

# Model **GX-3R** Portable gas monitor



## Small & Light

The newly developed dual-sensor configuration reduces size by approximately 30% compared to previous models. Light weight (about 100g) means it won't interfere with your work.

**Weights  
just  
100g!**

## 5-year warranty

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

\*Option.

**Intrinsically safe explosion-proof construction and flame - proof enclosures**

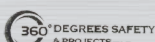
**Water and dust resistant IP66/68**

**Robust design (Withstands 7m drop)**



Play the Promotional video from here.

Now on the website!



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**RIKEN KEIKI Co., Ltd.**

# Active in various fields!



**Construction sites**



**Gas plants**



**Shipyards**



**Steel plants**

Compact lightweight design won't impede work in confined spaces.

Tough design to withstand 7m drop, that you can use even when working at heights.

Use the suction unit to confirm safety before entering pits.

The newly developed CO sensor reduces effects of hydrogen interference.

## You can understand at a glance! GX-3R

| Model                               | GX-3R                                                            |
|-------------------------------------|------------------------------------------------------------------|
| Detection gas                       | 1 to 4 types                                                     |
| Battery                             | Rechargeable battery                                             |
| Detection method                    | Diffusion type<br>*Pump unit available as option (see next page) |
| Alarm setpoint                      | Settings can be changed.                                         |
| Combustible gas conversion function | 27 types                                                         |
| Data logger function                | Records up to 3,600 data.                                        |
| Confirmation beep function          | Can be changed (see section below for details).                  |
| Lunch break function                | Can be changed (see section below for details).                  |
| Protective cover                    | Provided as standard                                             |
| Heat-resistant case, leather case   | Optional accessories                                             |
| Five-component detection            | ⇒ We recommend the GX-3R Pro model.                              |
| Dry battery power                   | ⇒ We recommend the GX-3R Pro model.                              |
| Bluetooth                           | ⇒ We recommend the GX-3R Pro model.                              |

## 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>                  | —                          | ×                                |
| 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>    | ○                          | ×                                |
| 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>    | ○                          | ×                                |
| Butadiene      | C <sub>4</sub> H <sub>6</sub>    | ○                          | ○                                |
| Cyclopentane   | C <sub>5</sub> H <sub>10</sub>   | ○                          | ○                                |
| Benzene        | C <sub>6</sub> H <sub>6</sub>    | ○                          | ○                                |

| Conversion gas         | Gas name displayed               | Calibration gas conversion |                                  |
|------------------------|----------------------------------|----------------------------|----------------------------------|
|                        |                                  | CH <sub>4</sub>            | i-C <sub>4</sub> H <sub>10</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                              | ○                          | ○                                |
| n-Pentane              | n-C <sub>5</sub> H <sub>12</sub> | ○                          | ○                                |

## Mounted with the new R sensors, which are long-term consistence sensors

GX-3R 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                                                                                    |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 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!         |
|  |  |  |  |

## Wide range of safety functions

### Combustible gas conversion function

- Eliminates the need for complex calculations.
- Allows direct readout of 27 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.



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## Optional accessories

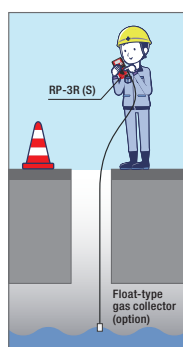


### Model GX-3R



|                               |                                                                                                          |                                                                                                                                                           |
|-------------------------------|----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 Heat-resistant case         | Case for protection from heat resource. Uses a safety pin.                                               | Part No. 4777 4576 10                                                                                                                                     |
| 2 Leather case                | Case for protection against dirt. Uses the clip on the unit.                                             | Part No. 4777 4551 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)<br>Part No. 4777 9302 80<br>(with 8m float-type tube)<br>Part No. 4777 9304 20<br>(with 30m weighted tube)<br>Part No. 4777 9305 00 |
| 7 Charging cradle             | Cradle for recharging the unit. Cradles can be interconnected.                                           | Part No. BC-3R 00                                                                                                                                         |
| 8 Five-way cable for charging | One AC adapter recharges up to five units. *Recharging times remain unchanged.                           | (with 22.5cm cable)<br>Part No. 4777 9329 70<br>(with 60cm cable)<br>Part No. 4777 9319 80<br>(with 120cm cable)<br>Part No. 4777 9333 20                 |
| 9 Calibration adapter         | Adapter for applying gas to GX-3R during bump test and calibration. (with outlet nipple and rubber seal) | Part No. 4777 9311 00                                                                                                                                     |
| 10 Data management program    | Software for viewing and managing measurement data.                                                      | Part No. 9811 0870 60                                                                                                                                     |

