

Gas Detector Alarm System (Gas Alarm)

Product Specifications

Model B-780-100V

Revision No.	0	Gas Detector Alarm System (Gas Alarm)		Registration №C54LC-203		
Created on Jan. 14, 2025				Approved by	Checked by	Drafted by
Revised on		Product Specifications				
NEW COSMOS ELECTRIC CO., LTD.	Model	B-780-100V				
Detector input signals	2-step voltage 3-wire system - When monitoring: 6 V DC (5 to 6 V DC) - When gas leak alarm is active: 12 V DC (11 to 15 V DC) - When power is OFF or a fault is detected: 0 V DC (0 to 3 V DC) - Input impedance: 27 kΩ±5%					
Detector power supply	24 V DC±20%, 70 mA or more (per detector)					
Number of connectable detectors	1 to 3 detectors (selectable using the DIP switch) Up to 3 detectors can be connected.					
Power supply	100 V AC±10%, 50/60Hz (Terminal block type)					
Power consumption	Approx. 5 W during normal operation(max) Approx. 10 W during gas alarm(max)					
Power-on display	Green (Power) light ON					
Initial timer	Approx. 30 seconds (Green (Power) light blinks during initial timer.)					
Alarm method	Immediate alarm type, auto reset type or manual reset type (selectable using the DIP switch) Gas leak alarm is prioritized.					
	1. Gas leak alarm 1) When alarm is active - Red (Alarm) light blinks or turns ON (Immediately). - Beeping sound Sound volume 80 dB (A)/m or more - Mute setting available (selectable using the DIP switch) 2) When alarm is stopped - Red (Alarm) light turns ON or turns OFF (Immediately). - Mute					
	2. Fault alarm 1) When alarm is active - Yellow (Fault) light blinks or turns ON (Immediately). - Intermittent speaker electronic sound Sound volume 80 dB (A)/m or more - Mute setting available (selectable using the DIP switch) 2) When alarm is stopped - Yellow (Fault) light turns ON or turns OFF (Immediately). - Mute					
Alarm stop	Alarm sound can be stopped using a push button (Alarm Stop switch). (Alarm is activated again if a subsequent alarm occurs while alarm is stopped.)					
Circuit inspection function	Gas leak alarm operation can be inspected using a push button (Test switch) (3-point simultaneous inspection).					
External output signals	(Output 1) 2-step voltage 2-wire system, immediate output - When monitoring: 6 V DC (5 to 6 V DC) - When gas leak alarm is active: 12 V DC (11 to 15 V DC) - When a fault is detected: 0 V DC (0 to 3 V DC) - Rated load: 1.2 kΩ to 50 kΩ (Output 2) Non-voltage NO/NC contact output - Contact capacity: 24 V DC, 1 A) - When monitoring or when a fault is detected: OFF - When gas leak alarm is active: ON - Output delay time: Immediate or approx. 35 seconds (selectable using the DIP switch)					

