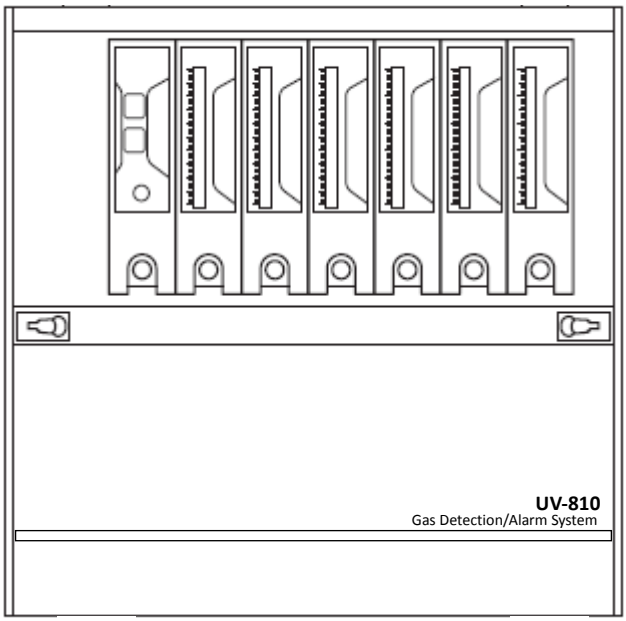
Multi-point
Gas Alarm System
UV-810

Instruction Manual



- Keep this manual for easy reference.
- Carefully read this manual prior to use.
- This manual covers the standard model. If your unit has end-user-specific options, this manual will be superseded by your delivery specifications.

NEW COSMOS ELECTRIC CO.,LTD.

Instruction Manual No.
GAE-061-01
Jul 2017

Table of Contents

1. Introduction

Thank you for purchasing the New Cosmos UV-810, multi-point gas alarm system.
Prior to use, please read this instruction manual to ensure safe and reliable operation and to prevent accidents.

This alarm system is a combination of several indicator units and one alarm unit. Each indicator unit is used in connection with a gas detector which is installed on site where gas detection is necessary. The system indicates gas concentrations of combustion gases such as hydrogen, butane, LPG, gasoline, toxic gas and/or oxygen. It issues audio and visual alarms using flashing lights and loud beeping if gas concentrations reach preset levels. The system covers up to 15 gas detection points.

Symbols Used in this Instruction Manual

This manual uses Danger, Warning, Caution and Note symbols to draw attention to procedures, materials, methods, and processes, which require particular attention.

⚠ **DANGER**	Indicates an imminently hazardous situation that can result in death or serious injury.
⚠ **WARNING**	Indicates a potentially hazardous situation that may result in death or serious injury.
⚠ **CAUTION**	Indicates a hazardous situation that may result in minor injury or property damage.
NOTE	Provides advice/information on product handling.

2. Safety Precautions

Carefully read this manual prior to use.
To ensure safe operation, follow the precautions below.
Wiring and installation should only be performed by a qualified electrician with knowledge of wiring/installation procedures.

⚠ WARNING

- Be sure to ground this product to prevent electric shocks.
- If there is a gas leak alarm, take the necessary measures specified by your company.
- This product is not explosion-proof equipment and should not be installed in a hazardous area.

⚠ CAUTION

- Do not disassemble, modify, or alter the structure of this product or its electrical circuits. Doing so may compromise the performance of the product.
- This product is not a drip-proof unit, and should be kept away from splashing water
- Only use this product in accordance with applicable laws and regulations.

3. Package Contents

This product is packed and shipped with the utmost care. If any items are missing or damaged, please contact New Cosmos or its authorized representative for replacement.

Standard contents

Item	Quantity
UV-810 gas alarm system includes indicator units and an alarm unit. Any unused indicator unit opening(s) will have filler panel(s) to seal/close them.	1
Wall mounting brackets	1 set
Fuse (UV-810) 3-point type ⌀ 5.2 - 7A 250 VAC 6-point type ⌀ 5.2 - 7A 250 VAC 9-point type ⌀ 5.2 - 15A 250 VAC 12-point type ⌀ 5.2 - 15A 250 VAC 15-point type ⌀ 5.2 - 15A 250 VAC	1
Fuse (alarm unit) ⌀ 5.2 - 0.5A 125 VAC	1
Fuse (indicator unit) ⌀ 5.2 - 1A 125 VAC	1 per indicator unit
M5x8 mounting screw, for mounting UV-810	4
Instruction manual	1
Inspection certificate	1

Optional items (sold separately)

Zener barrier	Number of detection points
Panel mounting brackets with tension screws	1 set

4. System Configuration

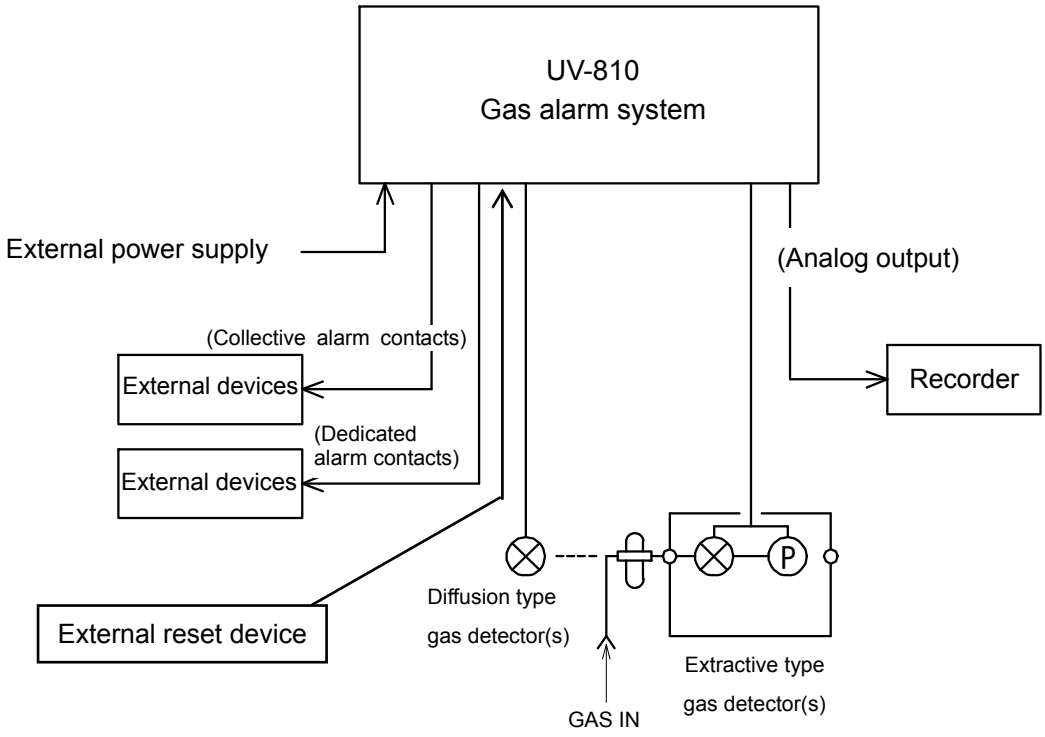


Figure 1. Typical System Configuration

* Refer to 6. “Mounting and Wiring” for more information.
* External devices may include: signal towers, signal lights, alarm horns, etc.

