



Model GX-3R Pro

Portable Gas Monitor

 **Bluetooth®
mounted!**



Bluetooth®

Emergency notifications including gas alarms can be sent by email from a smartphone with the dedicated app installed.

5-year warranty

The instrument and sensors have a 5-year warranty*. Allows long-term use with peace of mind.

* Option

Five-component detection

Allows installation of carbon dioxide and other toxic gas sensors, in addition to sensors for combustible gases, oxygen, hydrogen sulfide, and carbon monoxide.

Intrinsically safe explosion-proof construction and flame-proof enclosure

Dust-proof, waterproof construction (protection level equivalent to IP66/68)

Survives 7 m drop testing!



Scan to view promotion video.

Available on website!

RIKEN KEIKI Co., Ltd.

Multifunction & high-performance! GX-3R Pro features

1 Bluetooth compatible device

Allows connection with a smartphone via Bluetooth. Allows rapid notification of emergency situations using the dedicated app.



2 Five-component detection (four components + one)!

Detection target gases include carbon dioxide and other toxic gases in addition to combustible gases, oxygen, carbon monoxide, and hydrogen sulfide. Selectable to suit specific uses

3 Battery type selectable

Runs on either an environmentally-friendly lithium ion battery or alkaline batteries for use anytime, anywhere.

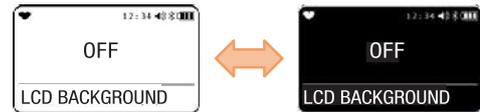


4 Support for 11 languages

Supports a total of 11 different languages for easy operation by users overseas. (Japanese/English/French/Spanish/Portuguese/German/Italian/Russian/Korean/Chinese [simplified/traditional])

5 Easy-to-read full-dot matrix display

Features a high-visibility full-dot matrix display. Capable of displaying Japanese kanji characters; allows black and white inversion of LCD screen display.



6 Incorporates new R sensors with outstanding long-term stability.

The GX-3R Pro incorporates the newly developed R sensor series. R sensors are high-performance sensors with dramatically improved sensor performance. The sensors are covered by a 3-year warranty* for peace of mind (NH₃ sensors only have a 1-year warranty). * Optional 5-year warranty.

7 Certified according to a range of performance standards and marine standards

- (Tested by third-party organizations as conforming to MED and European performance and other standards, to ensure high levels of reliability)
- Marine related: MED certification (European Marine Equipment Directive), JG (Ministry of Land, Infrastructure, Transport and Tourism type approval)
 - European performance standards: EN 60079-29-1 (combustible gases), EN 50104 (oxygen), EN 45544-1, EN 45544-2, EN 45544-3 (toxic gases)
 - JIS compliance: JIS T 8201 (oxygen), JIS T 8205 (hydrogen sulfide)

Combustible gases	O ₂	CO & H ₂ S	CO	CO ₂	CO/H ₂ S/SO ₂ /HCN/NO ₂ /PH ₃ /NH ₃
Tough construction with excellent poisoning and impact resistance!	Electrochemical type for greatly improved basic characteristics!	2-in-1 dual construction for smaller main unit!	2-sensor structure for reduced H ₂ interference!	Ultra-compact and lightweight infrared type sensor!	Improved basic characteristics! Toxic gas sensors

Even safer! Even easier to use! With even more handy functions

Combustible gas conversion function

Eliminates the need for complex calculations. Allows direct readout of concentrations of 27 different combustible gases.
* The setting is retained even after the power is turned off and on again.

Alarm setpoint setting function

Settings can be altered via the controls on the GX-3R Pro main unit. Supports control and management in accordance with the customer's own criteria.

Confirmation beep function

Indicates that the product is functioning normally. The buzzer sounds at preset intervals while measurement is underway.

Lunch break function

Retains TWA and peak values to allow cumulative measurement even if the power is turned off and on again.

Calibration notification function

Indicates the number of days until recommended regular maintenance when the power is turned on. Reminds the user to perform maintenance on the product to ensure safe use.

