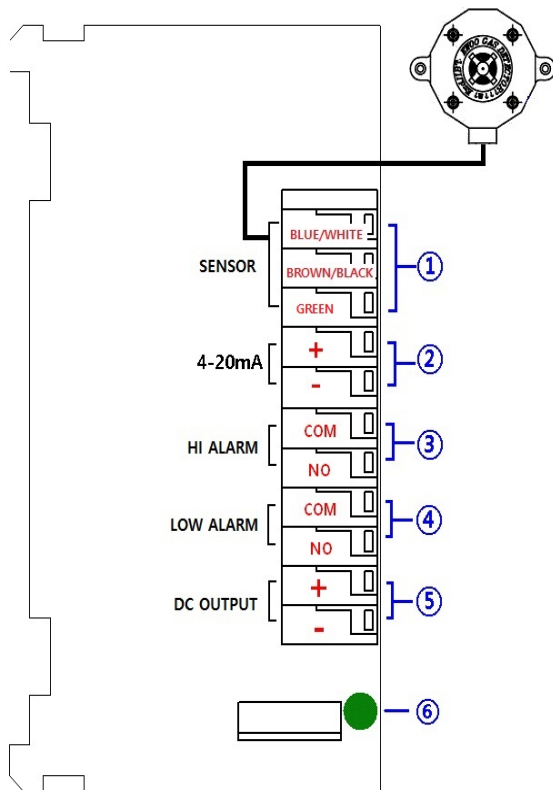


① Trans connector

unit	Trans capacity	DC FUSE capacity	Battery quantity
1~4 Channel	1A	1A	1EA
5~7 Channel	2A	2A	2EA
8~10Channel	3A	3A	8C(2EA) 9~10C(3EA)

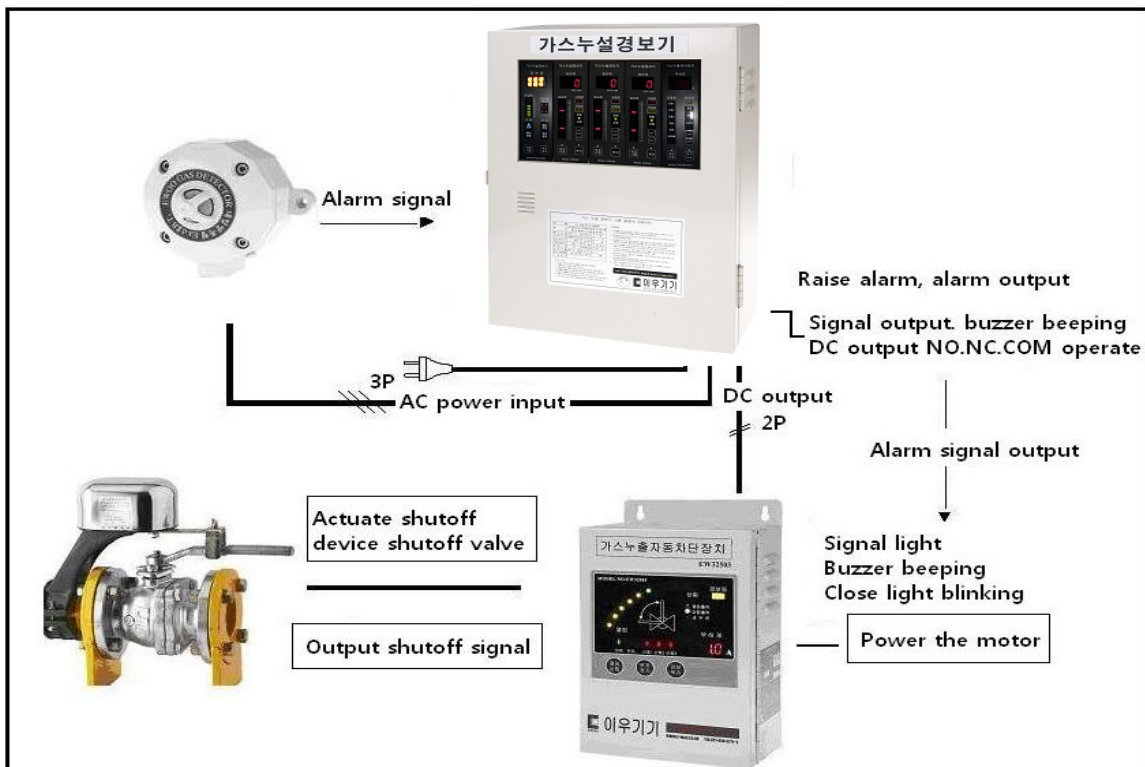
- ② AC fuse lamp
- ③ Fuse for the main power supply – 1A. 250V
- ④ Power terminal AC220V
- ⑤ Earth terminal
- ⑥ DC power connectors.
- ⑦ Warning light of the Fuse for the DC power supply- It gets lit when the Fuse for the DC power supply has blown
- ⑧ Fuse for the DC power supply – 2A.
- ⑨ DC power led lamp
- ⑩ Power supply switch (AC 220V)

