RIKEN KEIKI

Model
GX-3R Pro
Portable gas monitor

Bluetooth® mounted!

CO/H₂S LEL O₂ TOXIC

Bluetooth®
Allows fast and accurate information sharing in emergencies.

5-year warranty
The instrument and sensors have 5-year warranty*.
*Option.

Up to 5 gases can be detected
Detects carbon dioxide and sulfur dioxide in addition to combustible gases, O_2, H_2S, and CO.

Intrinsically safe explosion-proof construction and flame-proof enclosures

Water and dust resistant, IP66/68
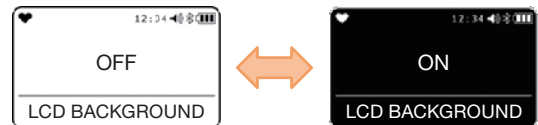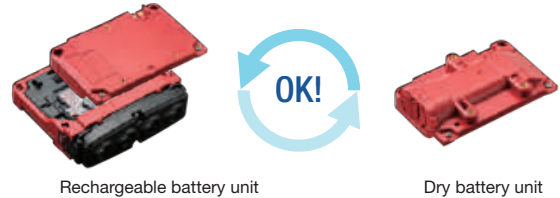
Robust design (Withstands 7m drop)

Play the Promotional video from here.
Now on the website!

RIKEN KEIKI Co.,Ltd.

Multi-function! GX-3R Pro features

1 **Connects with Bluetooth**
Allows communication with smartphones or tablets using the dedicated app iOS and Android. Allows rapid notification of emergency situations.

2 **Up to 5 gases can be detected!**
Detects carbon dioxide and sulfur dioxide in addition to combustible gases, O_2, H_2S, and CO. Allows selection to suit requirements.

3 **Selectable battery type**
Runs on either dry cell or rechargeable batteries.
Unit system for easy replacement.

4 **Supports 11 languages**
Japanese/English/French/Spanish/Portuguese/German/Italian/ Russian/Korean/Chinese (Simplified & Traditional)

5 **Full-dot display easy to see**
Fine dot display for clearer and more various indications.

HC or CH_4 | O_2 | CO | H_2S + CO_2 or SO_2

Rechargeable battery unit

Dry battery unit

OFF — LCD BACKGROUND ⟷ ON — LCD BACKGROUND

6 **Mounted with the new R sensors, which are long-term consistence sensors**
GX-3R Pro mounted with the new R sensor series, which have dramatically improved the performance from the previous sensors. The sensors have 5-year warranty*.   *Option.

HC or CH_4	O_2	CO&H_2S	CO	CO_2	CO/H_2S/SO_2
Tough construction against poisoning- and impact-resistant!	New electrochemical oxygen sensor, which improved the basic characteristics.	2-in-1 configuration enabled smaller detector!	Significantly reduce H_2 interference with a two-sensor structure!	Ultracompact & lightweight infrared sensor	Improved basic characteristics! Toxic gas sensors

Wide range of safety functions

Combustible gas conversion function
Eliminates the need for complex calculations. Allows direct readout of 26 different combustible gas types.

Lunch break
Enabling this function retains the TWA and peak values and allows integrating measurement whether power is on or off.

Alarm setpoints can be freely adjusted
You can now adjust alarm setpoints on the main unit. Allows monitoring based on the customer's own standards.

Cal. Limit
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.

Confirmation beep
This function provides audible notification that the device is functioning correctly. Buzzer sounds at preset intervals while measurement is underway.
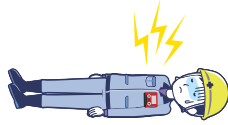
Combustible conversion gas list

Conversion gas	Gas name displayed	Calibration gas conversion	
		CH_4	i-C_4H_{10}
Methane	CH_4	—	×
Isobutane	i-C_4H_{10}	○	—
Hydrogen	H_2	○	○
Methanol	CH_3OH	○	○
Acetylene	C_2H_2	○	○
Ethylene	C_2H_4	○	○
Ethane	C_2H_6	○	×
Ethanol	C_2H_5OH	○	○
Propylene	C_3H_6	○	○
Acetone	C_3H_6O	○	○
Propane	C_3H_8	○	×
Butadiene	C_4H_6	○	○
Cyclopentane	C_5H_{10}	○	○