Combustible conversion gas list

Conversion gas	Gas name displayed	Calibration gas conversion	
		CH ₄	i-C ₄ H ₁₀
Methane	CH ₄	—	×
Isobutane	i-C ₄ H ₁₀	○	—
Hydrogen	H ₂	○	○
Methanol	CH ₃ OH	○	○
Acetylene	C ₂ H ₂	○	○
Ethylene	C ₂ H ₄	○	○
Ethane	C ₂ H ₆	○	×
Ethanol	C ₂ H ₅ OH	○	○
Propylene	C ₃ H ₆	○	○
Acetone	C ₃ H ₆ O	○	○
Propane	C ₃ H ₈	○	×
Butadiene	C ₄ H ₆	○	○
Cyclopentane	C ₅ H ₁₀	○	○

Conversion gas	Gas name displayed	Calibration gas conversion	
		CH ₄	i-C ₄ H ₁₀
Benzene	C ₆ H ₆	○	○
n-Hexane	n-C ₆ H ₁₄	○	○
Toluene	C ₇ H ₈	○	○
n-Heptane	n-C ₇ H ₁₆	○	○
Xylene	C ₈ H ₁₀	○	○
n-Nonane	n-C ₉ H ₂₀	○	○
Ethyl acetate	EtAc	○	○
Isopropyl alcohol	IPA	○	○
Methyl ethyl ketone	MEK	○	○
Methyl methacrylate	MMA	○	○
Dimethyl ether	DME	○	○
Methyl isobutyl ketone	MIBK	○	○
Tetrahydrofuran	THF	○	○
n-Pentane	n-C ₅ H ₁₂	○	○

Motion sensor equipped

Man down alarm

An alarm issued if the user is motionless for a preset length of time. This notifies others in the vicinity of an emergency situation.



Panic alarm

Lets the user trigger an alarm manually to alert others in the vicinity if an emergency occurs.



Screen display inversion

Automatically inverts the display by 180 degrees depending on the orientation of the product. This helps prevent mistakes in reading numerical values.



Optional accessories

<p>1 Heat-resistant case</p> <p>* Not explosion-proof * Above is a photo of the GX-3R</p>	<p>2 Leather case</p>	<p>3 Belt clip</p>	<p>1 Heat-resistant case</p> <p>Case for short-term protection from heat sources Uses a safety pin.</p> <p>Part No. 4777 4577 90</p>
<p>4 Arm/ankle belt</p>	<p>5 Protective film</p>	<p>6 Manual suction unit</p> <p>Sampling probe * Photo shows the unit with sampling probe.</p>	<p>2 Leather case</p> <p>Case for protection against dirt Uses the clip on the unit.</p> <p>Part No. 4777 4258 70</p>
<p>7 Charging cradle</p>	<p>8 Five-way cable for charging</p>	<p>9 Calibration adapter</p>	<p>3 Belt clip</p> <p>Allows the product to be attached to a belt or pocket.</p> <p>Part No. 4777 9202 40</p>
<p>10 Data logger management program</p>	<p>7 Charging cradle</p> <p>Cradle for recharging the unit Cradles can be interconnected.</p> <p>Part No. BC-3R 00</p>	<p>6 Manual suction unit</p> <p>External manual pump Draws in at greater flow rates than electric pump.</p> <p>(with sampling probe) Part No. 4777 9297 20 (with 8 m float-type tube) Part No. 4777 9299 70 (with 30 m weighted tube) Part No. 4777 9300 30</p>	
	<p>9 Calibration adapter</p> <p>Adapter for supplying gas to GS-3R Pro during bump test and calibration (with outlet nipple and rubber seal)</p> <p>Part No. 4777 9312 70</p>	<p>5 Protective film</p> <p>Protects the display. (set of 5)</p> <p>Part No. 4777 9296 50</p>	
	<p>10 Data logger management program</p> <p>Software for viewing and managing measurement data</p> <p>Part No. 9811 0870 60</p>	<p>4 Arm/ankle belt</p> <p>Belt for securing the unit to your arm or ankle</p> <p>Part No. 4777 9293 30</p>	
	<p>8 Five-way cable for charging</p> <p>One AC adapter recharges up to five units. * Recharging times remain unchanged.</p> <p>(with 22.5 cm cable) Part No. 4777 9329 70 (with 60 cm cable) Part No. 4777 9319 80 (with 120 cm cable) Part No. 4777 9333 20</p>	<p>11 Supports suction operation with the pump unit.</p> <p>An external electric pump. Allows use for suction sampling.</p>	

11 Supports suction operation with the pump unit.

An external electric pump. Allows use for suction sampling.



