Desktop Type Gas Detector

PGD-120

Instruction Manual

- •Keep this instruction manual whre it is readily accessible.
- Thoroughly read this intruction manual before using the equipment so it can be used safely and correctly.
- ●This manual uses standard specifications. If your specifications are different, the specification that came with your unit takes priority.



Instruction Manual No. PGD-120TEM March 2006

Table of Contents

1.Introduction	1
1-1. Instruction Manual	
1-2. Safe Operation	
2. Safety Notice	
3. Functions	
3-1. System Structure	3
3-2. Part Names (Front)	4
3-3. Part Names (Rear)	5
4. Installation and Wiring	6
4-1. Installation	6
4-2. Wiring	7
5. Operation	8
5-1. Operation Method	8
5-2. Operating Instruction	9
6. Maintenance and Inspection	1 (
6-1. Regular Inspections (Inspections that users are responsible for)	
6-2. Maintenance Inspection	1 (
7. Warranty	1 1

1.Introduction

1-1. Instruction Manual

Thank you for purchasing the desktop type Gas Detector Model PGD-120.

- Carefully read and thoroughly understand this manual before operating the Detector.
- Keep this instruction manual whre it is readily accessible.
- This manual uses standard specifications. If your specifications are different, the specification that came with your unit takes priority.

1-2. Safe Operation

Carefully read the following so you can use this unit correctly.

Read and understand all applicable laws and regulations and ensure that you are in complete compliance with the said laws and regulation before installing or operating the unit. Installing, wiring, and other works concerning the unit should be carried out by qualified persons, following all applicable federal, state, and local health and safety laws and regulations including OSHA.

The following safety symbols are listed in this manual and must be observed without fail:

Symbols

The following symbols are used for safety purposes:

⚠ DANGER : Indicates an imminently hazardous situation which, if not avoided, will result in death or

serious injury

MARNING: Indicates a potentially hazardous situation which, if not avoided, will result in death or serious

injury

⚠ CAUTION: Indicates a potentially hazardous situation where, if not avoided, may result in minor injury or

moderate injury. It may also be used to alert against unsafe practices.

MEMO : Operational advice and or instruction.

2. Safety Notice

Carefully read the following so you can use the unit correctly.

Read and understand all applicable laws and regulations and ensure that you are in complete compliance with the said laws and regulation before installing or operating the unit. Installing, wiring, and other works concerning the unit should be carried out by qualified persons, following all applicable federal, state, and local health and safety laws and regulations including OSHA.

⚠ DANGER

 Operation checks using actual gas are very dangerous because combustible gas may explode and toxic gas is harmful. An inspection must be carried out beforehand by persons with sufficient expertise or service staff.

⚠ WARNING

- Ground the equipment in order to prevent electric shocks.
- To avoid electric shock / damage on the unit, always disconnect the power before performing any wiring operation.
- If you control the interlock of external equipment with unit's output signal, we are not responsible for any injuries or damages caused by it.
- Maintenance and inspection are very important to maintain the reliability of gas detector.

3. Functions

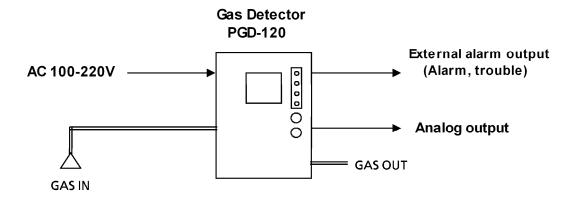
3-1. System Structure

The desktop type gas detector model PGD-120 contains gas detector model PS-7 with electrochemical, hot wire semiconductor or galvanic cell type plug and play sensor unit for the detection of combustible, toxic gases and oxygen concentration.

MEMO

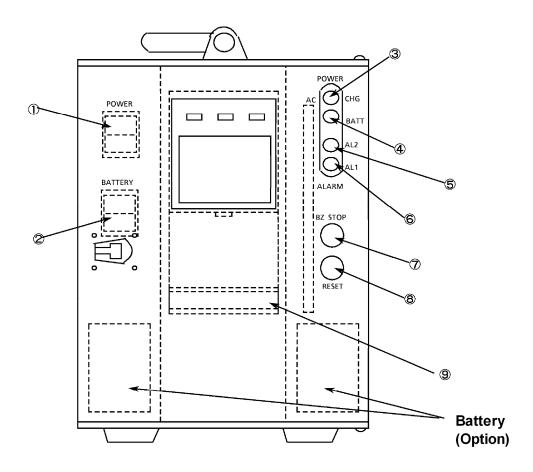
.....

The PGD-120 is a desktop type gas detector which contains the gas detector model PS-7. Instructions for the basic operations of the PS-7 are provided separately in the PS-7 operation manual. Refer to the PS-7 operation manual when necessary.