## 11 Pump unit RP-3R



An external electric pump. Allows use for suction sampling.

### Specifications

|                           |                                                                                                                                  |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Model                     | RP-3R(S)                                                                                                                         |
| Suction flow rate         | High mode: 0.5 L/min or more<br>Low mode: 0.35 L/min or more                                                                     |
| Continuous operating time | High mode: Approx. 10 hours<br>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<br>ATEX II 1 G Ex ia IIC T4 Ga<br>IECEx Ex ia IIC T4 Ga<br>Japan Ex Ex ia IIC T4 Ga |
| Construction              | Dust-proof, splash-proof construction (protection level equivalent to IP67)                                                      |
| Dimensions / Weight       | Approx. 93mm (W) x 95mm (H) x 29mm (D) (excluding protrusions) / Approx. 130g                                                    |
| Power source              | AA alkaline battery x 1                                                                                                          |
| Optional accessories      | Float-type gas collector (8m)                                                                                                    |

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

## 12 Docking station SDM-3R

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



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### Specifications

|                      |                                                          |
|----------------------|----------------------------------------------------------|
| Model                | SDM-3R                                                   |
| Power supply         | 100 to 240 V AC $\pm$ 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) x 110mm (H) x 250mm (D) / Approx. 800g |
| Optional accessories | Connecting fixture, wall-mounting fixture, exhaust tube  |

## Also consider the high-spec [GX-3R Pro] model!

### ① 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.

### ② Connects with Bluetooth®

Allows connection to a smartphone. Use the dedicated app iOS, Android to send alarm notifications by email.

### ③ Runs on either dry cell or rechargeable batteries

Unit system for easy replacement.

### ④ Easy-to-read full-dot display

Supports a total of 11 different languages.

\* Bluetooth are registered trademarks of Bluetooth SIG, Inc. and used by RIKEN KEIKI under license.

### Model GX-3R Pro



\* For details, see the GX-3R Pro catalog.



## Specifications

|                                        |                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Model                                  | GX-3R                                                                                                                                                                                                                                                                                                                     |
| Detection method                       | Diffusion type (Changeable to sampling type by attaching RP-3R(S))                                                                                                                                                                                                                                                        |
| Gas alarm indication                   | Lamp flashing, continuous modulating buzzer sounding, gas concentration display blinking, vibration<br>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                                                                                                                                                                                                                                |
| Displays                               | LCD digital, backlight, operation status, clock, battery level, temperature, peak reading, calibration notification                                                                                                                                                                                                       |
| Buzzer volume                          | Approx. 95dB (30cm)                                                                                                                                                                                                                                                                                                       |
| 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                                                                                                                                                                                                                                                      |
| Continuous operating time*1            | Long-life battery mode on: Approx. 40 hours (25°C, fully charged, no alarm, no lighting)<br>Long-life battery mode off: Approx. 25 hours (25°C, fully charged, no alarm, no lighting)                                                                                                                                     |
| Temperature range/<br>humidity range*2 | -40°C~+60°C(no sudden changes), 0~95%RH (non-condensation)                                                                                                                                                                                                                                                                |
| Certifications*3                       | ATEX, IECEx, Japan Ex, INMETRO, China Ex, JG, MED, JIS T 8201, JIS T 8205,<br>EN 50104, EN 45544-1, EN 45544-2, EN 45544-3, EN 60079-29-1, CE marking                                                                                                                                                                     |
| Explosion-proof class*3                | ATEX II 1 G Ex da ia IIC T4 Ga / IM1 Ex da ia I Ma (With combustible gas sensor)<br>II 1 G Ex ia IIC T4 Ga / IM1 Ex ia I Ma (No combustible gas sensor)<br>IECEx Ex da ia IIC T4 Ga / Ex da ia I Ma (With combustible gas sensor)<br>Ex ia IIC T4 Ga / Ex ia I Ma (No combustible gas sensor)<br>Japan Ex Ex ia IIC T4 Ga |
| Protection level                       | Equivalent to IP66/68 (2 m, 1 h)                                                                                                                                                                                                                                                                                          |
| External dimensions/weight             | Approx. 58mm (W) × 65mm (H) × 26mm (D) (excluding protrusions) / Approx.100g                                                                                                                                                                                                                                              |
| 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)

