



# Model GX-3R Pro

Portable gas monitor

 **Bluetooth®  
mounted!**



## 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<sub>2</sub>, H<sub>2</sub>S, 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<sub>2</sub>, H<sub>2</sub>S, 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

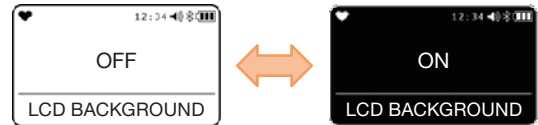
## Supports 11 languages

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.



6

## Mounted with the new R sensors, which are long-term consistency 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 <sub>4</sub>	O <sub>2</sub>	CO&H <sub>2</sub> S	CO	CO <sub>2</sub>	CO/H <sub>2</sub> S/SO <sub>2</sub>
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 <sub>2</sub> 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

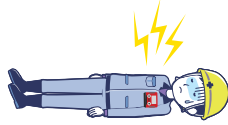
Conversion gas	Gas name displayed	Calibration gas conversion	
		CH <sub>4</sub>	i-C <sub>4</sub> H <sub>10</sub>
Methane	CH <sub>4</sub>	—	x
Isobutane	i-C <sub>4</sub> H <sub>10</sub>	○	—
Hydrogen	H <sub>2</sub>	○	○
Methanol	CH <sub>3</sub> OH	○	○
Acetylene	C <sub>2</sub> H <sub>2</sub>	○	○
Ethylene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

Conversion gas	Gas name displayed	Calibration gas conversion	
		CH <sub>4</sub>	i-C <sub>4</sub> H <sub>10</sub>
Benzene	C <sub>6</sub> H <sub>6</sub>	○	○
N-hexane	n-C <sub>6</sub> H <sub>14</sub>	○	○
Toluene	C <sub>7</sub> H <sub>8</sub>	○	○
N-heptane	n-C <sub>7</sub> H <sub>16</sub>	○	○
Xylene	C <sub>8</sub> H <sub>10</sub>	○	○
N-nonane	n-C <sub>9</sub> H <sub>20</sub>	○	○
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

<p><b>1 Heat-resistant case</b></p> <p>*not explosion-proof</p>	<p><b>2 Leather case</b></p>	<p><b>3 Belt clip</b></p>	<p><b>1 Heat-resistant case</b></p> <p>Case for protection from heat resource. Uses a safety pin.</p> <p>Part No. 4777 4260 80</p>
<p><b>4 Arm/Ankle belt</b></p>	<p><b>5 Protective film</b></p>	<p><b>6 Manual suction unit</b></p> <p>Sampling probe * Photo shows the unit with sampling probe.</p>	<p><b>2 Leather case</b></p> <p>Case for protection against dirt. Uses the clip on the unit.</p> <p>Part No. 4777 4258 70</p>
<p><b>7 Charging cradle</b></p>	<p><b>8 Five-unit AC adaptor</b></p>	<p><b>9 Calibration adapter</b></p>	<p><b>3 Belt clip</b></p> <p>Allows the product to be attached to a belt or pocket.</p> <p>Part No. 4777 9202 40</p>
<p><b>10 Data management program</b></p>			<p><b>4 Arm/Ankle belt</b></p> <p>Belt for securing the unit to your arm or ankle.</p> <p>Part No. 4777 9293 30</p>
			<p><b>5 Protective film</b></p> <p>Protects the display. (set of 5)</p> <p>Part No. 4777 9296 50</p>
			<p><b>6 Manual suction unit</b></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 8m float-type tube) Part No. 4777 9299 70 (with 30m weighted tube) Part No. 4777 9300 30</p>
			<p><b>7 Charging cradle</b></p> <p>Cradle for recharging the unit. Cradles can be interconnected.</p> <p>Part No. BC-3R 00</p>
			<p><b>8 Five-unit AC adaptor</b></p> <p>One AC adapter recharges up to five units. *Recharging times remain unchanged.</p> <p>(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</p>
			<p><b>9 Calibration adapter</b></p> <p>Adapter for applying gas to GX-3R Pro during bump test and calibration. (with outlet nipple and rubber seal)</p> <p>Part No. 4777 9312 70</p>
			<p><b>10 Data management program</b></p> <p>Software for viewing and managing measurement data.</p> <p>Part No. 9811 0870 60</p>

## 11 Pump unit RP-3R (Pro)

An external electric pump. Allows use for suction sampling.



### 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 IIC 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).



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.