3-4 Unit supply



- ① Detector connection terminal:
Detector wire color This terminal
Wiring to match the color
- ② 4~20mA alarm proportional output terminal Alarm proportional output
- ③ High alarm output terminal
Secondary alarm output terminal
LEL 50% alarm Relay COM NO
- ④ Low alarm output terminal
Primary alarm output terminal LEL 25%
Alarm relay COM NO
- ⑤ DC output: DC 12V output
- ⑥ UNIT power supply LED

4. Operational system



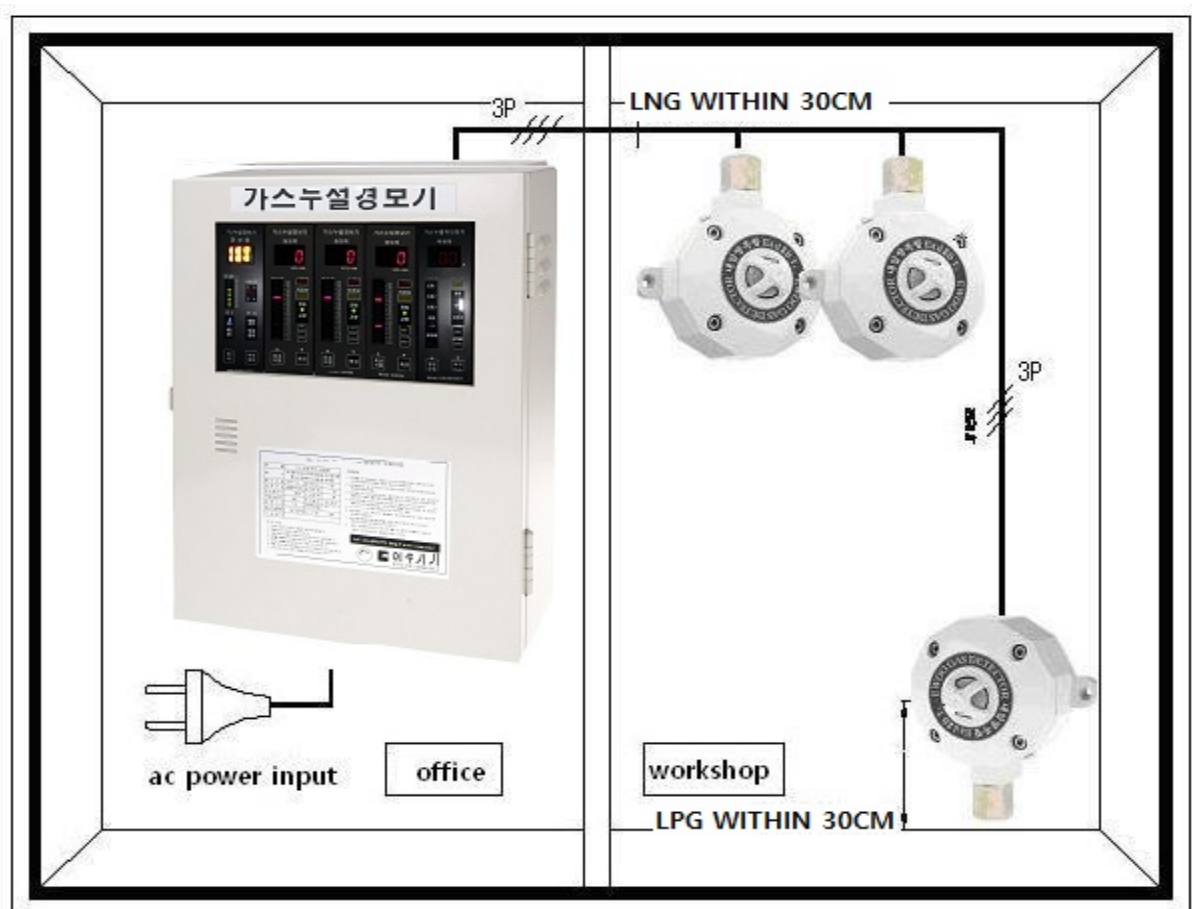
5. Installation

5-1. Where to install

- ① The detector is designed to be installed in the area that is subject to Expose to gas or the area where the leaked gas tend to stay.
- ② Please determine the location of the Sensor considering the kind of the gas, cautions and condition.
 1. If you are to detect the gas that is heavier than air, Sensor should be Mounted at floor or the wall within 30cm from floor. And if you are to detect the gas that is lighter than air, Sensor should be mounted at the ceiling or the wall within 30cm from ceiling.(Plus: Sensor should be farther than 1m and within 4m from the gas appliances)
 2. Please install the Detector at the place that the audible alarm is able to be Heard so that manager can take follow-up measures.

5-2. Installation drawing

※PLACE TO INSTALL: Kitchen, Boiler room, Room of Pressure regulator, Gas storage



6. Instruction & cautions

6-1. Instruction

1. Please open the case and connect the Sensor with the Indicator. And connect the AC 220V power supply as well.
2. Please turn on the power supply switch and wait for warm up time (1 minute).
In 1 minute, the Detector begins to operate.