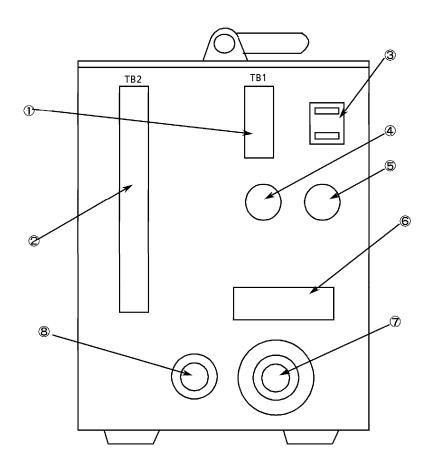
Description	Function	
Audible alarm function	Built-in buzzer will beep when alarm is triggered. Audible alarm ON/OFF can be set by built-in DIP switches.	
External alarm output	1 st stage alarm: 1c contact 2 nd stage alarm: 1c contact Trouble alarm: 1c contact Latching/Non-latching and energized/de-energized can be set by built-in DIP switches.	
Battery operation	Detector can be operated by built-in battery. (optional)	
Gas concentration indication	LCD on built-in PS-7	
Maintenance function	Maintenance switch on built-in PS-7	
Automatic flow control	Automatic sample gas flow control function on built-in PS-7	

3-2. Part Names (Front)



No.	Name	Function	
1	Power switch	A switch to open/close the AC power source	
2	Battery switch	A switch to open/close the battery power source	
3	Power/Battery charge lamp	Illuminates when AC power is supplied	
4	Battery lamp	Illuminates or blinks during battery operation	
5	2 nd stage alarm lamp	Illuminates during 2 nd stage alarm	
6	1 st stage alarm lamp	Illuminates during 1 st stage alarm	
7	Buzzer stop button		
8	Reset button		
9	Built-in detector	Model PS-7	

3-3. Part Names (Rear)



No.	Name	Function	
1	Terminal block 1	For AC power supply	
2	Terminal block 2	For alarms, analog signal output 4-20mA DC	
3	Power outlet	AC 100V supply for external device	
4	AC power source fuse		
5	Battery power source fuse		
6	Pyrolyzer connector	For pyrolyzer connection	
7	Gas inlet	With filter	
8	Gas outlet		

4. Installation and Wiring

4-1. Installation

⚠ DANGER

• This detector unit is not an explosion-proof construction. Install it in a non-hazardous area.

ACAUTION

- Do not install the Gas detector in locations listed below:
 - -Location where the ambient temperature may or exceed 40°C.
 - -Location where dew condensation may occur.
 - -Location where it could be exposed to direct water.
 - -Location where corrosive gases may exist.
 - -Location where the ambient temperature could change drastically.
 - -Location where nearby a source of electrical noises.(high frequency, magnetic noises)
- Do not install the Gas detector in an atmosphere contaminated with silicon compounds, as silicon could poison and/or impair the sensitivity of the sensor.
- The gas detector should be installed in a location free from vibration.
- Avoid severe shocks and /or mechanical impact to the gas detector.

MEMO

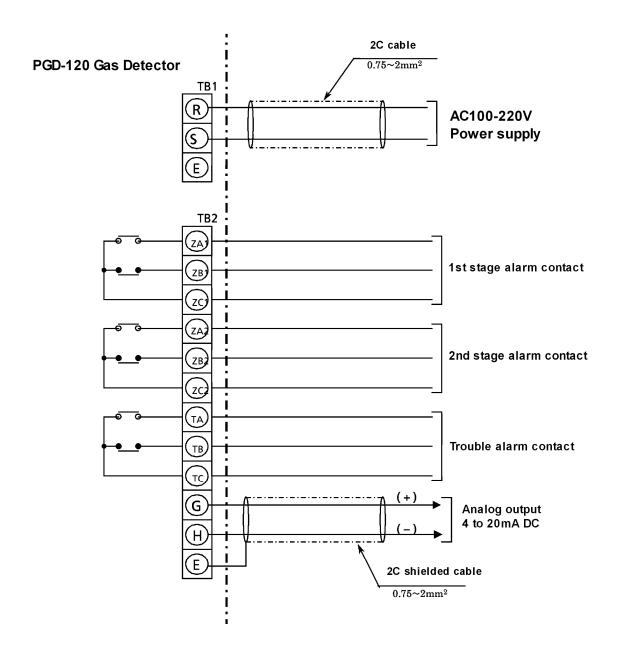
- Install gas detector where easy to provide maintenance.
- For the gas sampling pipe, use a Teflon conduit of 6/4, having a maximum length of 20 meters. Note, however, that for highly absorbent gases, such as HF, F2, HCl, Cl2, and NH3, the length of the conduit should be no more than 5 meters.

Do not use the gas collector hood when detecting in narrow spaces such as ducts.

4-2. Wiring

№ CAUTION

- Verify that power supply to the gas detector is AC 100 220V.
- Do not lay cables near source of electrical noise, such as high-capacity transformers, motors or power supplies.



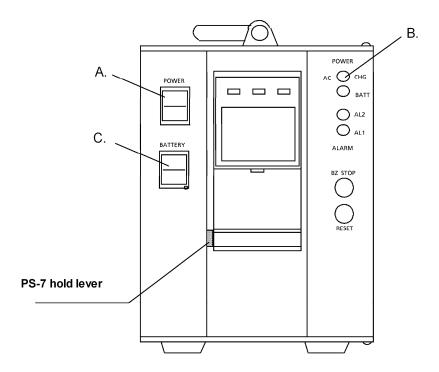
5. Operation

5-1. Operation Method

Read the PS-7 operation manual before operating this unit.