Definition of Collective and Dedicated alarm contacts

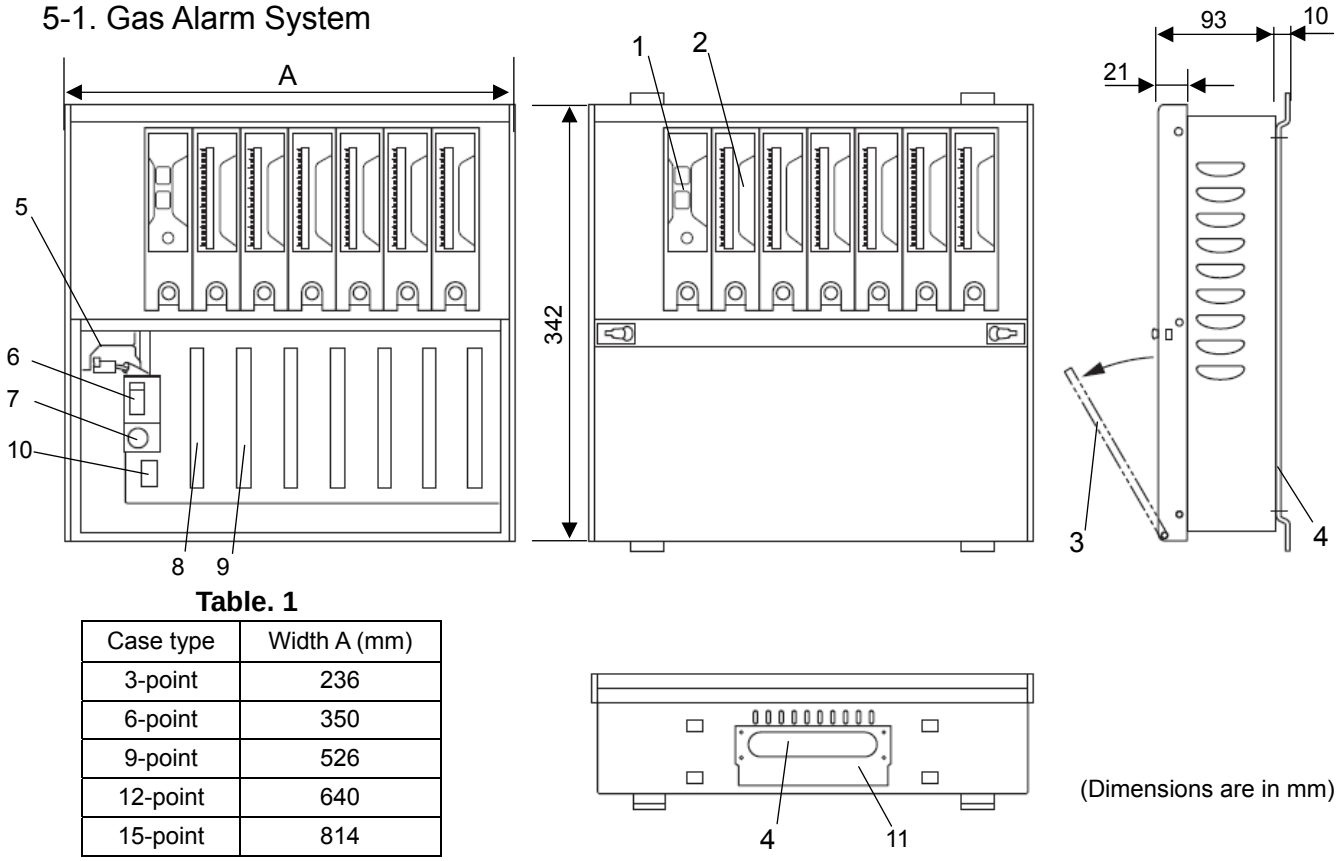
The UV-810 gas alarm system consists of one alarm unit and multiple indicator units. Each indicator unit is connected to an onsite installed gas detector. The system has one Collective terminal block, and Dedicated terminal blocks. A Dedicated terminal block is provided for each indicator unit. Collective and Dedicated terminal blocks have several alarm contacts. These alarm contacts can be used to control external devices to suit the end-user. E.g. interlock, speaker, signal light.

1) Collective alarm contact
These relay contacts are located on the Collective terminal block and activate if at least one indicator unit generates a device failure or gas alarm.

2) Dedicated alarm contact
These relay contacts are located on the Dedicated terminal block, and activate if the corresponding indicator unit generates a gas alarm.

5. Unit Dimensions and Components

5-1. Gas Alarm System



(Dimensions are in mm)

Table. 1

Case type	Width A (mm)
3-point	236
6-point	350
9-point	526
12-point	640
15-point	814

Figure 2. Gas Alarm System

Item	Component	Function/Description
1	Alarm unit	Activates an alarm using lights and sounds.
2	Indicator unit(s)	Indicate gas concentration(s).
3	Protective case cover	Protective cover for the energized area to prevent accidental contact.
4	Cable openings (2 places)	Can accommodate a 20mm maximum diameter cable. Two cable openings, located on the bottom and the lower rear.
5	Power converter	Converts 100-240 VAC to 24 VDC. (Included when 24 VDC power is unavailable.)
6	Power switch	Used to turn on/off the gas alarm system.
7	Fuse holder	Fuse holder for the gas alarm system.
8	Collective terminal block	Houses Collective alarm contacts. Connect external leads to the contacts as needed. When one or more indicator units signal a device failure/gas alarm, the relevant alarm contact will be activated.
9	Dedicated terminal block(s)	Houses Dedicated alarm contacts, analog output and gas detector terminals. Connect external leads to the contacts/terminals as needed. One Dedicated terminal block is provided per indicator unit. When a corresponding indicator unit signals a gas alarm, the relevant alarm contact will be activated.
10	Power terminal block	Location for connecting external power cable. Three types (100-240VAC, 100VAC and 24VDC) are available. Marked as “AC100～240V INPUT”, “AC100V INPUT”, or “DC24V INPUT” on the terminal block. Specified at time of order.
11	Knockout plate	Make a cutout in the knockout plate as needed to accommodate cables.

5-2. Indicator Unit (V3 Series)

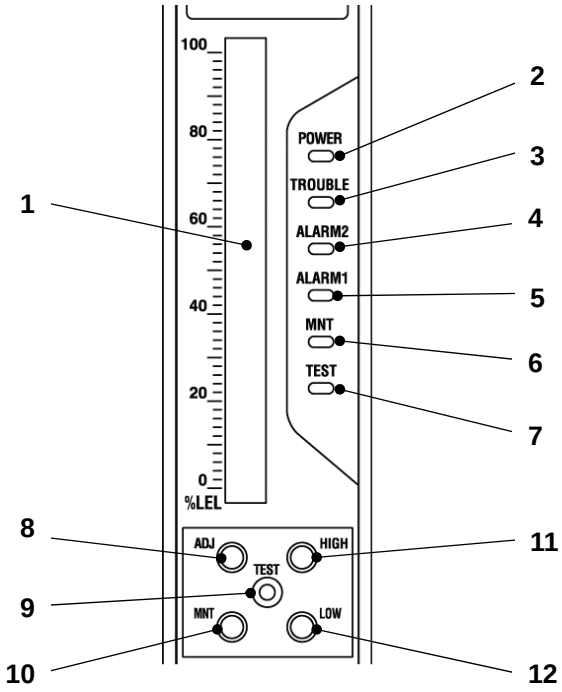
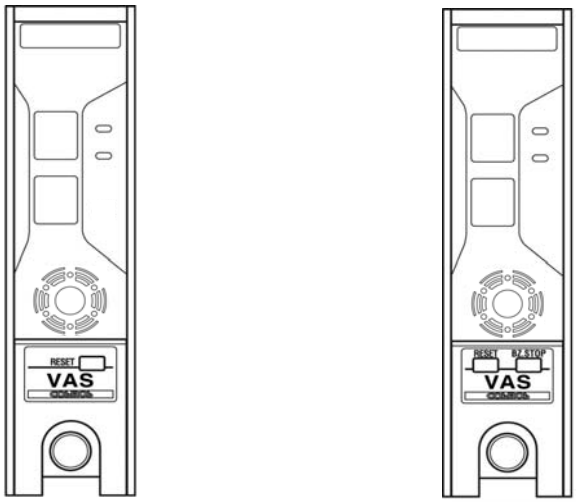