Specifications

Model	RP-3R (Pro/S)
Suction flow rate	High mode: 0.4 L/min or more Low mode: 0.25 L/min or more
Continuous operating time	High mode: Approx. 10 hours Low mode: Approx. 16 hours
Operating temperature/humidity range	-20 - +50 °C (no sudden fluctuations) Up to 95 %RH (no condensation)
Explosion-proof class	Inherently safe explosion-proof construction ATEX: II 1 G Ex ia IIC T4 Ga IECEX: Ex ia IIC T4 Ga Japan Ex: Ex ia IIC T4 Ga
Construction	Dust-proof, splash-proof construction (protection level equivalent to IP67)
External dimensions/weight	Approx. 94 mm (W) × 95 mm (H) × 29 mm (D) (excluding projections) / Approx. 130 g
Power source	AA alkaline battery × 1
Optional accessories	Float-type gas collector (8 m)

* Cannot be connected to the GX-2009 or GX-3R.

12 Docking station to increase daily maintenance efficiency

Allows the user to perform a simplified pre-work check (bump test) and gas adjustment automatically.



Specifications

Model	SDM-3R
Power supply (AC adapter)	100 - 240 V AC ± 10 % 50/60 Hz
Suction flow rate	Approx. 0.25 L/min
Operating temperature/humidity range	0 - 40 °C, up to 95 %RH (no condensation)
External dimensions/weight	Approx. 130 mm (W) × 110 mm (H) × 250 mm (D) / Approx. 800 g
Optional accessories	Connecting fixture, wall-mounting fixture, exhaust tube

The GX-3R Pro supports Bluetooth*

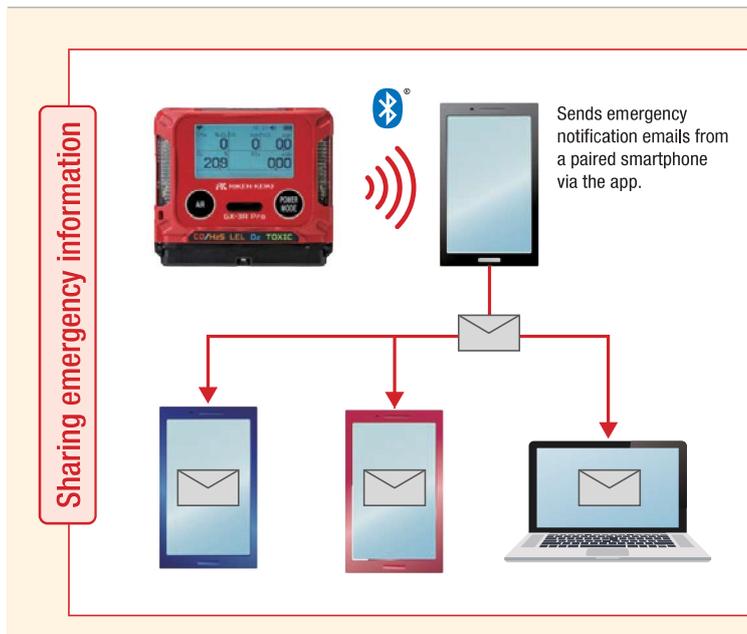
* Uses low-power consumption Bluetooth (BLE, Bluetooth Low Energy).



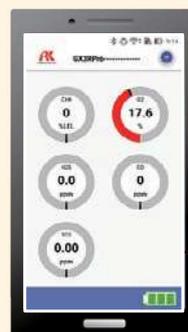
The GX-3R Pro can communicate with smartphones and tablets via Bluetooth. Allows alarms to be issued to remote locations in real time to **notify emergency situations** using the dedicated RK Link app. Also allows the main unit's **settings to be altered**. Download the free RK Link app from Google Play or Apple Store.



Features available using the GX-3R Pro ↔ RK Link

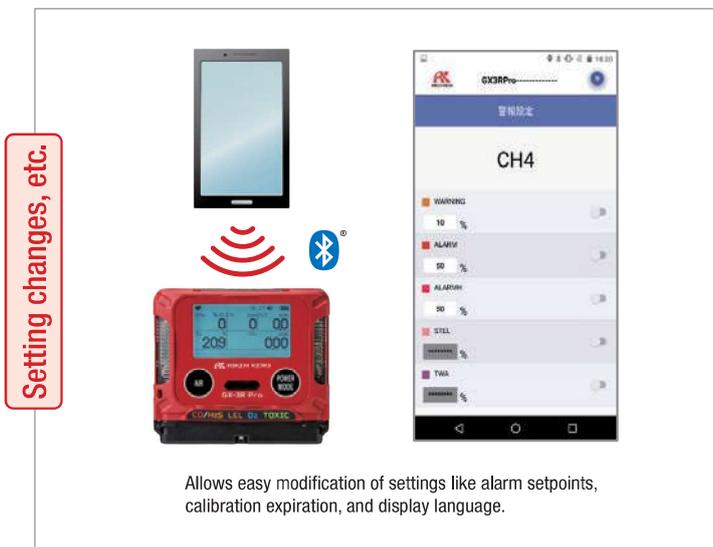


1 Alarm information email transmission



Emergency notification emails are sent promptly to pre-registered addresses in the event of an alarm.

