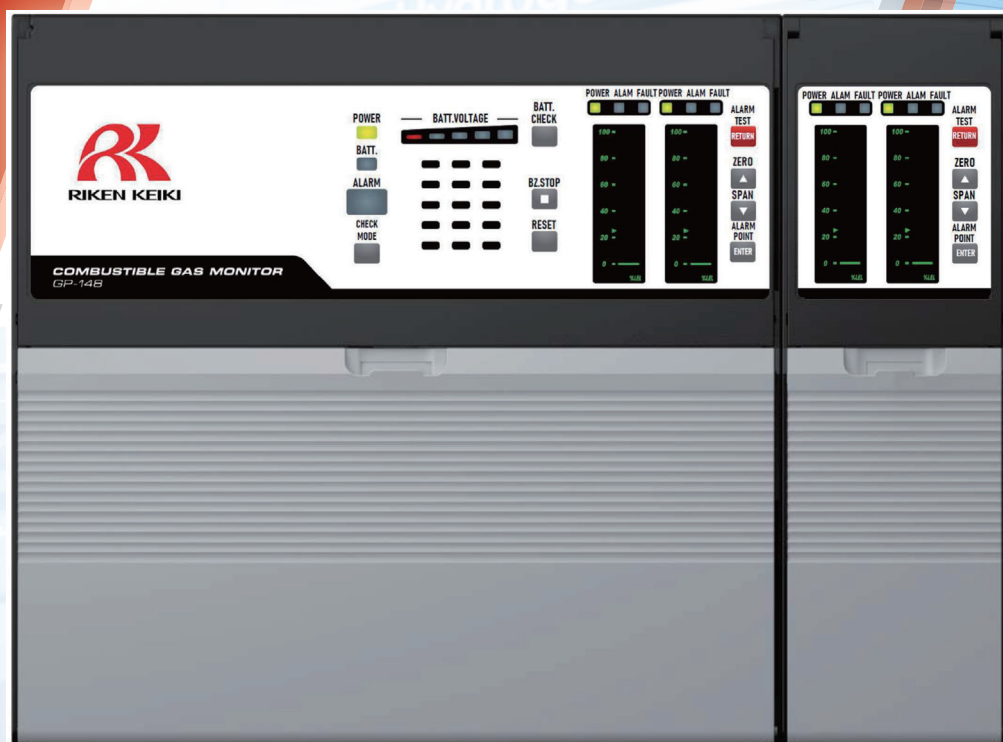


With both smart looks and functioning

The GP-148 is easy to read and easy to use for peace of mind, even in the event of power outages. This single unit supports a wide range of applications and monitoring points to meet the needs of users in wide-ranging combustible gas scenarios.



*Combustible Gas
Detection Alarm System*

MODEL: GP-148

- Easy to read: At-a-glance identification of detection status
- Easy to use: Simple, straightforward operation
- Provides peace of mind even in the event of power outages: Built-in UPS allows continuous gas leak monitoring for at least three days even during power outages.
Peace of mind, even during emergencies.
- Permits combined monitoring using gas detectors and flame detectors.
- Allows users to select up to 12 detection points.
- Features two contacts. Enables combined use of revolving lights and buzzers.
- Ideal for combustible gas leak monitoring at LPG, CNG, and H₂ filling stations

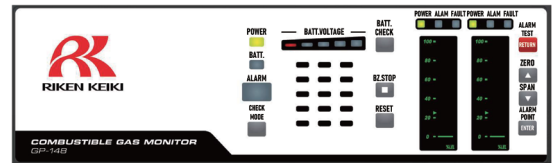
RIKEN KEIKI Co., Ltd.

Easy to read and easy to use for peace of mind even in the event of power outages

01

Easy to read: At-a-glance identification of detection status

Two-color bar meter display allows detection status to be checked even from a distance.



Bar meter display

Normal ● Gas alarm ●

02

Easy to use: Simple, straightforward operation

Use the CHECK MODE button to switch all indicator units to maintenance mode. Maintenance mode operations are also simple and straightforward.

► Maintenance procedure

CHECK
MODE



Hold down the
CHECK MODE
button to switch to
maintenance mode.

Slide the center selector switch to the desired channel.

OFF ON M CH1 OFF CH2 OFF ON

Alarm test: Press RETURN to confirm that an alarm is triggered.

Zero adjustment: Press ZERO to start automatically. Adjustment is successful when [PASS] is displayed.
(Perform with the detector exposed to fresh air.)

Span adjustment: Press SPAN and expose to calibration gas. Use the ▲ and ▼ buttons to adjust to the actual gas concentration, then press ENTER. Adjustment is successful when [PASS] is displayed.