Figure 3. Indicator Unit

Item	Component	Function/Description
1	Gas concentration bar graph display	Displays the gas concentration and alarm set values.
2	POWER light (green)	Lit when the indicator unit is on.
3	TROUBLE light (amber)	Flashing when a device failure is detected in a connected gas detector or indicator unit.
4	ALARM2 light (red)	Flashing when the gas concentration exceeds the 2nd stage alarm set value.
5	ALARM1 light (red)	Flashing when the gas concentration exceeds the 1st stage alarm set value.
6	MNT light (red)	Lit or flashing when the maintenance mode is on.
7	TEST light (red)	Lit when the test mode is on.
8	ADJ button	Used to perform a one-touch zero adjustment (21vol% adjustment for oxygen).
9	TEST button	Used to test the alarm function. Use a rounded pin to press this button.
10	MNT button	Used to switch to the maintenance mode.
11	HIGH button	Used to adjust the testing level during the test mode.
12	LOW button	

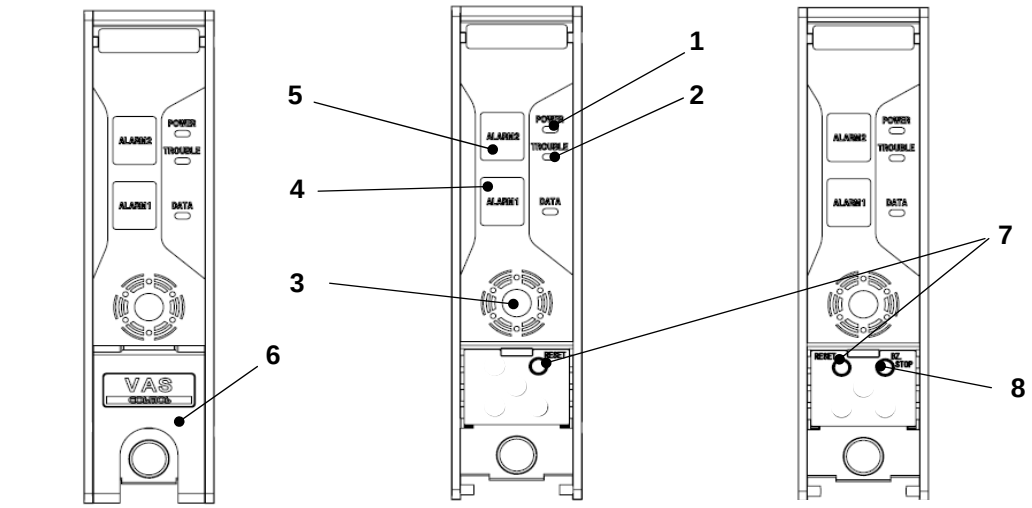
5-3. Alarm Unit (VAS)

Exposed button type



Semi-lock type　　Full-lock type

Covered button type



With front cover closed　　Semi-lock type with front cover opened　　Full-lock type with front cover opened

Figure 4. Alarm Unit

Item	Component	Function/Description
1	POWER light (green)	Lit when the alarm unit is on.
2	TROUBLE light (amber)	Lit when a device failure in one or more indicator units, or the alarm unit itself, is detected.
3	Speaker	Beeping sounds are produced when a gas alarm activates, and steady tone is produced when a device failure is detected.
4	ALARM2 light (red)	Lit when one or more indicator units activates a 2nd stage gas alarm.
5	ALARM1 light (red)	Lit when one or more indicator units activates a 1st stage gas alarm.
6	Front cover (Button enclosed type only)	Open the cover to use the RESET and BZ.STOP buttons.
7	RESET button	For semi-lock type, press to mute an active alarm. The alarm will be automatically cancelled when the gas concentration falls below the alarm set value. For full-lock type, “RESET” button must be pressed once the gas concentration falls below the alarm set value to cancel the alarm.
8	BZ.STOP button (Full-lock type only)	Press to mute an active alarm.

6. Installation and Wiring

6-1. Installation

⚠ WARNING

- This product is not explosion-proof equipment and should not be installed in a hazardous area.

⚠ CAUTION

- Install this product in a highly visible position in the event of an alarm, where it can be constantly monitored.
- Do not install in places subject to vibration, electrical noise, corrosive gas, high temperature and/or high humidity.
- Avoid installing in places near equipment which can generate high frequencies.

There are two installation methods, wall-mounting and panel-mounting.

6-1-1. Wall-mounting

This product can be installed either directly to a wall or by using wall mounting brackets.

- Wall installation (Bracket)

(1) Attach the two brackets to the rear of the gas alarm system case by tightening the four M5x8 screws.
(2) Your case type will determine the needed “A” width. Refer to Table 2. Make four holes in the wall to accommodate the M5 screws.
(3) Mount the case to the wall using four M5 screws.

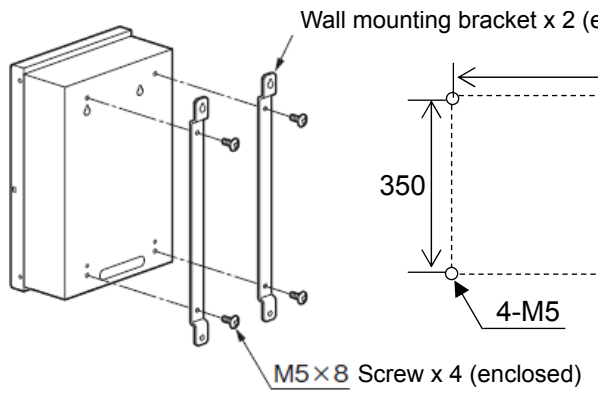


Figure 5. Attach Brackets

Figure 6. Mounting Layout

Table 2

Case type	Width A (mm)
3-point	152
6-point	266
9-point	430
12-point	544
15-point	710

- Wall Installation (Direct)

(1) Refer to Figure 7 and Table 3, and cut four mounting holes in the wall. This gas alarm system has cable openings on its rear and bottom. When using the bottom cable opening, it is not necessary to cut a hole in the wall for cable entry, but a wall cut must be made when using the rear cable opening.
(2) Install wall anchors into each of the four wall mounting holes, and screw two bolts into the two top wall anchors.
(3) Remove the alarm and indicator units covering the case’s upper mounting holes. Hang the case on the two top bolts (step 2) by sliding these bolts through the case’s upper mounting holes. Screw two bottom bolts into the two lower anchors. For 15- point type systems, remove the metal plate from the case as shown in Figure 9.

(4) Firmly tighten all four bolts, and connect and install the removed alarm and indicator units into the case.

Table 3

Case type	Length in mm				
	A	B	C	D	E
3-point	114	280	152	0	110
6-point	190	280	190	0	110
9-point	266	280	266	0	230
12-point	380	280	380	0	230
15-point	456	280	660	102	410

⚠ CAUTION

Always remove connectors using plug or connector ends, and not the cable. Broken wires or poor contacts may result.