- Gas alarm
- Man down alarm
- Reminder alert
- Fault alarm
- Panic alarm



2 Setting changes



[Alarm setting]



[Calibration/bump setting]



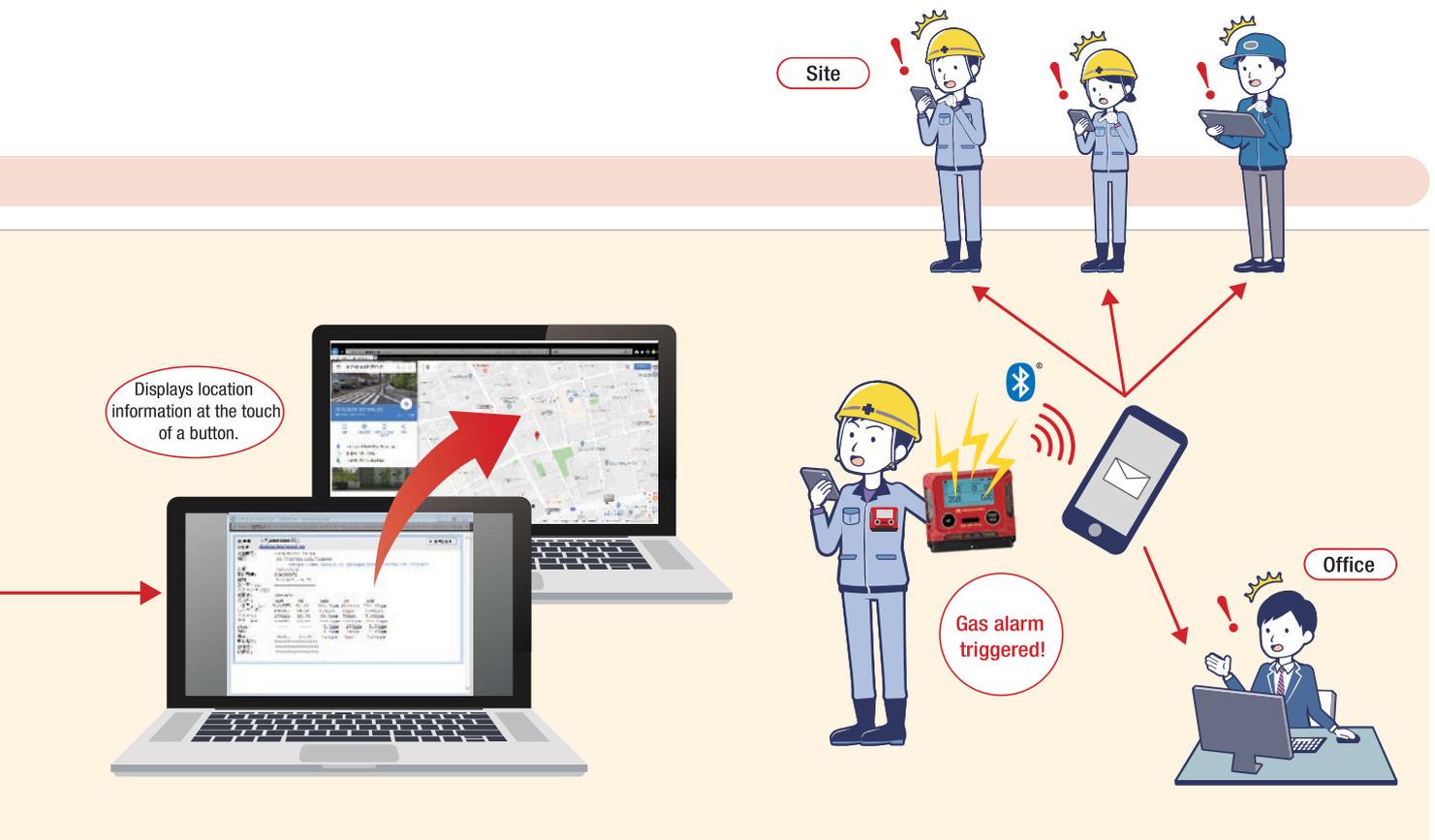
[Language setting]

- Allows modification of settings like alarm setpoints, calibration gas concentrations, and display language.
- Also allows detailed settings for types of alarms that trigger email notification.