Conversion gas	Gas name displayed	Calibration gas conversion	
		CH_4	i-C_4H_{10}
Benzene	C_6H_6	○	○
N-hexane	n-C_6H_{14}	○	○
Toluene	C_7H_8	○	○
N-heptane	n-C_7H_{16}	○	○
Xylene	C_8H_{10}	○	○
N-nonane	n-C_9H_{20}	○	○
Ethyl acetate	EtAc	○	○
Isopropyl alcohol	IPA	○	○
Methyl ethyl ketone	MEK	○	○
Methyl methacrylate	MMA	○	○
Dimethyl ether	DME	○	○
Methyl isobutyl ketone	MIBK	○	○
Tetrahydrofuran	THF	○	○

Motion sensor equipped

Man down alarm

Monitors wearer movement and issues alarm if no movement is detected within preset time.

Panic alarm

Lets user issue alarm manually to notify others in emergency. (Tap the unit twice.)
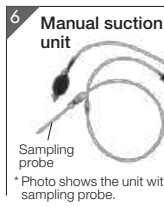
Screen display inversion

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

Optional accessories

No.	Accessory	Description	Part No.
1	Heat-resistant case	Case for protection from heat resource. Uses a safety pin.	Part No. 4777 4260 80
2	Leather case	Case for protection against dirt. Uses the clip on the unit.	Part No. 4777 4258 70
3	Belt clip	Allows the product to be attached to a belt or pocket.	Part No. 4777 9202 40
4	Arm/Ankle belt	Belt for securing the unit to your arm or ankle.	Part No. 4777 9293 30
5	Protective film	Protects the display. (set of 5)	Part No. 4777 9296 50
6	Manual suction unit	External manual pump. Draws in at greater flow rates than electric pump.	(with sampling probe) Part No. 4777 9297 20 (with 8m float-type tube) Part No. 4777 9299 70 (with 30m weighted tube) Part No. 4777 9300 30
7	Charging cradle	Cradle for recharging the unit. Cradles can be interconnected.	Part No. BC-3R 00
8	Five-unit AC adaptor	One AC adapter recharges up to five units. *Recharging times remain unchanged.	(with 22.5cm cable) Part No. 4777 9329 70 (with 60cm cable) Part No. 4777 9319 80 (with 120cm cable) Part No. 4777 9333 20
9	Calibration adapter	Adapter for applying gas to GX-3R Pro during bump test and calibration. (with outlet nipple and rubber seal)	Part No. 4777 9312 70
10	Data management program	Software for viewing and managing measurement data.	Part No. 9811 0870 60

1 Heat-resistant case
*not explosion-proof

2 Leather case

3 Belt clip

4 Arm/Ankle belt

5 Protective film

6 Manual suction unit
Sampling probe
* Photo shows the unit with sampling probe.

7 Charging cradle

8 Five-unit AC adaptor

9 Calibration adapter

10 Data management program

11 Pump unit RP-3R (Pro)

An external electric pump. Allows use for suction sampling.

Easy to attach and remove!

Specifications

Model	RP-3R(Pro)
Suction flow rate	High mode: 0.4 L/min or more Low mode: 0.25 L/min or more
Battery	AA alkaline battery × 1
Continuous operating time	High mode: Approx. 10 hours Low mode: Approx. 16 hours
Temperature range	-20°C~+50°C (at a constant condition)
Humidity range	0~95%RH (non-condensing)
Explosion-proof class	Inherently safe explosion-proof construction ATEX II1G Ex ia IIC T4 Ga IECEx Ex ia IIC T4 Ga Japan Ex Ex ia IIC T4 Ga
Structure	Drip-proof and dust-proof performances compliant to IP67 level
Dimensions / Weight	Approx. 82 mm (W) × 96 mm (H) × 29 mm (D)/ Approx. 120 g
Optional accessories	8m float-type gas sampling tube Filters (set of 10) Meshes (set of 10)

* Cannot be connected to other models GX-2009, GX-3R and others.