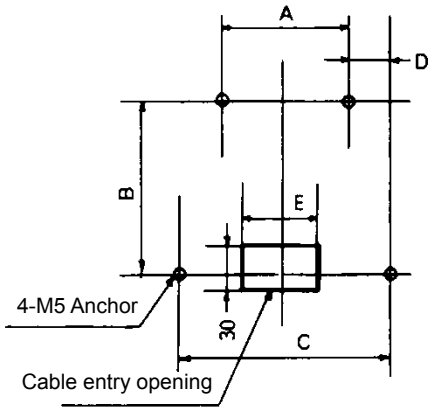


Figure 7. Mounting Layout

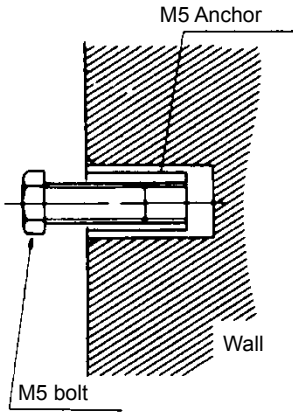


Figure 8. Attach Anchor

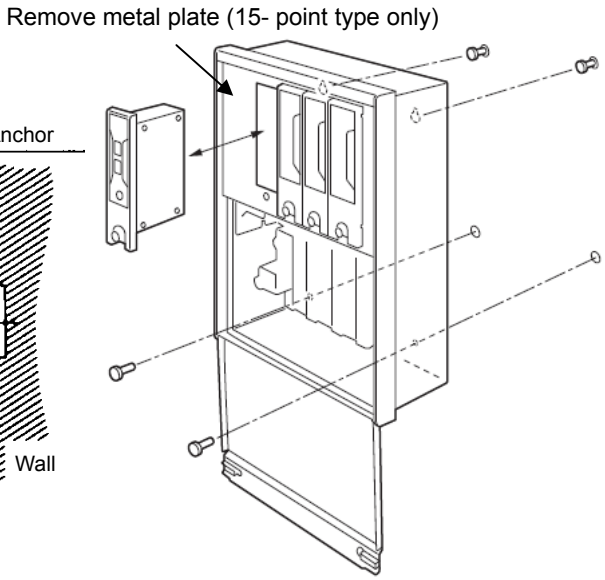


Figure 9. Installation

6-1-2. Panel-mounting

This gas alarm system can also be installed on a panel (1.6 to 5 mm thick).

(1) Refer to Figure 10 and Table 4, and cut a square cutout in the panel.
(2) Insert the gas alarm system case through the square cutout. Attach the two top and two bottom (three top and three bottom for 15-point type) optional panel mounting brackets with tension screws. Evenly tighten the tension screws in an “X” pattern to secure the case to the panel.

Table 4

Case type	Length in mm	
	A	B
3-point	230	332
6-point	344	332
9-point	520	332
12-point	634	332
15-point	808	332

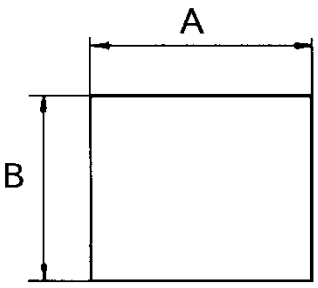


Figure 10. Panel Cutout Size

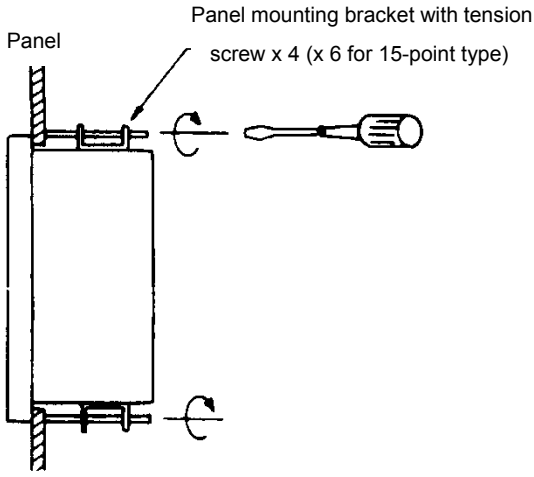


Figure 11. Installation

6-2. Wiring

⚠ WARNING

- Prior to wiring, turn off the gas alarm system to prevent electric shocks.
- Make sure to ground the unit to prevent electric shock.

6-2-1. Wiring and Connection of Gas Detector

⚠ CAUTION

- Ensure that the cables are correctly connected between each indicator unit/gas detector pair.
- Keep connection cables away from the power cable.
- When installing a gas detector in a hazardous location, use explosion-proof wiring. Refer to the explosion-proof wiring instructions in the gas detector's instruction manual.

Wire each gas detector to its corresponding Dedicated terminal block. Make sure that the tag number and plate number of the indicator unit match the loop number and sticker number of the gas detector.

* Refer to the gas detector's instruction manual for its specific installation and wiring procedure.

NOTE Ensure that the resistance of the connecting wire (per conductor) is 10 ohm or less.

≤ 400m - 0.75 mm^2 wire
≤ 600m - 1.25 mm^2 wire
≤ 1km - 2.00 mm^2 wire

When using a zener barrier to connect to an *intrinsically safe* gas detector, choose a wire and its length according to the intrinsically safe parameters as specified by the zener barrier.

There are multiple types of V3 series indicator units. They are divided according to the gas detector types they are used with. These types are divided into the following five groups, with wiring varying from group to group.

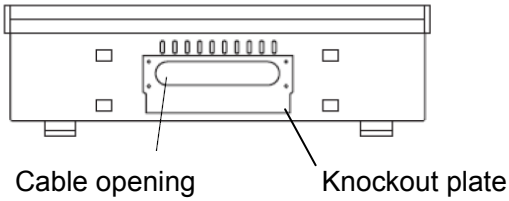
Table 5. V3 Groups

Group 1	Group 2	Group 3	Group 4	Group 5
V3 Type Hv V3 Type Cv V3 Type Tv	V3 Type O V3 Type D	V3 Type M	V3 Type Hi V3 Type Ci V3 Type Ti	V3 Type Zn

For type selection, please contact New Cosmos or its authorized representative.

Make a cutout in the knockout plate (bottom) as needed to accommodate cables.
When using a zener barrier to connect to an *intrinsically safe* gas detector, Ingress Protection Rating "IP2X" is required. Refer to Figure 13 for typical configuration using a zener.

* To comply with IP2X, it is necessary to take measures to prevent fingers from being able to enter through the cable opening and touching the electrically charged parts inside. If there is a gap between the cables and the cable opening, close the gap by using putty, etc.



- Typical Gas Detector Connections for Group 1 (V3 Type: Hv/Cv/Tv)

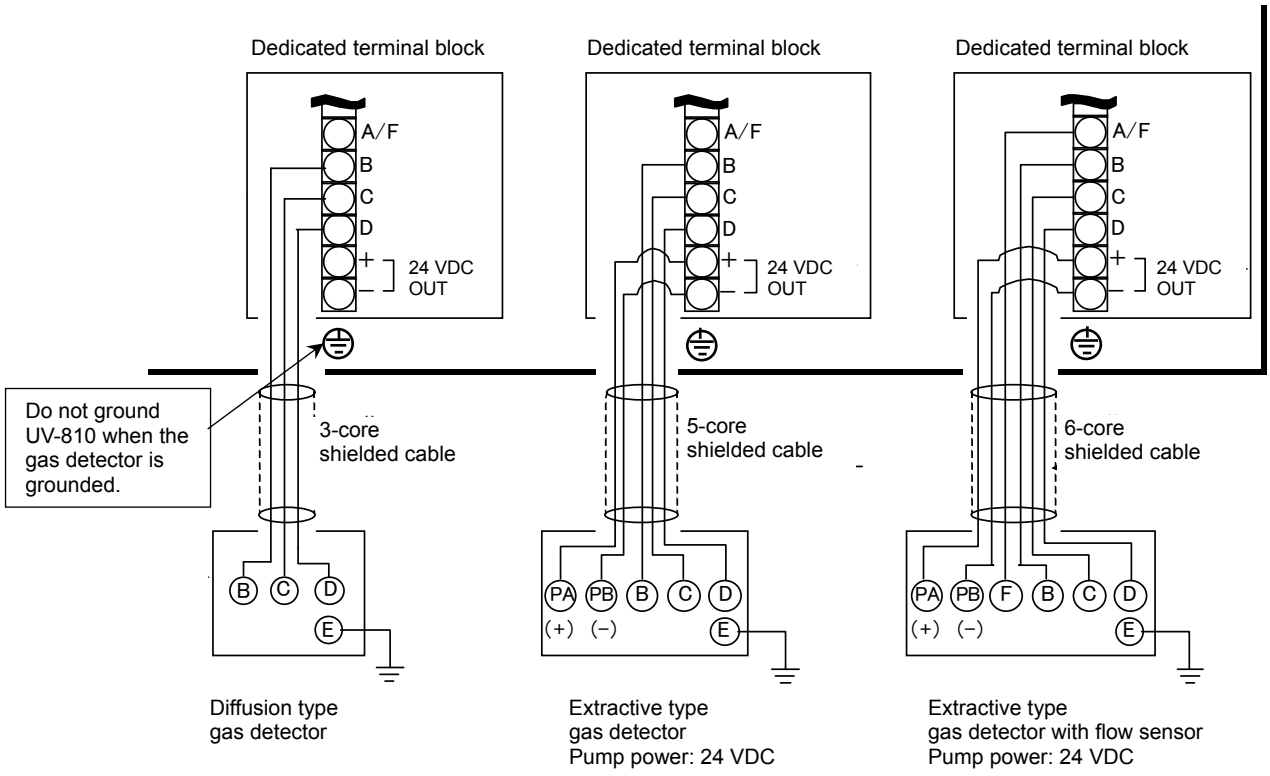


Figure 12. Typical Gas Detector Connections for Group 1

- Typical Gas Detector Connections for Group 2 (V3 Type: O/D)