For example: No email notification for first alarm; email notification from second alarm onward

* Bluetooth can be used only in countries where certification under local radio law has been obtained. May be unavailable depending on radio transmission conditions.

Model
GX-3R Pro



3 Gas concentration and battery level display



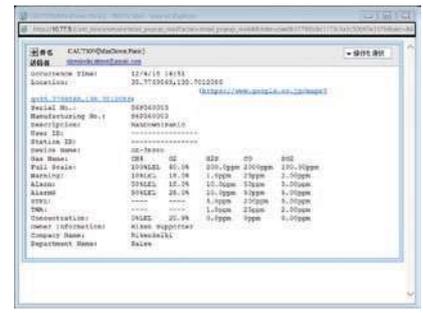
- Displays gas concentrations in real time during measurement.
- Displays current battery levels in three steps.

← Battery level icon

4 Owner information registration



- Allows registration of details such as company and individual name.
- Displayed in emergency notification emails

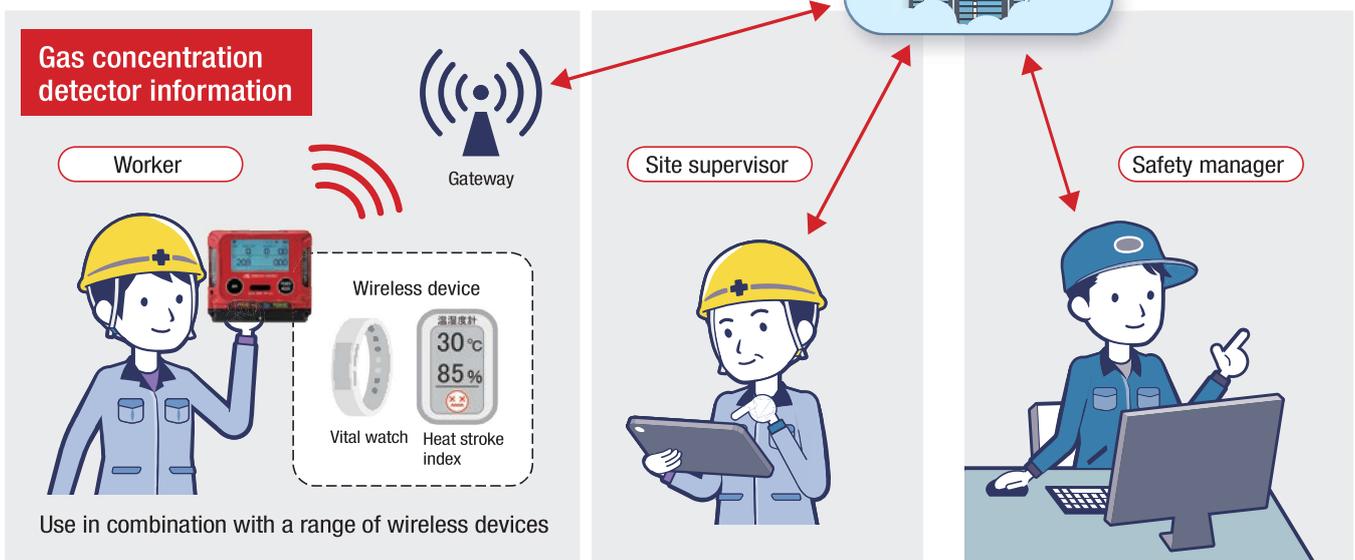


Email text (sample)

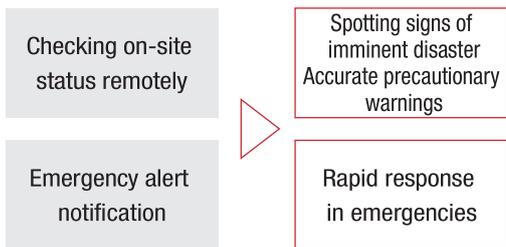
Other features enabled by Bluetooth

GX-3R Pro detection information can be combined with a wide range of wireless devices to enable management on the customer's server and to allow sharing of on-site status in real time with managers at remote locations.*

* Your company is responsible for system configurations.