- When using this unit for the first time or when replacing a sensor, attach the sensor unit to the built

 in PS-7.
 - Open the front cover of the unit. Push the PS-7 hold lever downward, and pull the PS-7 horizontally until the PS-7 is locked on the rail. Refer to the PS-7 operation manual and attach the sensor unit.
 - After attaching the sensor unit, push the PS-7 hold lever and store the PS-7 in the unit.
- 2) Switch (below A.) the unit power ON.
 - Power/Battery charge lamp (below B) illuminates.
 - When using the built-in battery power source, switch the battery switch (below C) ON.
- 3) Switch the PS-7 power ON.
 - There might be a case that SENS err is displayed on the PS-7 LCD screen after replacing the sensor. In this case, open the cover on operation section of the PS-7 and hold down the key switch "COMM" for over one second.
 - Verify that the power lamp (Green) and LCD on the PS-7 are ON.



5-2. Operating Instruction

1) In case of alarm

- In case of alarm, following lamps illuminate and audible alarm is heard.
 - a) Alarm lamps AL1, AL2 (below A) illuminate
 - b) Audible alarm is heard (when audible alarm switch is ON)
 - c) Related external alarm contact functions
- When the buzzer stop button is pressed during the above state, audible alarm stops.
- After fixing trouble, which caused an alarm, the indications shall be as follows.
 - a) In case it is Non-latching: Alarm lamp turns OFF.

: External alarm contact return.

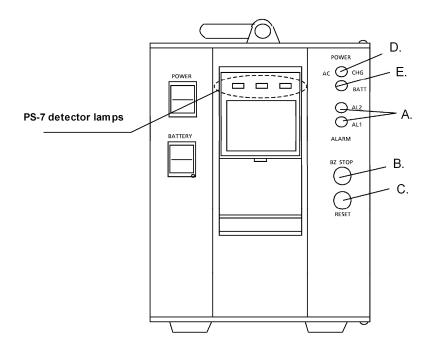
b) In case it is latching : Alarm lamp illuminates.

: External alarm contact remains fanctioned.

In case it is latching, after fixing trouble which caused an alarm and the reset button (below C)
is pressed, it returns to normal state.

2) When using built-in battery power source

- When external power source is OFF, the battery lamp (below E) turns ON and the Power/Battery charge lamp (below D) is OFF.
- When battery level is decreased, the battery lamp start to blink and indicates battery remaining time. (When the battery remaining time is decreased, a frequency of the blinks will decrease).



6. Maintenance and Inspection

6-1. Regular Inspections (Inspections that users are responsible for)

Maintenance and inspections are very important for the equipment because the purpose of the equipment is to secure safety. Maintenance and inspections are the users' responsibility. We can offer regular inspections if you make a maintenance contract with us. (Contact our dealer / agency for detailed information.)

Daily visual check

- Damage or corrosion of the gas detector
- Check and replace the filter element if it becomes dirty or clogged

6-2. Maintenance Inspection

⚠ DANGER

- Operation checks using actual gas are very dangerous because combustible gas may explode and toxic gas is harmful. An inspection must be carried out beforehand by persons with sufficient expertise or service staff.
- 1) Sensor replacement, zero adjustment and alarm test should be carried out at least once every 6 months.
- 2) Replacement of consumables (sensor unit, sampling unit, filters) should be made according to the PS-7 operation manual.

7. Warranty

New Cosmos Electric Company Ltd. (New Cosmos) shall warrant that Product supplied by New Cosmos is free from any defects in materials and workmanship for a period of fifteen (15) months from the date of shipment from New Cosmos, or one (1) year from the date of first use, whichever occurs first. This warranty does not include consumables, such as sensors, fuses, filters, battery, etc.

After examination of allegedly defective product return to New Cosmos, should the product fail to conform to this warranty, New Cosmos's only obligation shall be, at New Cosmos's sole option, replacement or repair of such non-conforming product or refund of the original purchase price of the non-conforming product. In no event will New Cosmos be liable for any other special, incidental or consequential damages or losses of any kind whatsoever, including but not limited to, loss of anticipated profits and any other loss caused by reason of non-operation of the Product.

This warranty is valid only if Product is maintained and used in accordance with New Cosmos's instructions and/or recommendations. New Cosmos shall be released from all obligations under this warranty in the event repairs or modifications are made by persons other than its own or authorized service personnel or if the warranty claim results from physical abuse or misuse of Products.

Manual Revision History

Edition No.	Date	Revisions
PGD-120TEM	March 2006	0

Additional copies of this Operation Manual are available.

Contact the following address for ordering information.

Distributor: Manufacturer:

New Cosmos Electric Co., Ltd. 2-5-4 Mitsuya-naka Yodogawa-ku

Osaka 532-0036, Japan Phone 81-6-6309-1505 Fax 81-6-6309-1514

http://www.new-cosmos.co.jp