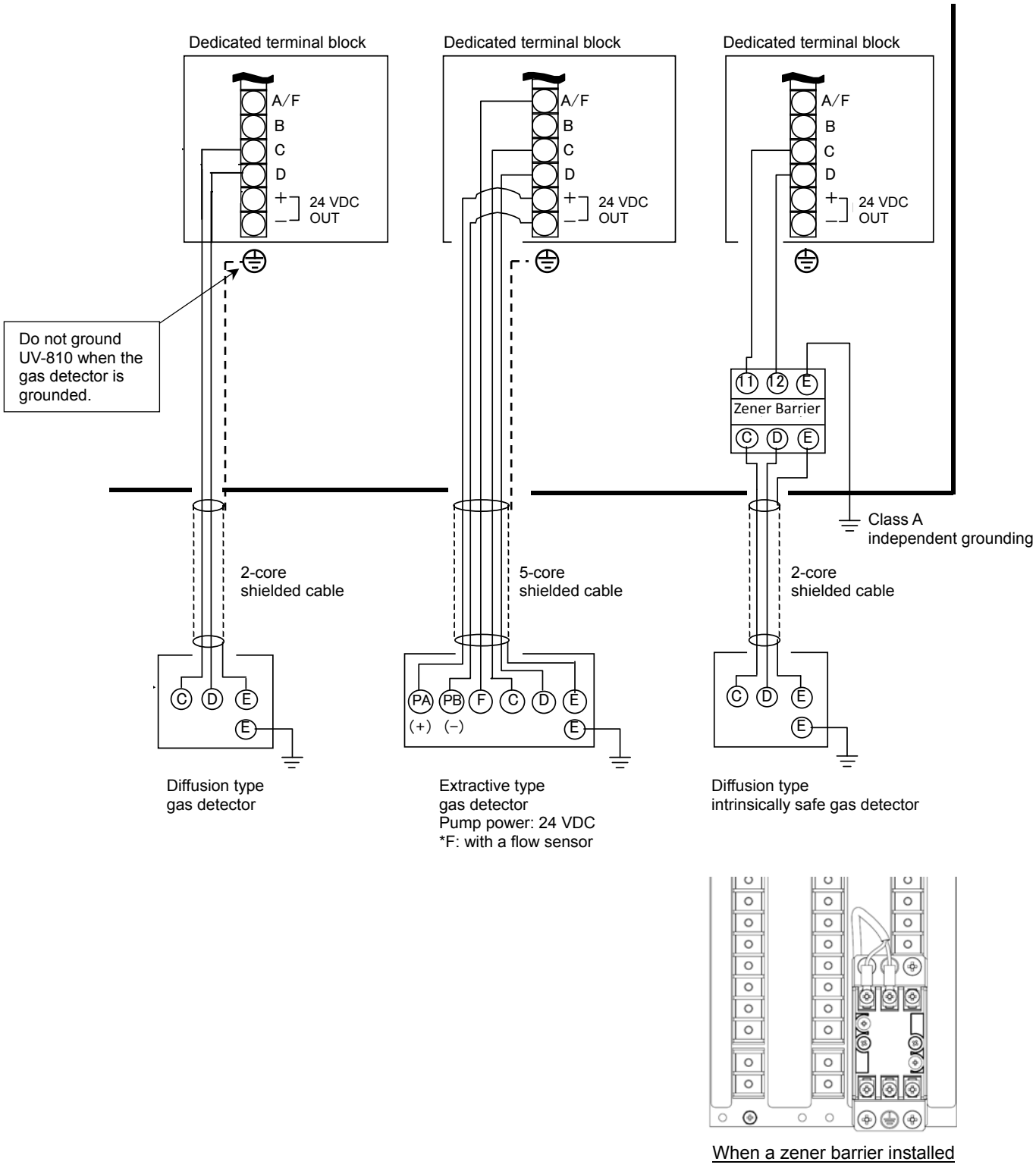


Figure 13. Typical Gas Detector Connections for Group 2

- Typical Gas Detector Connections for Group 3 (V3 type: M)