	(Output 3) Voltage 100 V AC output (Voltage the same as the input power voltage is output.)															
	- Contact capacity: AC 1 A)															
	- When monitoring or when a fault is detected: OFF															
	- When gas leak alarm is active: ON															
	- Output delay time: Immediate or approx. 35 seconds (selectable using the SW)															
Accessory circuits	1. Approx. 30-second timer for alarm prevention at the beginning of energization (When the timer is operating, the green (Power) light blinks.) 2. Lightning surge protection circuit (FG terminal) 3. Wrong connection protection circuit 4. Detector input and external output short-circuit protection circuit															
Operating temperature	-10°C to +40°C (no condensation)															
Dimensions	W 138×H 180×D 33 mm (excluding protrusions)															
Mass	Approx. 420 g (excluding the power cable)															
Installation method	Tighten the hooks on top and bottom of the gas alarm with screws to fix it.															
Connection method	Use crimp terminals to tighten screws on the terminal block for both input and output.															
Connectable detectors	<table border="0"> <tr> <td>Flame-proof detector</td> <td>KD-5G (for LP gas)</td> <td>Explosion class d2G4</td> </tr> <tr> <td>Flame-proof detector</td> <td>KD-5GM (for gases lighter than air)</td> <td>Explosion class d2G4</td> </tr> <tr> <td>Weather-resistant detector</td> <td>KD-5T (for LP gas)</td> <td>Weather-resistant type</td> </tr> <tr> <td>Weather-resistant detector</td> <td>KD-5M (for methane gas)</td> <td>Weather-resistant type</td> </tr> <tr> <td>Standard detector</td> <td>GD-1B (for LP gas)</td> <td>Drip-proof type</td> </tr> </table>	Flame-proof detector	KD-5G (for LP gas)	Explosion class d2G4	Flame-proof detector	KD-5GM (for gases lighter than air)	Explosion class d2G4	Weather-resistant detector	KD-5T (for LP gas)	Weather-resistant type	Weather-resistant detector	KD-5M (for methane gas)	Weather-resistant type	Standard detector	GD-1B (for LP gas)	Drip-proof type
Flame-proof detector	KD-5G (for LP gas)	Explosion class d2G4														
Flame-proof detector	KD-5GM (for gases lighter than air)	Explosion class d2G4														
Weather-resistant detector	KD-5T (for LP gas)	Weather-resistant type														
Weather-resistant detector	KD-5M (for methane gas)	Weather-resistant type														
Standard detector	GD-1B (for LP gas)	Drip-proof type														
Accessories	<table border="0"> <tr> <td>Screw (φ3.8×25)</td> <td>2 pcs</td> </tr> <tr> <td>Crimp terminal</td> <td>10 pcs</td> </tr> <tr> <td>Power cable (3-meter cord that has been tightened to the terminal block with screws)</td> <td>1 pcs</td> </tr> </table>	Screw (φ3.8×25)	2 pcs	Crimp terminal	10 pcs	Power cable (3-meter cord that has been tightened to the terminal block with screws)	1 pcs									
Screw (φ3.8×25)	2 pcs															
Crimp terminal	10 pcs															
Power cable (3-meter cord that has been tightened to the terminal block with screws)	1 pcs															

[Function and Operation]