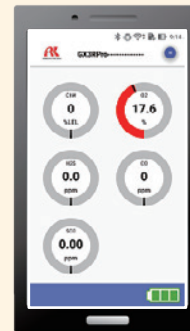


## Features available by connecting GX-3R Pro with RK Link

### Sharing emergency information



### 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



### 2 Setting



【Alarm setpoint】



【Calibration】



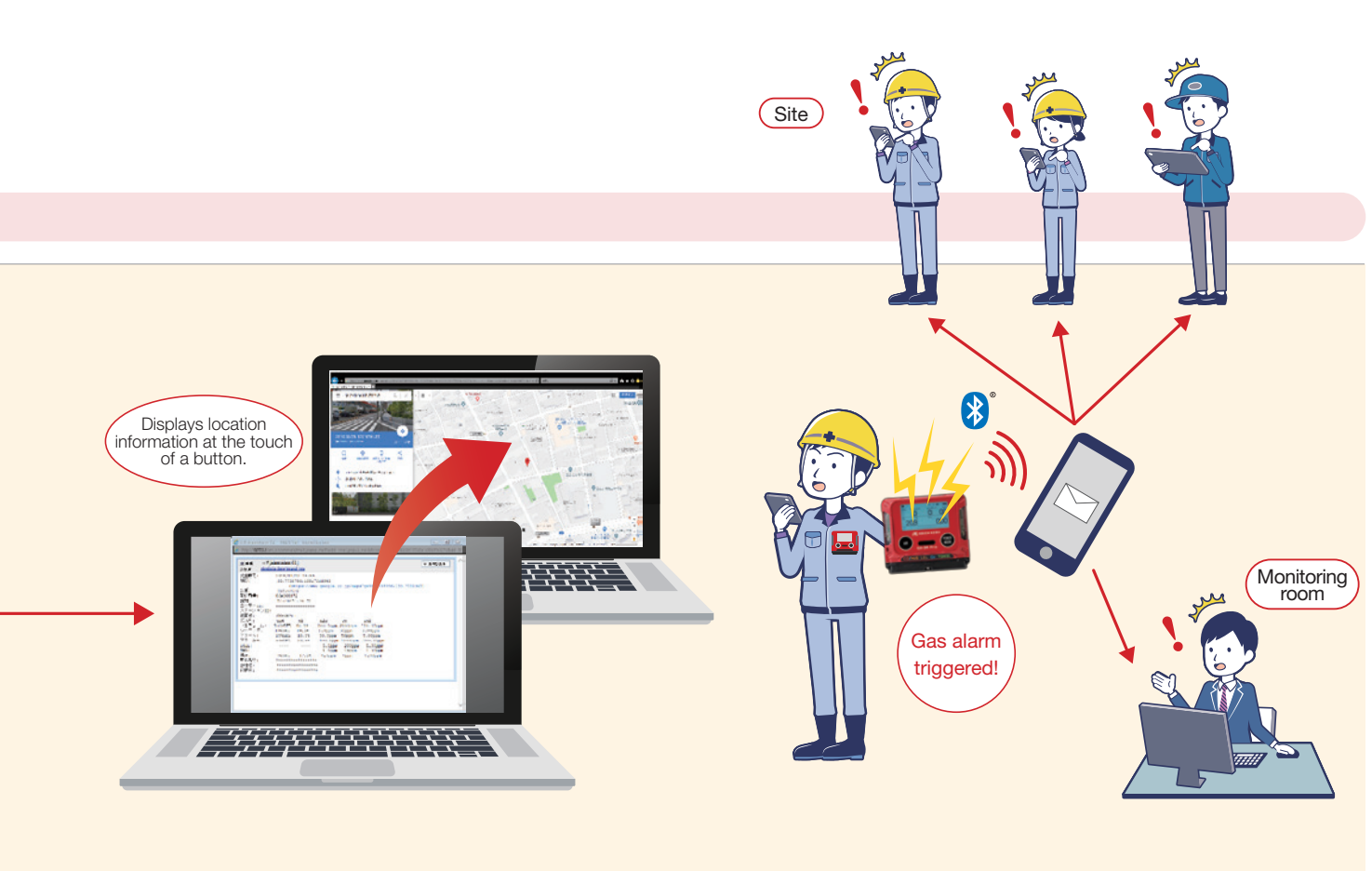
【Language】

- 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



### 3 Check gas concentration and battery level



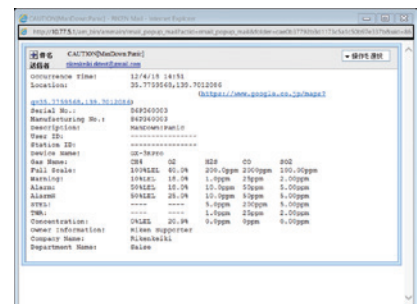
- Displays gas concentrations in real time during measurement.
- Displays current battery levels in three steps.

← Battery level icon

### 4 Owner information registration



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



Email text (sample)

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

## 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.



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?	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 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	-40°C~+60°C(no sudden changes), 0~95%RH (non-condensation)	
Explosion-proof class	ATEX II1G Ex da ia IIC T4 Ga / IM1 Ex da ia I Ma ( With combustible gas sensor) II1G 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 <sub>4</sub> )	Oxygen (O <sub>2</sub> )	Carbon monoxide (CO)	Hydrogen sulfide (H <sub>2</sub> S)	Sulfur dioxide (SO <sub>2</sub> )	Carbon dioxide (CO <sub>2</sub> )	
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



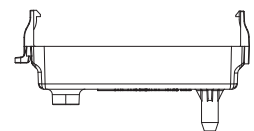
Protective cover (port No. 4777 4175 00)



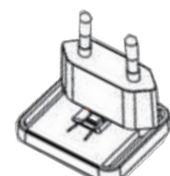
AC adapter (Part No. 2594 0898 30)

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 <sub>4</sub> ) 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 <sub>2</sub> ) 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 <sub>2</sub> S) sensor	ESR-A1DP	0-500ppm(~2000ppm) 0-100.0ppm(~200.0ppm)
	E2	Carbon monoxide (CO) sensor *H <sub>2</sub> interference reduction	ESR-A1CP	0-500ppm(~2000ppm)
	E3	Sulfur dioxide (SO <sub>2</sub> ) sensor	ESR-A13D	0-20.00ppm(~100.00ppm)
	E4	Hydrogen sulfide (H <sub>2</sub> 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 <sub>2</sub> ) sensor	ESR-A13D	0-20.00ppm(~100.00ppm)
	E4	Hydrogen sulfide (H <sub>2</sub> S) sensor	ESR-A13i	0-100.0ppm(~200.0ppm)
	D1	Carbon dioxide (CO <sub>2</sub> ) <vol%> sensor	IRR-0409	0-5.00vol%(~10.00vol%)
	D2	Carbon dioxide (CO <sub>2</sub> ) <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**

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
①	②	③	④	⑤	⑥	⑦	⑧

### Select optional accessories

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

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