Awareness of individual status, environment, and location improves safety management.



Operation in conjunction with your company's safety management offers

unlimited possibilities!

* Your company is responsible for system configurations.

GX-3R Pro communication specifications

Communication system:
Bluetooth 4.2 (Bluetooth Low Energy)

Profile:
GAP (Peripheral) / GATT

Output/maximum communication distance:
Class 2 / Approx. 10 m (varies depending on surrounding environment)

Operations:
Acquiring gas concentration/status information; viewing/
changing settings

Frequently asked questions

Pairing

How long is the pairing standby time?	5 minutes. After 5 minutes, Bluetooth needs to be turned on again to resume standby.
What happens when a device is paired?	Bluetooth icon changes from blinking to steady illumination.
What happens when device pairing is lost?	Bluetooth icon blinks and the product goes to standby. No audible alarm is issued.
Are unpaired connections possible?	No.

Communication

What's the communication system (data access method)?	Read and Write.
What's the GATT profile?	Original.
What's the communication interval?	At least 1 second.

Main unit

What's the continuous operating time when using BLE?	Normal mode: 25 hours. Long-life battery mode: 40 hours * Continuous operating time does not change when using BLE.
Is the product GPS-equipped?	No. Acquire location information from a smartphone or beacon.

Miscellaneous

Can details of the communication specifications be disclosed?	Yes, with the conclusion of a nondisclosure agreement.
Do the product communication specifications need to be altered for connecting with a system?	No. Perform steps to ensure compatibility on the system side.
What are the costs of connecting with a system?	No costs are incurred. However, additional fees may apply if such connection requires changes in product specifications. (Starting from several millions of yen)

Specifications

Model	GX-3R Pro	
Sampling method	Diffusion type (Changeable to sampling type by attaching RP-3R (Pro/S))	
Gas alarm indication	Lamp flashing, continuous modulating buzzer sounding, gas concentration display blinking, vibration Reset operation: Self-latching	
Fault alarms	System abnormality, sensor abnormality, battery voltage drop, calibration failure	
Fault alarm indication	Lamp flashing, intermittent buzzer sounding, detail display	Reset operation: Self-latching
Panic alarm	Two levels: Prealarm and main alarm (after 5-second prealarm) Reset operation: Self-latching	
Man down alarm	Three levels: Prealarm 1 (60 seconds), prealarm 2 (75 seconds), and main alarm (90 seconds) Reset operation: Self-latching	
Display	LCD digital (full-dot matrix), with backlight	
Display items	Operation status, clock, battery level, temperature, peak reading, calibration notification	
Buzzer sound pressure	Approx. 95 dB (30 cm)	
Languages	Japanese/English/French/Spanish/Portuguese/German/Italian/Russian/Korean/Chinese (simplified/traditional)	
Bluetooth	Bluetooth 4.2 (Bluetooth Low Energy)	
Data logger function	Maximum number of items: 3,600 Interval: 5 minutes (adjustable)	Communication system: IrDA
Power source	Lithium ion rechargeable battery unit (charging time approx. 3 hours) or dry battery unit (AAA alkaline battery × 2)	
Continuous operating time ¹	Long-life battery mode on: Approx. 40 hours (25 °C, fully charged, no alarm, no lighting) Long-life battery mode off: Approx. 25 hours (25 °C, fully charged, no alarm, no lighting)	
Operating temperature/humidity range ²	-40 - +60 °C (no sudden fluctuations), 0 - 90 %RH (no condensation)	
Explosion-proof class ³	ATEX: II 1 G Ex da ia IIC T4 Ga / IM1 Ex da ia I Ma (With combustible gas sensor) II 1 G Ex ia IIC T4 Ga / IM1 Ex ia I Ma (No combustible gas sensor) IECEX: Ex da ia IIC T4 Ga / Ex da ia I Ma (With combustible gas sensor) Ex ia IIC T4 Ga / Ex ia I Ma (No combustible gas sensor) Japan Ex: Ex ia IIC T4 Ga	
Certifications ³	ATEX, IECEX, Japan Ex, INMETRO, China Ex, JG, MED, JIS T 8201, JIS T 8205, EN 50104, EN 45544-1, EN 45544-2, EN 45544-3, EN 60079-29-1	
Protection level	Equivalent to IP66/68 (2 m, 1 h)	
External dimensions/weight	With rechargeable battery unit: Approx. 73 mm (W) × 65 mm (H) × 26 mm (D) (excluding protrusions) / Approx. 120 g With dry battery unit: Approx. 73 mm (W) × 65 mm (H) × 34 mm (D) (excluding protrusions) / Approx. 140 g	
Warranty	3 years (optional 2 years extension available)	

*1 Varies depending on sensor type installed. Please contact RIKEN KEIKI for more information.