3. Fault light (err) on the UNIT panel gets lit when the fuse for the Sensor has blown or the Connection wire between the Sensor and the Indicator is disconnected or short-circuited. Or the sensitivity of the Sensor has been lost.
4. If you are to test the operation of the Detector, please press the Test button on UNIT panel. Then the concentration increases as if gas is detected actually. And if the level exceeds the alarm point, the Detector makes Visual and Audible alarms.
5. If you want to stop the audible alarm, please press the alarm mute button. If you do, Alarm mute warning light blinks and the audible alarm becomes mute.
6. When the fault light gets lit, please check the connection between Sensor and Indicator.

6-2. CAUTIONS

1. Do not attempt to disassemble, repair, remodel or convert.
2. If you purchase the product which has earth terminal, please install an earth wire.
3. Do not touch the power cord or main body with wet hand.
4. Do not disturb the ventilation of the Sensor
5. Be careful not to damage the power cord.
6. Be cautious about using the silicon glue which could affect the Sensor. Silicon glue could cause malfunctioning.
7. Please use the rated voltage (AC 220V) written on the product.
8. Do not spray the Sensor directly with air freshener, insecticide, hair spray etc.
9. Please use standard gas when testing.
10. Please connect Indicator with same Sensor in serial number.
11. Do not use for the gas that is not target one.
12. Please check the sensing device more than once a year.
13. Areas to avoid
①Near drafts caused by heating, ventilating, fans and doors
②Near vapor, steam, exhaust gas, dust, strong wind and other gases
③Areas of high heat and humidity.

7. Dimensions