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

## Detection gas

| Detection target gas                       | Combustible gas<br>(HC or CH <sub>4</sub> )                                           | Oxygen(O <sub>2</sub> )                                                                 | Carbon monoxide(CO)                                                                                                              | Hydrogen sulfide(H <sub>2</sub> S)                                                                                                     |
|--------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Detection principle                        | New ceramic type                                                                      | Electrochemical type                                                                    |                                                                                                                                  |                                                                                                                                        |
| Detection range<br>(service range)         | 0~100%LEL                                                                             | 0~25.0 vol%<br>(~40.0 vol%)                                                             | 0~500ppm<br>(~2000ppm)                                                                                                           | 0~100.0ppm<br>(~200.0ppm)                                                                                                              |
| 1 digit                                    | 1%LEL                                                                                 | 0.1vol%                                                                                 | 1ppm                                                                                                                             | 0.1ppm                                                                                                                                 |
| Gas alarm setpoint<br>(can be set by user) | 1st alarm : 10%LEL<br>2nd alarm : 25%LEL<br>3rd alarm : 50%LEL<br>OVER alarm: 100%LEL | L alarm : 19.5vol%<br>LL alarm : 18.0vol%<br>H alarm : 23.5vol%<br>OVER alarm: 40.0vol% | 1st alarm : 25ppm<br>2nd alarm : 50ppm<br>3rd alarm : 1200ppm<br>TWA alarm : 25ppm<br>STEL alarm : 200ppm<br>OVER alarm: 2000ppm | 1st alarm : 5.0ppm<br>2nd alarm : 30.0ppm<br>3rd alarm : 100.0ppm<br>TWA alarm : 1.0ppm<br>STEL alarm : 5.0ppm<br>OVER alarm: 200.0ppm |

## Standard accessories

Protective cover



Appearance when  
attached



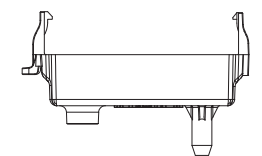
Protective cover  
(Part No. 4777 4161 10)

AC adapter  
(Part No. 2594 0898 30)

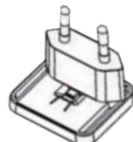


Alligator clip  
(Part No. 4777 9203 10)

Hand strap  
(Part No. 0888 0605 90)



Calibration adapter (simple type)  
(Part No. 4777 9369 30)



EU plug  
(Part No. 2594 0933 60)

## Type list

| TYPE    | Detection gas                              |
|---------|--------------------------------------------|
| TYPE A  | LEL, O <sub>2</sub> , H <sub>2</sub> S, CO |
| TYPE B  | LEL, O <sub>2</sub> , H <sub>2</sub> S     |
| TYPE C  | LEL, O <sub>2</sub> , CO                   |
| TYPE CH | LEL, O <sub>2</sub> , CO*                  |
| TYPE D  | LEL, O <sub>2</sub>                        |
| TYPE E  | O <sub>2</sub> , H <sub>2</sub> S          |
| TYPE F  | O <sub>2</sub> , CO                        |
| TYPE FH | O <sub>2</sub> , CO*                       |
| TYPE I  | LEL, CO                                    |
| TYPE IH | LEL, CO*                                   |
| TYPE K  | H <sub>2</sub> S                           |

\* CO sensor with reduced H<sub>2</sub> interference

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to the performance improvement.