*2 In temporary ambient conditions for approximately 15 minutes. The operating temperature and humidity ranges for continuous ambient conditions are as follows: Temperature: -20 - +50 °C (no sudden fluctuations) / Humidity: 10 - 90 %RH (no condensation)

*3 Applicable standards and certifications vary depending on the specifications of the gas detector. Please specify at the time of purchase.



Detection target gases

Detection target gas	Combustible gas (HC or CH ₄)	Oxygen (O ₂)	Carbon monoxide (CO)	Hydrogen sulfide (H ₂ S)	Sulfur dioxide (SO ₂)
Detection principle	New ceramic type	Electrochemical type			
Display range	0 - 100 %LEL	0 - 40.0 vol%	0 - 2,000 ppm	0 - 200.0 ppm	0 - 100.00 ppm
Detection range	0 - 100 %LEL	0 - 25.0 vol%	0 - 500 ppm	0 - 30.0 ppm	0 - 20.00 ppm
1 digit	1 %LEL	0.1 %	1 ppm	0.1 ppm	0.05 ppm
Gas alarm setpoint (can be set by user)	First alarm: 10 %LEL Second alarm: 25 %LEL Third alarm: 50 %LEL OVER alarm: 100 %LEL	L alarm: 19.5 vol% LL alarm: 18.0 vol% H alarm: 23.5 vol% OVER alarm: 40.0 vol%	First alarm: 25 ppm Second alarm: 50 ppm Third alarm: 1,200 ppm TWA alarm: 25 ppm STEL alarm: 200 ppm OVER alarm: 2,000 ppm	First alarm: 5.0 ppm Second alarm: 30.0 ppm Third alarm: 100.0 ppm TWA alarm: 1.0 ppm STEL alarm: 5.0 ppm OVER alarm: 200.0 ppm	First alarm: 2.00 ppm Second alarm: 5.00 ppm Third alarm: 100.00 ppm TWA alarm: 2.00 ppm STEL alarm: 5.00 ppm OVER alarm: 100.00 ppm

Detection target gas	Nitrogen dioxide (NO ₂)	Hydrogen cyanide (HCN)	Phosphine (PH ₃)	Ammonia (NH ₃)	Carbon dioxide (CO ₂)	
Detection principle	Electrochemical type				Infrared type	
Display range	0 - 20.00 ppm	0 - 30.0 ppm	0 - 20.00 ppm	0 - 400.0 ppm	0 - 10.00 vol%	0 - 10,000 ppm
Detection range	0 - 20.00 ppm	0 - 30.0 ppm*	0 - 20.00 ppm	0 - 300.0 ppm	0 - 5.00 vol%	0 - 10,000 ppm
1 digit	0.05 ppm	0.1 ppm	0.01 ppm	0.5 ppm	0.01 vol%	20 ppm
Gas alarm setpoint (can be set by user)	First alarm: 2.00 ppm Second alarm: 4.00 ppm Third alarm: 20.00 ppm TWA alarm: 0.50 ppm STEL alarm: 1.00 ppm OVER alarm: 20.00 ppm	First alarm: 10.0 ppm Second alarm: 20.0 ppm Third alarm: 30.0 ppm TWA alarm: 0.9 ppm STEL alarm: 4.5 ppm OVER alarm: 30.0 ppm	First alarm: 0.30 ppm Second alarm: 0.60 ppm Third alarm: 0.60 ppm TWA alarm: 0.30 ppm STEL alarm: 1.00 ppm OVER alarm: 20.00 ppm	First alarm: 25.0 ppm Second alarm: 35.0 ppm Third alarm: 35.0 ppm TWA alarm: 25.0 ppm STEL alarm: 35.0 ppm OVER alarm: 400.0 ppm	First alarm: 0.50 vol% Second alarm: 3.00 vol% Third alarm: 3.00 vol% TWA alarm: 0.50 vol% STEL alarm: 3.00 vol% OVER alarm: 10.00 vol%	First alarm: 5,000 ppm Second alarm: 5,000 ppm Third alarm: 5,000 ppm TWA alarm: 5,000 ppm OVER alarm: 10,000 ppm

* Hydrogen cyanide concentrations are displayed as 0.0 ppm for concentrations between 0.0 and 0.2 ppm.