Alarm point check: Displayed by pressing ALARM POINT.



Hold down the
CHECK MODE
button to return
to measurement
mode.

03

Provides peace of mind even in the event of power outages: Built-in UPS allows continuous gas leak monitoring for at least three days even during power outages.

The product is available with a built-in UPS (uninterruptible power system) battery. This enables gas leak monitoring even if power goes out.

Peace of mind, even during emergencies.

Uninterrupted time (guideline figures)

With six diffusion type detectors (LPG: 0 - 100 %LEL): Approx. 160 minutes continuous measurement
When set to intermittent measurement^{*1}, gas leakage monitoring is possible for approximately 3.4 days^{*2}.

^{*1}: When fully charged, at 25 °C, no alarm operation, intermittent measurement setting (15 seconds on/90 minutes off), voltage output no load

^{*2}: Intermittent measurement settings are possible only for 0 - 100 %LEL.

Monitoring operations can be enabled individually for each detector when operating from the UPS. This allows efficient monitoring of vital areas during power outages.

Example

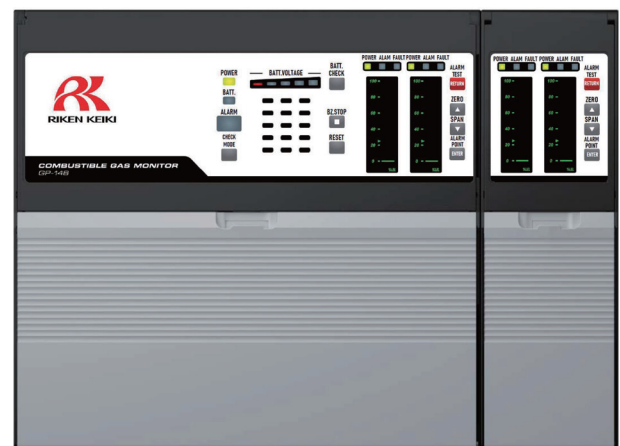
Without backup

Consumption equipment



With backup

Manufacturing equipment (vital area)



This single unit supports a wide range of applications and monitoring points.

01

Permits combined monitoring using gas detectors and flame detectors.

Allows connection to both flame detectors and gas detectors. This single unit can be used for combined monitoring at facilities such as hydrogen stations with both combustible gas detectors and flame detectors installed, reducing costs.



Diffusion type gas detector GD-A80



Suction type gas detector GD-D58



Flame detector 40/40 Series (Manufactured by Emerson)
* Flame detectors are sold only within Japan.

Flame detector display (example)



Normal state

Alarm

02

Allows users to select up to 12 detection points.

Connecting cases allow easy expansion of indicator units for configurations numbering from two to 12 points.



GP-148 (4-point type)



Indicator unit



GP-148 (12-point type)

03

Features two contacts.

Enables combined use of revolving lights and buzzers.

Two alarm contacts are output from each indicator unit. Revolving lights and buzzers can be operated simultaneously in alarm state, eliminating the need to add external relays.

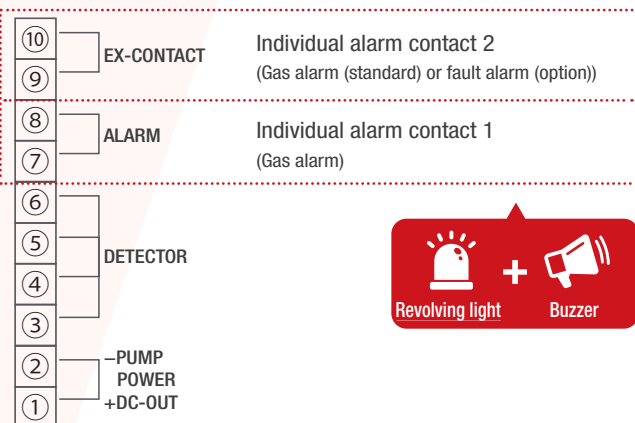
04

Ideal for combustible gas leak monitoring

at LPG, CNG, and H₂ filling stations.

This product can be used to monitor for leaks of the combustible gases typically used at LPG filling stations, CNG filling stations, hydrogen stations, and other plants.