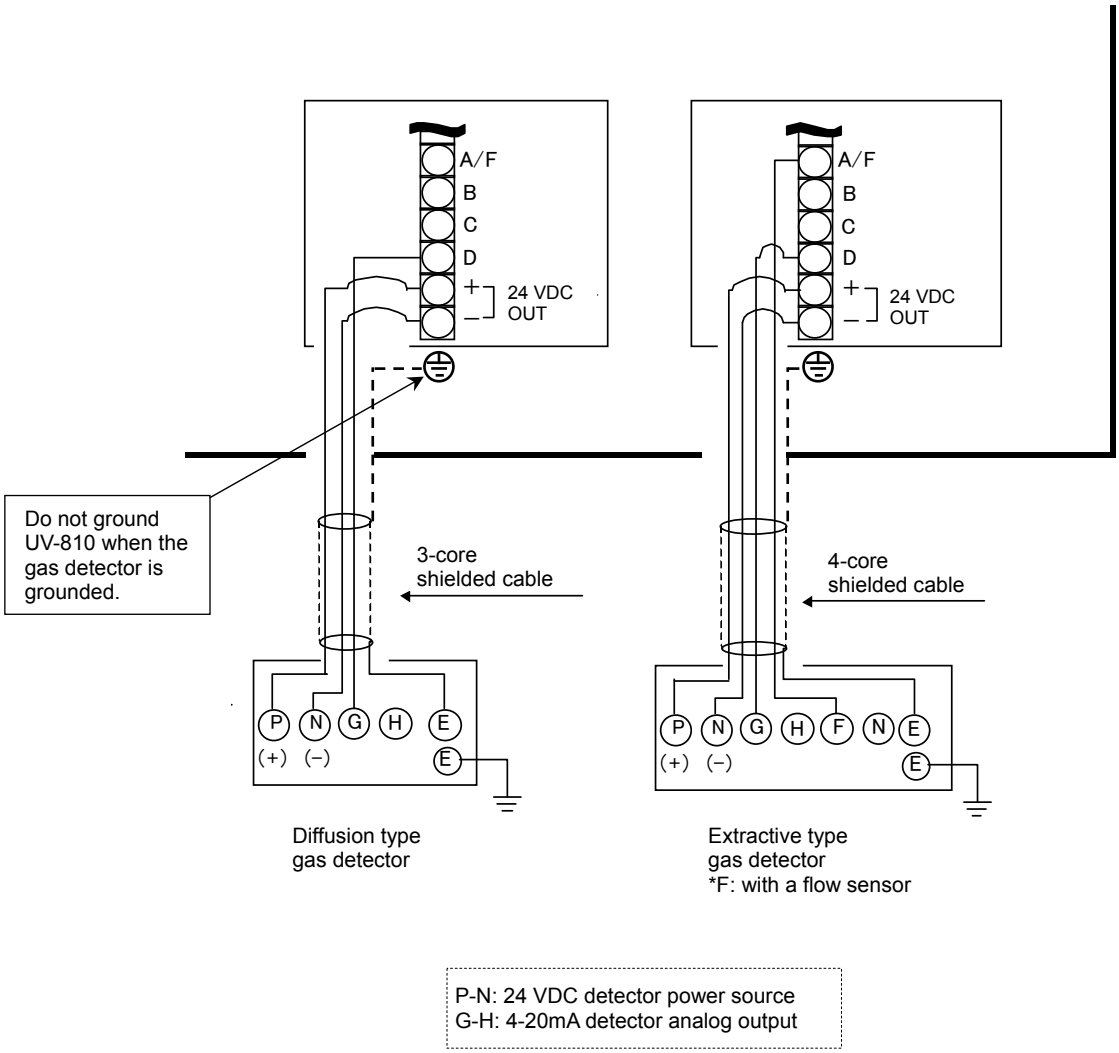


Figure 14. Typical Gas Detector Connections for Group 3

- Typical Gas Detector Connections for Group 4/5 (V3 Type: Hi/Ci/Ti/Zn)

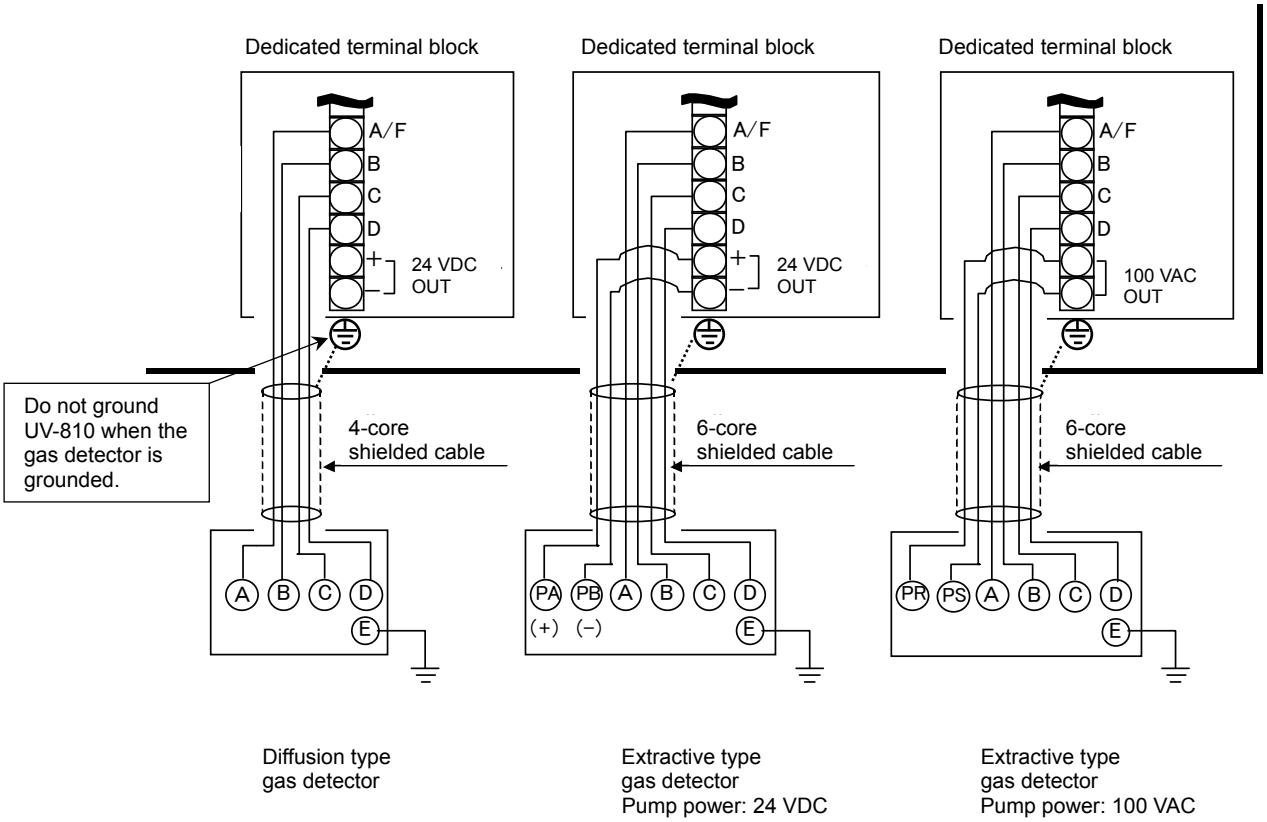


Figure 15. Typical Gas Detector Connections for Group 4/5

6-2-2. Connecting Power Cable

Use a dedicated breaker for the power cable going to this gas alarm system.
“AC100～240V INPUT”, “AC100V INPUT”, or “DC24V INPUT” is marked on the power terminal block. Check that the marking matches what you specified at time of order, then connect the power cable to the power terminal block.

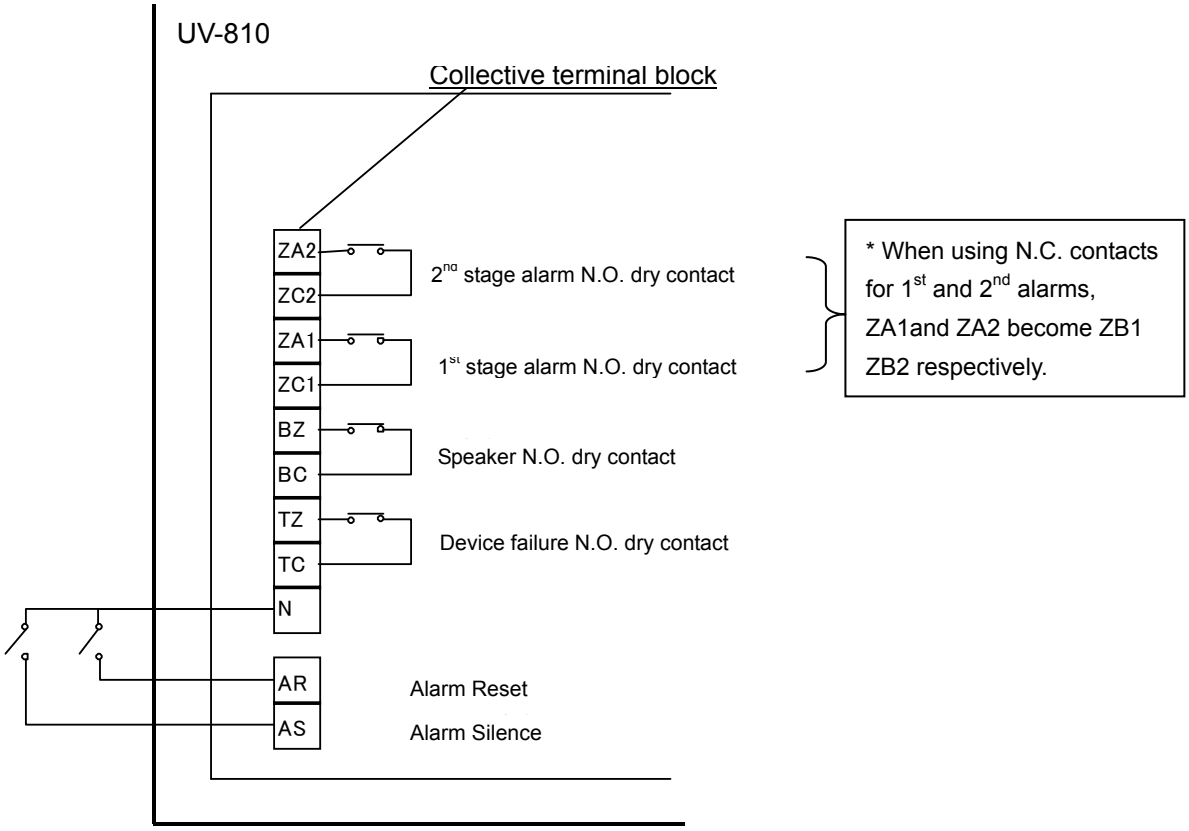
6-2-3. Alarm Contact Connection

⚠ CAUTION

- Connect external equipment with a max load: 100 VAC, 1A or 24 VDC 1A to the Collective terminal block. Connect external equipment with a max load: 250 VAC 2A or 24 VDC 2A (resistive load) to the Dedicated terminal blocks.
- New Cosmos is not responsible for any damage resulting from incompatibility with third party equipment (e.g. interlock) using gas concentration signals (analog output, alarm contact output) from this New Cosmos gas alarm system.