12 Docking station SDM-3R

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

Specifications

Model	SDM-3R
Power supply	100 to 240 V AC ±10%, 50/60 Hz
Suction flow rate	Approx. 0.25 L/min
Temperature range	0~40°C (at a constant condition)
Humidity range	0~95%RH (non-condensing)
Dimensions / Weight	Approx. 130mm (W) × 110mm (H) × 250mm (D) / Approx. 800g
Optional accessories	Connecting fixture, wall-mounting fixture, exhaust tube, LAN cap, USB cap

Bluetooth communication*

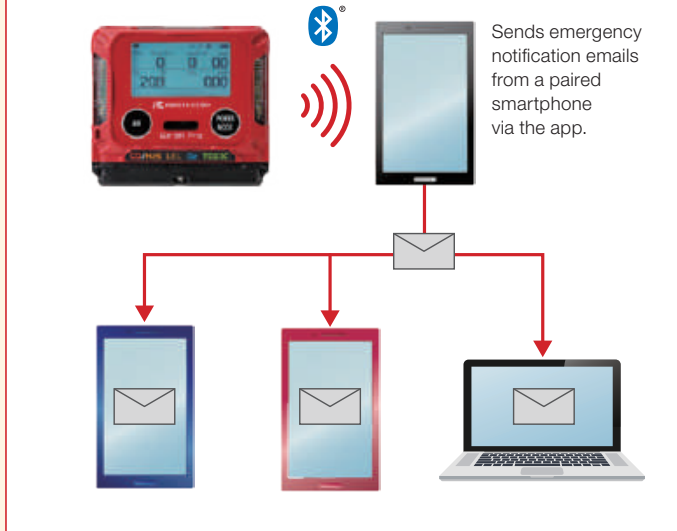*Uses low-energy-consumption Bluetooth (Bluetooth Low Energy).

Bluetooth®

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.

GET IT ON Google Play

Download on the App Store

Features available by connecting GX-3R Pro with RK Link

Sharing emergency information

Sends emergency notification emails from a paired smartphone via the app.

1 Email alarm information

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

Change Setting

Allows easy modification of settings like alarm setpoints, calibration expiration date, and display language.
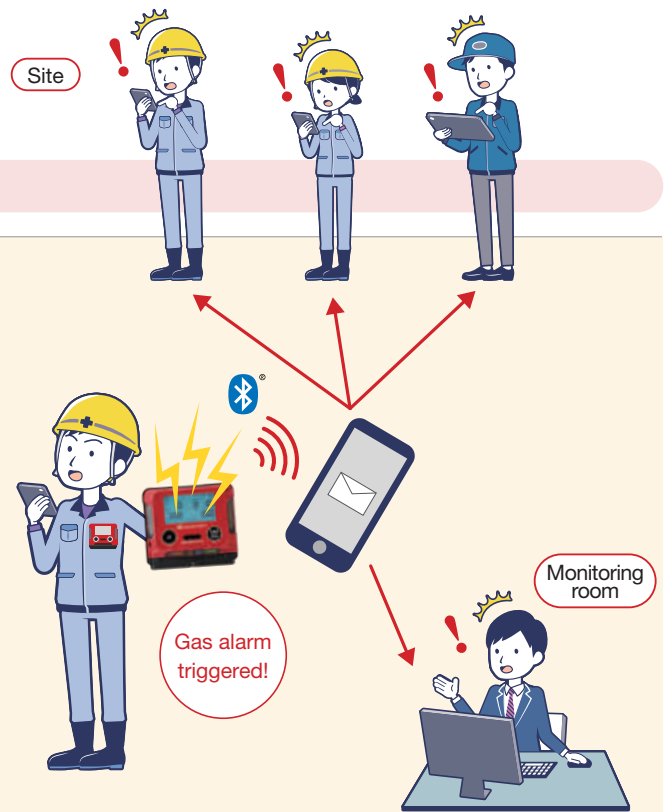
2 Setting

【Alarm setpoint】　　【Calibration】　　【Language】

● 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

Model
GX-3R Pro

Site

Displays location information at the touch of a button.

