

# RIKEN MARINE COMBINATION GAS DETECTOR

## New gas detector for

- **Model RX-515 : LNG carrier**  
 CH<sub>4</sub> : 0-100%LEL to 0-100%vol  
 O<sub>2</sub> : 0-25%vol  
 CO : 0-1,000ppm  
 CO<sub>2</sub> : 0-20%vol
- **Model RX-516 : Crude oil tanker**  
 HC : 0-100%LEL to 0-100%vol  
 O<sub>2</sub> : 0-25%vol  
 H<sub>2</sub>S : 0-100.0ppm
- **Model RX-517 : Crude oil tanker**  
 HC : 0-100%LEL to 0-100%vol  
 O<sub>2</sub> : 0-25%vol  
 H<sub>2</sub>S : 0-100.0ppm and 0-1,000ppm

MODEL **RX-515**  
 MODEL **RX-516**  
 MODEL **RX-517**

 **MED Wheel Marking**  
 Cert. No. 15520/A0EC

**ATEX/Baseefa approved Exiad II BT3**  
 Cert. No. Baseefa06ATEX0205



## Applications

- LNG carrier storage vessel gas monitoring.
- Crude oil tanker storage tank gas monitoring.

## Features

- Dual range detection of CH<sub>4</sub> or HC in %vol and %LEL.
- Unique gas combinations include : CH<sub>4</sub>/O<sub>2</sub>/CO/CO<sub>2</sub> HC/O<sub>2</sub>/H<sub>2</sub>S
- Accurately measure CH<sub>4</sub> or HC from inerted tanks with infrared sensor.
- High range H<sub>2</sub>S 0-1,000ppm available (RX-517).
- Intrinsically safe design.
- Datalogging (Max 30hours of interval trend).



WHEEL MARK  
15520/A0EC



TOKYO PLANT - OKEGAWA FACTORY  
RIKEN KEIKI ESAN SESAKUSHO CO.,LTD



TOKYO PLANT - OKEGAWA FACTORY



**RIKEN KEIKI**

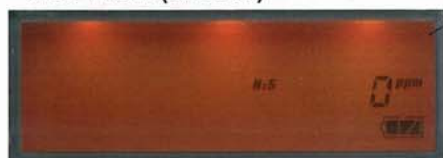
# ■ CRUDE OIL TANKER Application

This model is a combination type portable HC, O<sub>2</sub> and H<sub>2</sub>S gas detector with an Infrared (NDIR) type sensor, galvanic cell type sensor and Electro-chemical cell type sensor. These sensors provide accurate detection of HC, O<sub>2</sub> and H<sub>2</sub>S levels even in N<sub>2</sub> and other inert environments. The measuring ranges of model RX-516 are 0-100%LEL/0-100%vol for HC, 0-25%vol for O<sub>2</sub> and 0-100.0ppm for H<sub>2</sub>S respectively. A higher range for H<sub>2</sub>S (0-1,000ppm) is available in model RX-517. A manual switch is used to change the flow to a unique path for high H<sub>2</sub>S applications to protect the other sensors. The RX-516/RX-517 has an explosion proof and Intrinsically Safe design so that it can be used safely in any environment.

- H<sub>2</sub>S LOW (RX-516 & RX-517)



- H<sub>2</sub>S HIGH (RX-517)



<LCD display>



<H<sub>2</sub>S LOW>

<H<sub>2</sub>S HIGH>

To measure high concentration Hydrogen sulfide (H<sub>2</sub>S), the model RX-517 applies a special H<sub>2</sub>S sensor with range 0-1,000ppm. When measuring high concentration H<sub>2</sub>S, turn the switch from "H<sub>2</sub>S LOW" to "H<sub>2</sub>S HIGH". This switch changes the LCD display, and unique flow path protects other sensors from exposure to high concentrations of H<sub>2</sub>S.

## • Specifications

| Model                      | RX-516 (HC/O <sub>2</sub> /H <sub>2</sub> S 0-100.0ppm) RX-517 (HC/O <sub>2</sub> /H <sub>2</sub> S 0-100.0ppm & 0-1,000ppm)  |                          |   |
|----------------------------|---|--------------------------|---|
| Gas detected               | Iso-butane (HC)   | Oxygen (O <sub>2</sub> ) | Hydrogen sulfide (H <sub>2</sub> S)                         |
| Detection principle        | NDIR (Non-Dispersive infrared)  | Galvanic cell            | Electro-chemical cell                                       |
| Detection range (digit)    | 0-100%LEL (0.5%LEL)<br>2-100%vol (0.5%vol)  | 0-25.0%vol (0.1%vol)     | <LOW><br>0-100.0ppm (0.5ppm)    <HIGH><br>0-1,000ppm (1ppm) |
| Operating Temp. & Humidity | -10~+50°C, below 90%RH (non-condensing)   |                          |   |
| Safety rating              | Exiad II BT3 ATEX/Baseefa, Cert. No. Baseefa06ATEX0205<br>Exiad II BT3 KIMM, Cert. No. EX25IS088<br>MED Wheel Marking, Cert. No.15520/A0EC  |                          |   |
| Power source               | Alkaline batteries (Size C) 4pcs  |                          |   |
| Continuous operation       | Approx. 30 hours (no alarm, no light, at 25°C)  |                          |   |
| Display                    | Digital LCD (with back light)   |                          |   |
| Alarm types                | Gas alarms : Standard...OFF<br>(Optional ...1 <sup>st</sup> and 2 <sup>nd</sup> user adjustable, self-resetting)<br>Trouble alarms (Self diagnosis) : Sensor connection, low battery, circuit trouble and calibration error |                          |   |
| Dimension & Weight         | Approx. 200(W) × 80(H) × 142 (D)mm<br>Approx. 1.8kg (including batteries)   |                          | Approx. 2.0kg<br>(including batteries)                      |
| Special functions          | Peak hold, Datalogging<br>High concentration hydrogen sulfide range with manual switch (RX-517)   |                          |   |
| Standard accessories       | ① Carrying case with shoulder strap, ② Filter tube with flow monitor and junction tube, ③ Gas sampling hose, ④ Gas sampling probe, ⑤ Alkaline batteries(4pcs), ⑦ Instruction manual   |                          |   |