×: OFF, △: Blinking, ●: ON

Output 1: 2-step voltage 2-wire system immediate output

Output 2: Non-voltage NO(NC) contact output

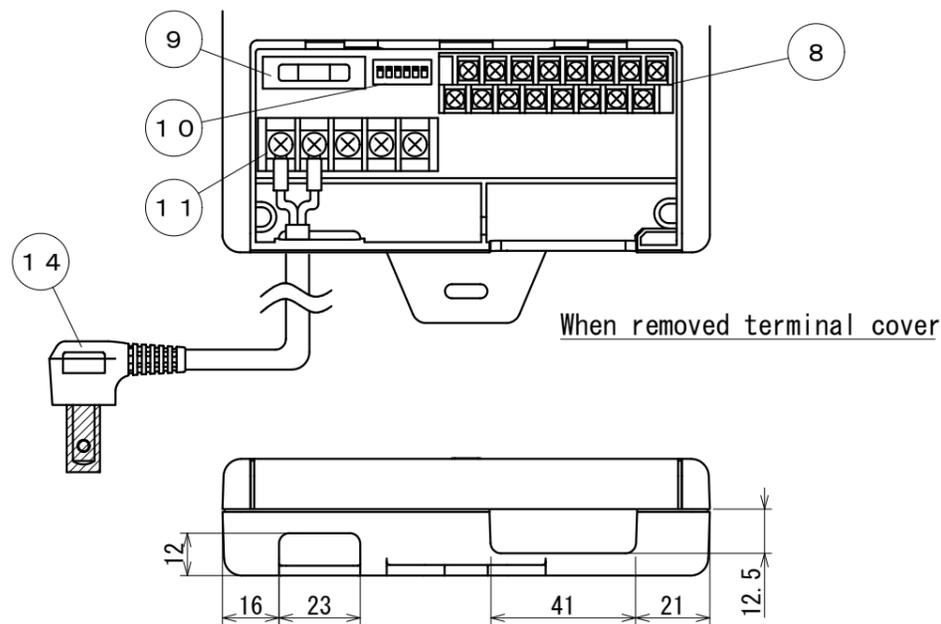
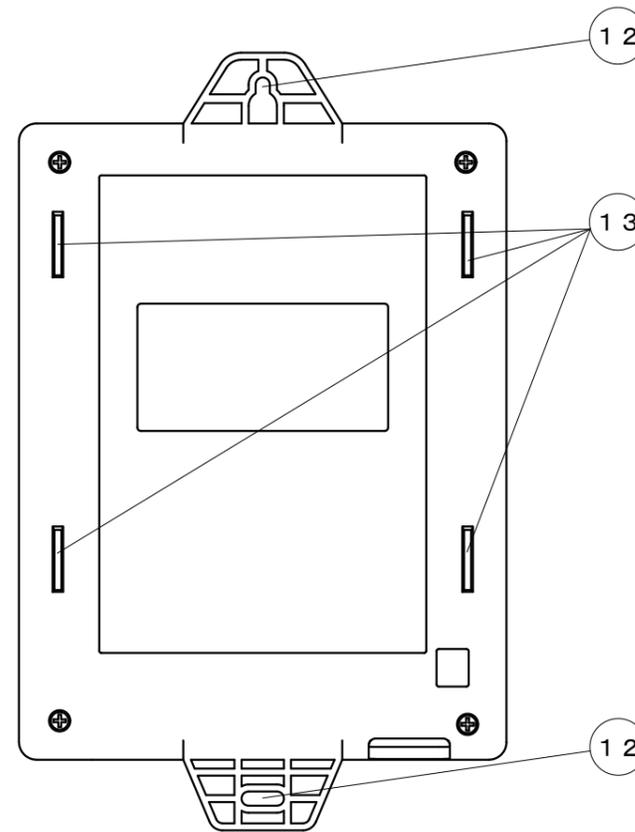
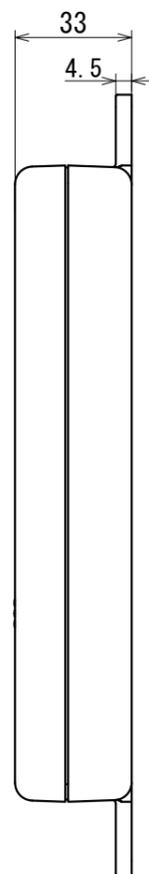
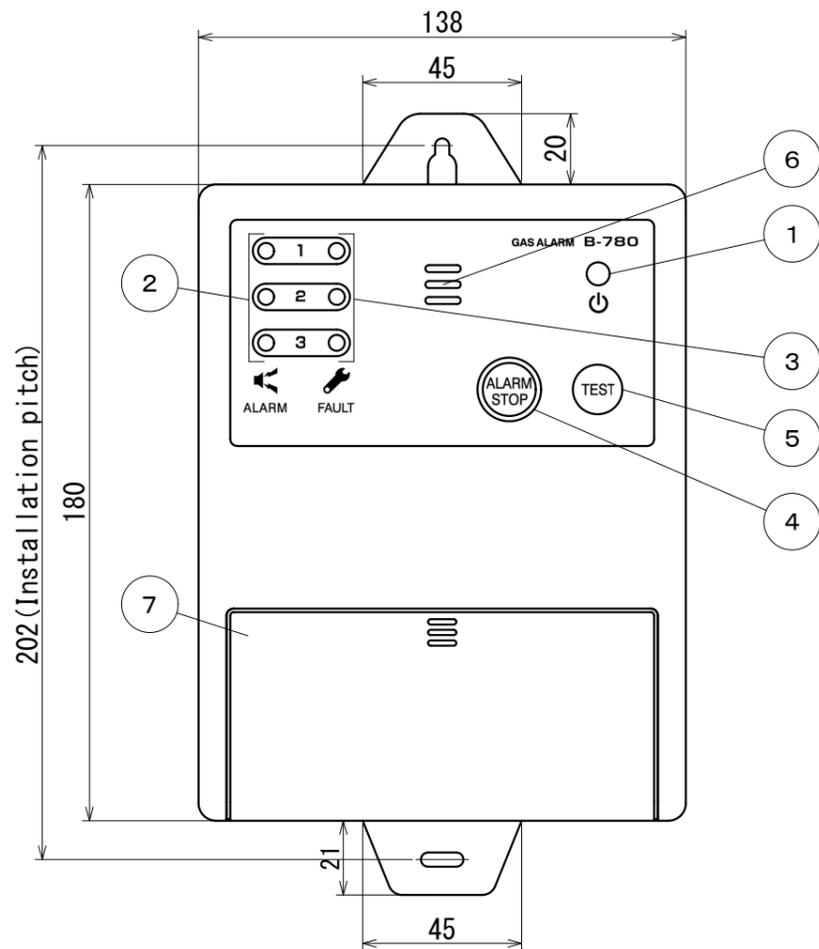
Output 3: Voltage 100 V AC output