Gas alarm triggered!

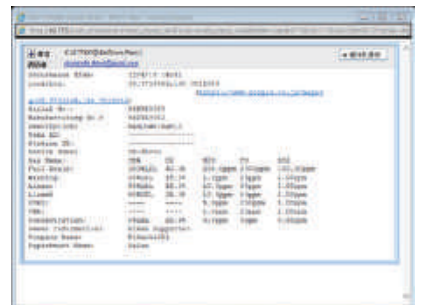Monitoring room

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3 Check gas concentration and battery level

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

Battery level icon

*Can only be used in country which achieved radio certification.
*May not be available due to radio wave conditions.

4 Owner information registration

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

Email text (sample)

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Other features available 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 supervisors at remote locations.*

* Your company is responsible for system configurations.

Cloud server

Gas concentration detector information

Worker

Gateway

Site supervisor

Safety manager

Wireless device

30 °C
85 %

Vital watch   Heat stroke index

Use in combination with a range of wireless devices

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

Checking site conditions remotely

Emergency alert notification

→

Spotting signs of imminent disaster Accurate precautionary warnings

Rapid response in emergencies

Operation in conjunction with your company's safety management procedures

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

FAQ

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?	changes from blinking to steady illumination.
What happens when device pairing is lost?	blinks and the product goes to standby. No audible alarm is issued.
Are unpaired connections possible?	No.

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

Main unit	
What is 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 beacons.

Others	
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.

Specifications

Model	GX-3R Pro
Detection method	Diffusion type (Changeable to sampling type by attaching RP-3R)
Gas alarm indication	Lamp flashing, continuous modulating buzzer sounding, gas concentration display blinking, vibration Reset operation: Self-latching
Fault alarm	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), main alarm (90 seconds) Reset operation: Self-latching
Display	LCD digital (full-dot), backlight
Displays	Operation status, clock, battery level, temperature, peak reading, calibration notification
Buzzer volume	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)
Temperature range/ humidity range*2	-40ºC~+60ºC(no sudden changes), 0~95%RH (non-condensation)
Explosion-proof class	**ATEX** Il1G Ex da ia IIC T4 Ga / IM1 Ex da ia I Ma (With combustible gas sensor) Il1G 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
Protection level	Equivalent to IP66/68 (2 m, 1 h)
External dimensions/ weight	With rechargeable battery unit: Approx. 73mm(W)×65mm(H)×26mm(D) (excluding protrusions) / Approx. 120 g With dry battery unit: Approx. 73mm(W)×65mm(H)×34mm(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 °C to +50 °C (no sudden changes) / Humidity: 10 to 90 %RH (no condensation)

Detection gas

Detection target gas	Combustible gas (HC or CH$_4$)	Oxygen (O$_2$)	Carbon monoxide (CO)	Hydrogen sulfide (H$_2$S)	Sulfur dioxide (SO$_2$)	Carbon dioxide (CO$_2$)	
Detection principle	New ceramic type	Electrochemical type				Infrared type	
Detection range (service range)	0~100%LEL	0~25.0vol% (~40.0vol%)	0~500ppm (~2000ppm)	0~100.0ppm (~200.0ppm)	0~20.00ppm (~100.00ppm)	0~5.00vol% (~10.00vol%)	0~10000ppm
1 digit	1 %LEL	0.1 vol%	1 ppm	0.1 ppm	0.05ppm	0.01 vol%	20 ppm
Gas alarm setpoint (can be set by user)	1st alarm : 10%LEL 2nd alarm : 25%LEL 3rd alarm : 50%LEL OVER alarm : 100%LEL	L alarm : 19.5vol% LL alarm : 18.0vol% H alarm : 23.5vol% OVER alarm : 40.0vol%	1st alarm : 25ppm 2nd alarm : 50ppm 3rd alarm : 1200ppm TWA alarm : 25ppm STEL alarm : 200ppm OVER alarm : 2000ppm	1st alarm : 5.0ppm 2nd alarm : 30.0ppm 3rd alarm : 100.0ppm TWA alarm : 1.0ppm STEL alarm : 5.0ppm OVER alarm : 200.0ppm	1st alarm : 2.00ppm 2nd alarm : 5.00ppm 3rd alarm :100.00ppm TWA alarm : 2.00ppm STEL alarm : 5.00ppm OVER alarm :100.00ppm	1st alarm : 0.50vol% 2nd alarm : 3.00vol% 3rd alarm : 3.00vol% TWA alarm : 0.50vol% STEL alarm : 3.00vol% OVER alarm : 10.00vol%	1st alarm : 5000ppm 2nd alarm : 5000ppm 3rd alarm : 5000ppm TWA alarm : 5000ppm OVER alarm : 10000ppm