(1) Collective alarm contact connection

To use the Collective alarm contacts, connect wires from external devices to the Collective terminal block. Each contact is electrically isolated. Alarm Reset (AR) and Alarm Silence (AS) terminals are not relay contacts. Adding a switch between N and AR/AS terminals enables alarm resetting/silencing from an external device.



*N.O.: Normally open. N.C.: Normally closed.

Figure 16. Wiring Diagram of Collective Terminal Block

(2) Dedicated alarm contact connection

To use the Dedicated alarm contacts, connect wires from external devices to the Dedicated terminal block.

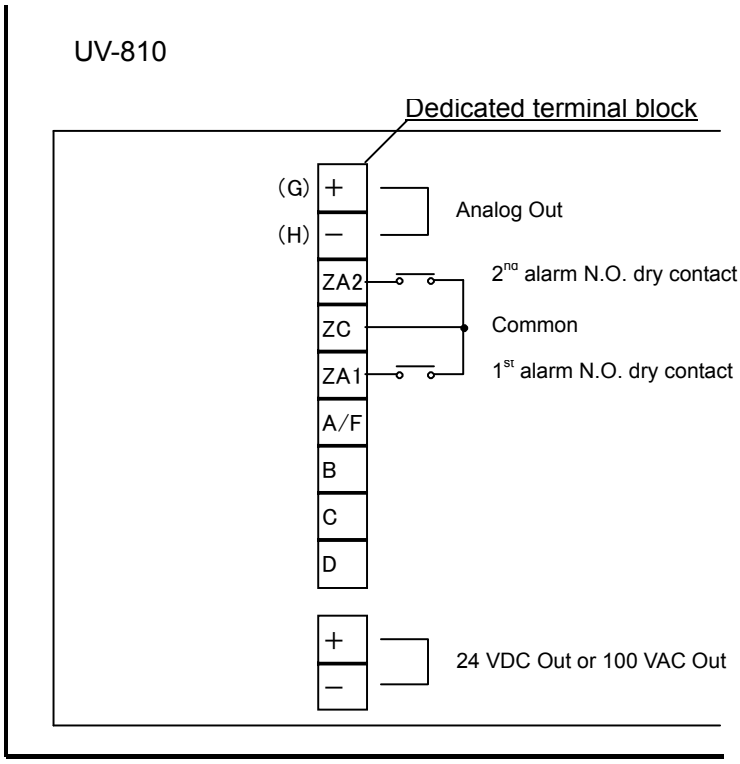


Figure 17. Wiring Diagram of Dedicated Terminal Block

6-2-4. Analog Output Terminal Connection

To continuously monitor and record gas concentrations sent from a gas detector on site, connect an external recorder to the Analog Out terminals on the dedicated terminal block. Refer to Figure 17 above. The standard analog output is 4-20mA. Use a recorder with resistive load of 300 ohm or less when using the standard analog output. 1-5 V analog output is also available if specified at time of order. When using 1-5 V analog output, use a recorder with resistive load of 100k ohm or more.

7. Operation

IMPORTANT

Initial start-up procedure can be extremely dangerous because it uses actual gas (e.g. combustible gas, toxic gas). It is highly recommended that New Cosmos or an authorized representative should be contacted to perform the initial start-up. The accuracy of the checks and adjustments made during this start-up (e.g. zero/span adjustments, operation checks using actual gas) are crucial to ensure the reliability of the gas detection and alarm system. Initial start-up operation should only be performed by authorized personnel.

⚠ CAUTION

Before turning on the gas alarm system, check that all the components are connected correctly by referring to 6-2 “Wiring”. Also check your delivery specifications, if your unit has end-user-specific options.

After making sure that the power source voltage and the wiring are correct, take the following steps to operate the gas alarm system.

(1) Power-on
Set the power switch to the on position. The green POWER lights on all the indicator units will start flashing and the warm-up cycle will start, while only the green POWER light on the alarm unit will turn on and not flash during the warm-up cycle.

(2) Warm-up
Once the warm-up cycle is completed, the green flashing POWER lights will be steady, and normal operation will begin. The time needed for the warm-up cycle varies depending on the detection principle of the sensor type. Refer to the gas detectors’ instruction manual for more information.

Refer to the instruction manuals of V3 indicator unit and VAS alarm unit for their operation procedures.

8. Maintenance

Perform routine checks and annual inspection as given in the table below.

Item	Frequency	Procedure
Routine check (performed by user)	Daily	・POWER lights Check that all the POWER lights are on and steady and that the system operates.
		・Bar graph displays Check that the indication/reading of the bar graph displays are as expected for normal startup. Abnormal: E.g. repeated bar graph fluctuations, abnormally high/low concentration than recently observed, or indicating a high ppm even in clean air.
	Monthly	・Check alarm using TEST button Press the TEST button on each indicator unit to confirm that the alarm is functional.
Annual/semi-annual inspection (performed by New Cosmos or its authorized representative)	6 months/Yearly	Contact your New Cosmos or its authorized representative.

Important Notice for Scheduled Inspection

In order to ensure the reliability of the gas detection and alarm system, it is vital to perform periodic maintenance and inspections. It is highly recommended that a maintenance contract with a local New Cosmos representative be made for the performance of scheduled inspections. Installation, inspection, maintenance, calibration, and proof testing shall only be performed by trained personnel.

⚠ CAUTION

- Performing an alarm operation check by pressing the test button activates the analog output, alarm contact output, and output to the alarm unit (deactivated during maintenance mode). If the alarm contact output is used to interlock external devices, release the interlocks of the external devices and set the unit to maintenance mode to prevent possible activation of the alarm contact.

  Notify all personnel before starting the alarm operation check.

9. Troubleshooting

Before making a repair request, please refer to the table below. If the gas alarm system does not return to normal operation after performing the corresponding steps in the table, or if your issue is not found in the table, consult New Cosmos or its authorized representative.

Issue	Probable cause	Solution	Reference section
Power lights (of indicator and alarm units) do not turn on.	Power switch is in the off position.	Set the power switch to on.	
	Incorrect or loose wiring.	Check the wiring and tighten loose terminals	6-2. Wiring
Indicator unit's trouble light is flashing, alarm unit's trouble light is on and steady and alarm unit is producing a steady tone.	Blown fuse.	Replace blown fuse with a new one.	Instruction Manual of V3 indicator unit.
	Broken wires or incorrect wiring between indicator unit and gas detector.	Check and rewire.	
	Broken sensor wire.	Replace the sensor with a new one.	
	Flow rate of extractive type gas detector is too low.	Check inlet and piping from gas detector for clogging.	
	Power supply voltage is 18 V or less (for 24 VDC input)	Adjust power supply voltage to 24 V ±10%.	