- Specifications subject to change without notice.

# ■ LNG CARRIER Application

This model is a combination type portable CH<sub>4</sub>, O<sub>2</sub>, CO and CO<sub>2</sub> gas detector with an Infrared (NDIR) type sensor, galvanic cell type sensor and Electro-chemical cell type sensor. These sensors provide accurate detection of CH<sub>4</sub>, O<sub>2</sub>, CO and CO<sub>2</sub> levels even in N<sub>2</sub> and other inert environments. The measuring ranges are 0-100%LEL/0-100%vol for CH<sub>4</sub>, 0-25%vol for O<sub>2</sub>, 0-1000ppm for CO and 0-20.0%vol for CO<sub>2</sub> respectively. The RX-515 has an explosion proof and Intrinsically Safe design so that it can be used safely in any environment.



<LCD display>

## • Specifications

| Model                      | RX-515  |                          |                       |   |
|----------------------------|---|--------------------------|-----------------------|---|
| Gas detected               | Methane (CH <sub>4</sub> )  | Oxygen (O <sub>2</sub> ) | Carbon monoxide (CO)  | Carbon dioxide (CO <sub>2</sub> )   |
| Detection principle        | NDIR (Non-Dispersive infrared)  | Galvanic cell            | Electro-chemical cell | NDIR (Non-Dispersive infrared)  |
| Detection range (digit)    | 0-100%LEL(0.5%LEL)<br>5-100%vol(0.5%vol)  | 0-25.0%vol<br>(0.1%vol)  | 0-1,000ppm (1ppm)     | 0-20.0%vol<br>0-2%vol(0.01%vol)<br>2-5%vol(0.05%vol)<br>5-20%vol(0.1%vol) |
| Operating Temp. & Humidity | -10~+50°C, below 90%RH (non-condensing)   |                          |                       |   |
| Safety rating              | Exiad II BT3 ATEX/Baseefa, Cert. No. Baseefa06ATEX0205<br>Exiad II BT3 KIMM, Cert. No. EX25IS088<br>MED Wheel Marking, Cert. No.15520/A0EC  |                          |                       |   |
| Power source               | Alkaline batteries (Size C) 4pcs  |                          |                       |   |
| Continuous operation       | Approx. 30 hours (no alarm, no light, at 25°C)  |                          |                       |   |
| Display                    | Digital LCD (with back light)   |                          |                       |   |
| Alarm types                | Gas alarms : Standard...OFF<br>(Optional ...1 <sup>st</sup> and 2 <sup>nd</sup> user adjustable, self-resetting)<br>Trouble alarms (Self diagnosis) : Sensor connection, low battery, circuit trouble and calibration error |                          |                       |   |
| Dimension & Weight         | Approx. 200(W) × 80(H) × 142 (D)mm, Approx. 1.8kg (including batteries)   |                          |                       |   |
| Special functions          | Peak hold, Datalogging  |                          |                       |   |
| Standard accessories       | ① Carrying case with shoulder strap, ② Filter tube with flow monitor and junction tube, ③ Gas sampling hose, ④ Gas sampling probe, ⑤ Alkaline batteries (4pcs), ⑥ CO <sub>2</sub> scrubber, ⑦ Instruction manual            |                          |                       |   |

• Specifications subject to change without notice.

## ● Standard accessories

- ① Carrying case with shoulder strap
- ② Filter tube with flow monitor and junction tube
- ③ Gas sampling hose
- ④ Gas sampling probe
- ⑤ Alkaline battery (Size C) 4pcs
- ⑥ CO2 scrubber (RX-515)
- ⑦ Instruction manual



①



②



③



④



⑤



⑥

## ● Optional accessories

- ⑧ Gas sampling bag 1L (LEL)
- ⑨ Gas sampling bag 1L (VOL)
- ⑩ Gas sampling hose 30m with plummet
- ⑪ Gas sampling hose 30m with float type sampling head
- ⑫ Absorbent cotton
- ⑬ Water proof filter for filter tube
- ⑭ Metal storage box
- ⑮ Datalogging software
- ⑯ Communication cable



⑧



⑨



⑩



⑪



⑫



⑬



⑭



⑮



⑯



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