Item	Green light	Red light	Yellow light	Alarm sound	External output, etc.
At power-ON (during power-on initial timer)	△	×	×	None	Timer approx. 30 seconds Output 1: 6 V DC Output 2: OFF (ON) Output 3: OFF
When monitoring normally	●	×	×	None	Output 1: 6 V DC Output 2: OFF (ON) Output 3: OFF
When gas leak alarm is active	●	△	×	Beeping sound (Can be set to the buzzer sound or mute.)	Output 1: 12 V DC Output 2: ON (OFF) (Immediately or after approx. 35-second delay) Output 3: ON (Immediately or after approx. 35-second delay)
When trouble alarm is active	●	×	△	Beeping sound (Can be set to mute.)	Output 1: 0 V DC Output 2: OFF (ON) Output 3: OFF
Simultaneous alarm for gas leak and fault (Gas leak alarm is prioritized.)	●	△	△	Beeping sound (Can be set to the buzzer sound or mute.)	Output 1: 12 V DC Output 2: ON (OFF) (Immediately or after approx. 35-second delay) Output 3: ON (Immediately or after approx. 35-second delay)
Auto reset - When restored to monitoring (from gas leak alarm or fault alarm)	●	×	×	None	Output 1: 6 V DC Output 2: OFF (ON) Output 3: OFF
Manual reset - When restored to monitoring (from gas leak alarm)	●	●	×	Beeping sound (Can be set to the buzzer sound or mute.)	Output 1: 12 V DC Output 2: ON (OFF) (Immediately or after approx. 35-second delay) Output 3: ON (Immediately or after approx. 35-second delay)
Manual reset - When restored to monitoring (from fault alarm)	●	×	●	Beeping sound (Can be set to mute.)	Output 1: 0 V DC Output 2: OFF (ON) Output 3: OFF
Manual reset - When restored to monitoring (from gas leak alarm or trouble alarm)	●	●	●	Beeping sound (Can be set to the buzzer sound or mute.)	Output 1: 12 V DC Output 2: ON (OFF) (Immediately or after approx. 35-second delay) Output 3: ON (Immediately or after approx. 35-second delay)

Alarm stop – Manual reset cancellation (from gas leak alarm or fault alarm)	●	●	●	None	Output 1: 6 V DC Output 2: OFF (ON) Output 3: OFF
Alarm stop – Manual reset cancellation (from monitoring restoration alarm with manual reset)	●	×	×	None	Output 1: 6 V DC Output 2: OFF (ON) Output 3: OFF
Restoration to monitoring after alarm is stopped	●	×	×	None	Output 1: 6 V DC Output 2: OFF (ON) Output 3: OFF
Test	●	△	×	Beeping sound and voice message “Possible gas leak” (Can be set to the buzzer sound or mute.)	Output 1: 12 V DC Output 2: ON (OFF) (Immediately or after approx. 35-second delay) Output 3: ON (Immediately or after approx. 35-second delay)

DIP switch setting specifications

	SW 1 Detector 2	SW 2 Detector 3	SW 3 Alarm method	SW 4 Output delay	SW 5 Alarm sound	SW 6 Alarm sound type
ON	Not connected	Not connected	Auto reset	35 seconds	Disable	Buzzer alarm
OFF	Connected	Connected	Manual reset	Immediate	Enable	Voice alarm
Initial setting	OFF	OFF	ON	ON	OFF	OFF



1 4	Power cable (pre-installed)	3-meter, 100 VAC
1 3	Installation plate notches	
1 2	Mounting hook	Φ3.8×25
1 1	AC power I/O terminal	100 VAC
1 0	Alarm function setting switches	
9	Fuse	(250V, 2A)
8	Detector connection terminals and output terminals	NO/NC contact, 2-step voltage
7	Terminal cover	
6	Speaker	
5	Test button	
4	Alarm stop button	
3	Yellow (Fault) light	
2	Red (Alarm) light	
1	Green (Power) light	
No.	Description	Remarks

承認 [APPROVED]	H. NAGAI	機種名 [MODEL]	B-780-100V	
確認 [CHECKED]	S. KURODA	題名 [TITLE]	外觀図	
設計 [DESIGNED]	Y. UENO	External Appearance		
作成 [DRAWN]	Y. UENO	三角法 THIRD ANGLE PROJECTION	単位 UNIT mm	尺度 SCALE 1/2
日付 [DATE]	Jan. 14, 2025	図番 [DRAWING No.]	X-A710-300	A3

2			
1			
0	Jan. 14, 2025	作成 Initial release	上野 Y. U.