

# 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) 2-100%vol (0.5%vol)	0-25.0%vol (0.1%vol)	<LOW> 0-100.0ppm (0.5ppm)      <HIGH> 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 Exiad II BT3 KIMM, Cert. No. EX25IS088 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 (Optional ...1 <sup>st</sup> and 2 <sup>nd</sup> user adjustable, self-resetting) 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)		Approx. 2.0kg (including batteries)
Special functions	Peak hold, Datalogging 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) 5-100%vol(0.5%vol)	0-25.0%vol (0.1%vol)	0-1,000ppm (1ppm)	0-20.0%vol 0-2%vol(0.01%vol) 2-5%vol(0.05%vol) 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 Exiad II BT3 KIMM, Cert. No. EX25IS088 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 (Optional ...1 <sup>st</sup> and 2 <sup>nd</sup> user adjustable, self-resetting) 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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