Indicator unit terminal board layout diagram



* Contact capacity: 250 V AC, 2 A each (one-step alarm)

GP-148 target gas list

Detection target gas name	Displayed text	Detection range	Units	1 digit
Isobutane	i-C ₄ H ₁₀	100	%LEL	1
LPG	LPG			
Town gas	13 A			
Methane	CH ₄	100	%LEL	1
LNG	LNG			
CNG	CNG			
Town gas	13 A	12500 (Displayed as 1250)	ppm	100
Methane	CH ₄			
LNG	LNG			
CNG	CNG			
Hydrogen	H ₂	100	%LEL	1
Hydrogen	H ₂	2000	ppm	10
Propane	C ₃ H ₈	100	%LEL	1
Toluene	C ₇ H ₈	100	%LEL	1
Acetylene	C ₂ H ₂	100	%LEL	1
Gasoline	GASOLINE	100	%LEL	1

* For information on other gas types and measurement ranges, please contact Riken Keiki.

Specifications

Model	GP-148	
Detection target gas	Combustible gas, hydrocarbon flames, non-hydrocarbon flames	
Compatible detectors	Diffusion type gas detectors (GD-A80), suction type gas detectors (GD-D58), flame detectors (40/40 Series) ^{*1}	
Display	Character LCD (red/green two-color bar meter display), lamps, battery level meter (five LED lamps)	
Gas alarm pattern/indication	Self-latching or auto-reset Base unit: Red lamp lit Indicator unit: Red lamp flashing or lit (after resetting) Continuous buzzer or continuous buzzer + audible message (optional)	
Fault alarm pattern/indication	Auto reset Indicator unit: Orange lamp lit, fault detail (error code) display Intermittent buzzer or intermittent buzzer + audible message (optional)	
External output	General	General alarm contact output: No-voltage 1c contact (contact capacity: 250 V AC, 2 A) General alarm voltage output: Voltage output 0 - 6 - 12 V DC (10 mA or less) External buzzer contact output: No-voltage 1a or 1b contact (contact capacity: 250 V AC, 1 A) External buzzer power supply output: 24 V DC, 10 mA or less
	Individual	Individual alarm contacts ^{*2} : No-voltage two contacts (contact capacity: 250 V AC, 2 A), a or b contacts
Alarm delay	2 seconds or up to 60 seconds in 1-second increments	
Indicator/alarm unit	Two points per unit	
Power input	100 - 120 V AC or 200 - 240 V AC, (50/60 Hz)	
Lightning protection	Lightning surge protection circuit	
UPS ^{*3}	Lead storage batteries, 12 V, 2.3 Ah × 2	
Construction	Wall-mounted or rack-mounted	
Operating temperature range	-10 - 50 °C (no sudden fluctuations)	
Operating humidity range	10 - 90 %RH (no condensation)	
External dimensions/weight (Including UPS)	2-point type: Approx. 305 mm (W) × 290 mm (H) × 73 mm (D), approx. 3.9 kg 4-point type: Approx. 395 mm (W) × 290 mm (H) × 73 mm (D), approx. 5.0 kg 6-point type: Approx. 485 mm (W) × 290 mm (H) × 73 mm (D), approx. 5.8 kg 8-point type: Approx. 575 mm (W) × 290 mm (H) × 73 mm (D), approx. 6.6 kg 10-point type: Approx. 665 mm (W) × 290 mm (H) × 73 mm (D), approx. 7.4 kg 12-point type: Approx. 755 mm (W) × 290 mm (H) × 73 mm (D), approx. 8.2 kg	
Cable length (Indicator/alarm unit - detectors)	Max. 300 m using CVW (0.75 mm ²) cable Max. 500 m using CW (1.25 mm ² , 2.0 mm ²) cable	
Exterior color	Lower door: Light gray (Munsell N7.2) Other parts: Black	

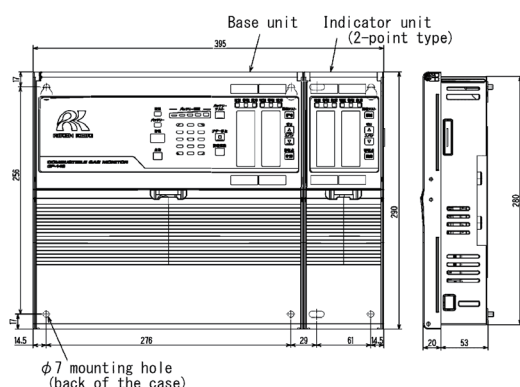
*1: Flame detectors are sold only within Japan.

*2: Choice of gas alarm contact + gas alarm contact or gas alarm contact + fault alarm contact

*3: When UPS-equipped model is selected

Exterior drawings

GP-148 (4-point type)



Accessories

- Rack-mounting retaining fixtures (rack-mounted models only)

Optional accessories

- Fuses × 2 (5 A, ø5 × 20 mm)

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