10. Specifications

Model	UV-810
Number of detection points	Up to 15 points (Case types: 3/6/9/12/15)
Detection Principle	As per delivery specifications
Target gas	As per delivery specifications
Indication range	As per delivery specifications
Alarm set value	As per delivery specifications
Alarm accuracy	As per gas detector specifications ・Combustible gas : ± 25% of alarm set value under identical conditions ・Toxic gas: ± 30% of alarm set value under identical conditions
Alarm delay	As per gas detector specifications ・Combustible gas: Less than 30 seconds with a gas concentration that is 1.6 times higher than the alarm set concentration. ・Toxic gas: Less than 60 seconds with a gas concentration that is 1.6 times higher than the alarm set concentration. Note: Delay time caused by piping length is not included.
Alarms	Indicator unit: ・Red ALARM1/2 light: flashing when a 1st/2nd stage gas alarm occurs, and steadily lit after reset (auto-resetting or manual-resetting type available). ・ Amber TROUBLE light: flashing when a device failure in a connected gas detector or in the indicator unit itself, is detected. Alarm unit: ・ Red ALARM1/2 light: lit when one or more indicator units activates a 1st/2nd stage gas alarm. ・Amber TROUBLE light: lit when a device failure in one or more indicator units, or in the alarm unit itself, is detected. ・ Alarm sound: beeping when one or more indicator units activates a 1st/2nd stage gas alarm, and generates a steady tone when a device failure in one or more indicator units, or in the alarm unit itself, is detected.
External outputs	Collective terminal block: ・2nd alarm N.O. dry contact 100 VAC, 1A. 24 VDC, 1A (resistive load) ・1st alarm N.O. dry contact 100 VAC, 1A. 24 VDC, 1A (resistive load) ・Speaker N.O. dry contact 100 VAC, 1A. 24 VDC, 1A (resistive load) ・Device failure N.O. dry contact 100 VAC, 1A. 24 VDC, 1A (resistive load) * Alarm contacts for 2nd and 1st alarms can be changed from N.O. to N.C. (specified at time of order) Dedicated terminal block: ・2nd alarm N.O. dry contact 250 VAC, 2A. 24 VDC, 2A (resistive load) ・1st alarm N.O. dry contact 250 VAC, 2A. 24 VDC, 2A (resistive load) Analog output for gas concentration: ・4-20mA. Can be changed to 1-5V (specified at time of order)
External inputs	Alarm Reset (AR) and Alarm Silence (AS) terminals (these are not relay contacts)
Power source	Specified at time of order 100-240 VAC ±10％ 50/60Hz 100 VAC (Specified if AC pump power is required) 24 VDC ±10％

Power consumption	・AC input (100-240 V), 24VDC for pump Power consumption (VA) = (V3 x number of indicator units + VAS) x 1.25 (for switching loss) ・DC input (24V±10%), 24VDC for pump Power consumption (W) = (V3 x number of indicator units + VAS) * Power consumption of gas detectors included in consumption power of V3 indicator units.
Operating conditions	Operating temperature: -10°C to 40°C Operating humidity: 10% to 90%RH No sudden temperature or humidity changes. No condensation.
Weight	Approx. 5.5kg (3-point type) to approx. 13.5kg (15-point type) Combined alarm unit and indicator unit
Installation method	Wall-mount type or Panel-mount type (as per delivery specifications)

The above specifications are subject to change without notice for product improvement.

N.O.: Normally open. N.C.: Normally closed. N.O.-C-N.C.: Normally open, common, normally closed.

11. Warranty

The warranty period is one (1) year from the date of purchase.

You are entitled to the limited warranty, if the product malfunctions due to a manufacturing defect during normal use in accordance with the instruction manual, specifications and labels.

1. Warranty Scope

If the product fails or is found to be damaged due to a manufacturing defect during the warranty period, and used in accordance with the instruction manual and specifications, we will provide a free replacement and repair service. This warranty covers New Cosmos product/parts only and not third party product/parts.

2. Warranty Exclusions

The following repairs will be at the cost of the customer even during the warranty period.

(1) Failures and damages incurred by incorrect use, deliberate acts or negligence of the user.
(2) Failures and damages caused by disaster, earthquake, storm and flood, lightning, extreme climate, abnormal power supply voltage, excessive electromagnetic interferences, or other acts of God.
(3) Failures and damages resulting from repair and/or modification by non-New Cosmos certified technicians.
(4) Consumables and failures and damages resulting from improper consumable replacement.
(5) Other failures and damages not attributable to the manufacturer.

12. Service Life Expectancy

The design life expectancy of this product is ten (10) years, which is only an estimation, under normal environmental conditions. The design life expectancy also assumes that calibrations are performed properly and periodically, but does not imply that the product will operate correctly until the design life expectancy expires. Thus, no warranty will be given after the one year warranty period is over. Please also note that even if the product is calibrated, it may fail to operate correctly before the next calibration.

13. Glossary

Term	Definition
Indicator unit (V3)	Device which receives signals from a gas detector, indicates a gas concentration, and produces a visual alarm if the target gas concentration reaches the preset alarm value, in the case of oxygen, a concentration above or below a preset limit.
Alarm unit (VAS)	Device which is used in connection with combinations of an indicator unit and a gas detector to produce audio-visual alarms if a gas concentration higher than the preset limit is detected or, in the case of oxygen, a concentration above or below a preset limit is detected.
Gas detector	Device used to detect the presence of a target gas and to give its concentration in the form of an electrical signal.
Target gas	Specific gas to be detected, concentration displayed, and used to trigger alarms.
Detection range	A range of target gas concentrations that can be displayed and trigger alarms.
Alarm accuracy	Variance between the alarm set value and the detected gas concentration that activates the alarms. It may also be expressed as a % with respect to the alarm set value.
Alarm delay	The length of time a gas detector takes to activate an alarm after it is exposed to a target gas concentration higher than the alarm set value or to some other specified conditions.
Operating temperature and humidity ranges	Ambient temperature and humidity ranges in which the gas detection and alarm system can operate normally.
Diffusion type	Sampling method using convective diffusion while placing a gas detector at a detection point.
Explosion-proof enclosure	Method of protection in which an explosion in a hazardous area is prevented by containing any combustion within the device, and thereby, preventing it from spreading into the atmosphere surrounding the enclosure.
Calibration gas (test gas)	Gas specifically prepared to calibrate the gas detection and alarm system/equipment.
Alarm set value	Selected gas concentration level where an alarm is activated
Maintenance and inspection	Activities performed to ensure that equipment operates normally and correctly.
Hazardous area (Explosive)	An area in which an explosive atmosphere is present, or may be expected to be present, in quantities such as to require special precautions for the construction, installation and use of electrical apparatus.
Non-hazardous area (Explosive)	An area in which an explosive atmosphere is not expected to be present in quantities such as to require special precautions for the construction, installation and use of electrical apparatus.
Auto-resetting	After an alarm has been triggered, and a target gas concentration falls below the gas alarm set value minus 2% of the full-scale value (GASV-2% FSV), the ALARM lights and relevant gas alarm contacts will automatically return to their normal positions.

Term	Definition
Manual-resetting	Even if a target gas concentration falls below the gas alarm set value after an alarm has been triggered, the ALARM lights and relevant gas alarm contacts will not automatically return to their normal positions. Manual-resetting is only possible when the gas concentration is below the gas alarm set value.
Full-lock type	Alarm unit type. After an alarm is activated and muted, the alarm status (ALARM light and output are active) will be maintained even if the gas concentration falls below the alarm set value. To clear the alarm, press the RESET button.
Semi-lock type	Alarm unit type. After an alarm is activated and muted, the alarm status will be automatically cleared when the gas concentration falls below the alarm set value.

Revision History

Document No.	Date	Revision
GAE-061-00	Oct 2015	Initial issue
GAE-061-01	Jul 2017	01

Additional copies of this instruction manual may be purchased.
Contact New Cosmos or its authorized representative for ordering.

Authorized representative:

Manufacturer:

NEW COSMOS ELECTRIC CO., LTD.
2-5-4 Mitsuya-naka, Yodogawa-ku,
Osaka 532-0036, Japan
URL: http://www.newcosmos-global.com

NEW COSMOS ELECTRIC CO.,LTD.