Standard accessories

Protective cover



Appearance when attached



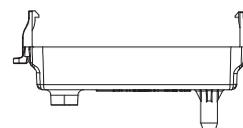
Protective cover (Part No. 4777 4175 00)



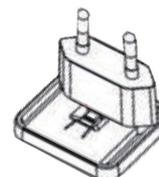
AC adapter (Part No. 2594 0898 30)

Alligator clip (Part No. 4777 9203 10)

Hand strap (Part No. 0888 0605 90)



Calibration adapter (simple type) (Part No. 4777 9370 70)



EU plug (Part No. 2594 0933 60)

Contact us for a quick quotation! (Please make a copy of this sheet.)

Select one combustible gas sensor.

Code input box ①	Code	Selection	Model	Display range
	H	Combustible gas (HC) sensor	NCR-6309	0 - 100 %LEL
	M	Combustible gas (CH ₄) sensor	NCR-6309	0 - 100 %LEL
	0	No sensor	—	—

Select whether oxygen sensor is required.

Code input box ②	Code	Selection	Model	Display range
	1	Oxygen (O ₂) sensor	ESR-X13P	0 - 40.0 vol%
	0	No sensor	—	—

Select one sensor (detection gas type) to be installed.

Code input boxes ③④	Code	Selection	Model	Display range
	E1	Carbon monoxide/hydrogen sulfide (CO/H ₂ S) sensor	ESR-A1DP	0 - 2,000 ppm
	E2	Carbon monoxide (CO) sensor * H ₂ interference reduction	ESR-A1CP	0 - 2,000 ppm
	E3	Sulfur dioxide (SO ₂) sensor	ESR-A13D	0 - 100.00 ppm
	E4	Hydrogen sulfide (H ₂ S) sensor	ESR-A13i	0 - 200.0 ppm
	E5	Carbon monoxide (CO) sensor	ESR-A13P	0 - 2,000 ppm
	E7	Hydrogen cyanide (HCN) sensor	ESR-A13D	0 - 30.0 ppm
	00	No sensor	—	—

Select one sensor (detection gas type) to be installed.

Code input boxes ⑤⑥	Code	Selection	Model	Display range
	E3	Sulfur dioxide (SO ₂) sensor	ESR-A13D	0 - 100.00 ppm
	E4	Hydrogen sulfide (H ₂ S) sensor	ESR-A13i	0 - 200.0 ppm
	E6	Nitrogen dioxide (NO ₂) sensor	ESR-A13D	0 - 20.00 ppm
	E7	Hydrogen cyanide (HCN) sensor	ESR-A13D	0 - 30.0 ppm
	E8	Phosphine (PH ₃) sensor	ESR-A13D2	0 - 20.00 ppm
	E9	Ammonia (NH ₃)	ESR-B134	0 - 400.0 ppm
	D1	Carbon dioxide (CO ₂) <vol%> sensor	IRR-0409	0 - 10.00 vol%
	D2	Carbon dioxide (CO ₂) <ppm> sensor	IRR-0433	0 - 10,000 ppm
	00	No sensor	—	—

Note Two identical sensors cannot be selected.

Select the battery type.

Code input box ⑦	Code	Selection	Model
	L	Rechargeable lithium ion battery	BUL-3R
	D	Alkaline batteries	BUD-3R

Bluetooth support*

Code input box ⑧	Code	Selection	Model
	1	Bluetooth supported	—
	0	Bluetooth not supported	—

* Bluetooth compatibility is standard on Japan models.

Write the selected codes in the corresponding boxes on the right.

B

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

1

Quantity required:

* Please submit a copy of this sheet for each set of specifications if the specifications differ between units.

Select optional accessories.

Name	Quantity	Name	Quantity	Name	Quantity
Heat-resistant case		Manual suction unit (with 8 m float-type tube)		Calibration adapter	
Leather case		Manual suction unit (with 30 m weighted tube)		Data logger management program	
Belt clip		Charging cradle		Pump unit RP-3R (Pro/S)	
Arm/ankle belt		Five-way charging cable (22.5 cm length)		Docking station SDM-3R	
Protective film		Five-way charging cable (60 cm length)			
Manual suction unit (with sampling probe)		Five-way charging cable (120 cm length)			

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