Standard accessories

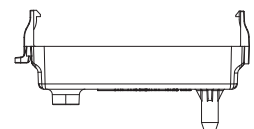Protective cover

Appearance when attached

Protective cover
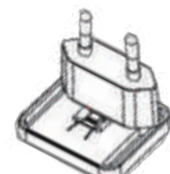(port No. 4777 4175 00)

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 9308 10)

EU plug
(Part No. 2594 0933 60)

Ordering guide

■ Select one combustible gas sensor.

Code ①

Code	Selection	Sensor model	Detection 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 ②

Code	Selection	Sensor model	Detection range
1	Oxygen (O$_2$) sensor	ESR-X13P	0~25.0vol%(~40.0vol%)
0	No sensor	—	—

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

Code ③④

Code	Selection	Sensor model	Detection range
E1	Carbon monoxide/ hydrogen sulfide (CO/H$_2$S) sensor	ESR-A1DP	0~500ppm(~2000ppm) 0~100.0ppm(~200.0ppm)
E2	Carbon monoxide (CO) sensor *H$_2$ interference reduction	ESR-A1CP	0~500ppm(~2000ppm)
E3	Sulfur dioxide (SO$_2$) sensor	ESR-A13D	0~20.00ppm(~100.00ppm)
E4	Hydrogen sulfide (H$_2$S) sensor	ESR-A13i	0~100.0ppm(~200.0ppm)
E5	Carbon monoxide (CO) sensor	ESR-A13P	0~500ppm(~2000ppm)
00	No sensor	—	—

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

Code ⑤⑥

Code	Selection	Sensor model	Detection range
E3	Sulfur dioxide (SO$_2$) sensor	ESR-A13D	0~20.00ppm(~100.00ppm)
E4	Hydrogen sulfide (H$_2$S) sensor	ESR-A13i	0~100.0ppm(~200.0ppm)
D1	Carbon dioxide (CO$_2$) <vol%> sensor	IRR-0409	0~5.00vol%(~10.00vol%)
D2	Carbon dioxide (CO$_2$) <ppm> sensor	IRR-0433	0~10000ppm
00	No sensor	—	—

(Note) **Two identical sensors cannot be selected.**

■ Select the battery type.

Code ⑦

Code	Selection	Model
L	Rechargeable lithium ion battery	BUL-3R
D	Alkaline battery	BUD-3R

■ Select Bluetooth compatibility.

Code ⑧

Code	Selection	Model
1	Bluetooth support	—
0	Bluetooth unsupported	—

*Can only be used in country which achieved radio certification.
*May not be available due to radio wave conditions.

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

B [①] [②] [③ | ④] [⑤ | ⑥] [⑦] [⑧]

■ Select optional accessories

Name	Quantity
Heat-resistantcase	
Leather case	
Belt clip	
Arm/ankle belt	
Protective film	
Manual suction unit (with sampling probe)	

Name	Quantity
Manual suction unit (with 8m float-type tube)	
Manula suction unit (with 30m weighted tube)	
Charging cradle	
Five-unit AC adaptor (with 22.5cm cable)	
Five-unit AC adaptor (with 60cm cable)	
Five-unit AC adaptor (with 120cm cable)	

Name	Quantity
Calibration adaptor	
Data management program	
Pump unit RP-3R(Pro)	
Docking station SDM-3R	

★ **Distributed by:**

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