

RIKEN

MARINE COMBINATION GAS DETECTOR

New gas detector for

- Model RX-515 : LNG carrier
CH₄ : 0-100%LEL to 0-100%vol
O₂ : 0-25%vol
CO : 0-1,000ppm
CO₂ : 0-20%vol
- Model RX-516 : Crude oil tanker
HC : 0-100%LEL to 0-100%vol
O₂ : 0-25%vol
H₂S : 0-100.0ppm
- Model RX-517 : Crude oil tanker
HC : 0-100%LEL to 0-100%vol
O₂ : 0-25%vol
H₂S : 0-100.0ppm and 0-1,000ppm

MODEL **RX-515**

MODEL **RX-516**

MODEL **RX-517**

MED approved, with "Wheel mark"
Intrinsically Safe design
(Exiad I BT3X)

Highly accurate and reliable!



Applications

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

Features

- Dual range detection of CH₄ or HC in %vol and %LEL.
- Unique gas combinations include : CH₄/O₂/CO/CO₂
HC/O₂/H₂S
- Accurately measure CH₄ or HC from inerted tanks with infrared sensor.
- High range H₂S 0-1,000ppm available (RX-517).
- Intrinsically safe design.
- Datalogging (Max 30hours of interval trend).



WHEEL MARK



(TOKYO PLANT - OKEGAWA FACTORY)



(HEAD OFFICE - TOKYO PLANT)



RIKEN KEIKI

■ CRUDE OIL TANKER Application

This model is a combination type portable HC, O₂ and H₂S 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, O₂ and H₂S levels even in N₂ and other inert environments. The measuring ranges of model RX-516 are 0-100%LEL/0-100%vol for HC, 0-25%vol for O₂ and 0-100.0ppm for H₂S respectively. A higher range for H₂S (0-1,000ppm) is available in model RX-517. A manual switch is used to change the flow to a unique path for high H₂S 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.

• H₂S LOW (RX-516 & RX-517)



• H₂S HIGH (RX-517)



<LCD display>



<H₂S LOW>



<H₂S HIGH>

To measure high concentration Hydrogen sulfide (H₂S), the model RX-517 applies a special H₂S sensor with range 0-1,000ppm. When measuring high concentration H₂S, turn the switch from "H₂S LOW" to "H₂S HIGH". This switch changes the LCD display, and unique flow path protects other sensors from exposure to high concentrations of H₂S.

• Specifications

Model	RX-516 (HC/O ₂ /H ₂ S 0-100.0ppm)		RX-517 (HC/O ₂ /H ₂ S 0-100.0ppm & 0-1,000ppm)	
Gas detected	Iso-butane (HC)	Oxygen (O ₂)	Hydrogen sulfide (H ₂ S)	
Detection principle	NDIR (Non-Dispersive infrared)	Galvanic cell	Electro-chemical cell	
Detection range (digit)	0-100%LEL (0.5%LEL) 0-100%vol (0.5%vol)	0-25.0%vol (0.1%vol)	<LOW> 0-100.0ppm (0.5ppm)	<HIGH> 0-1,000ppm (1ppm)
Alarm types	Gas alarms : Off (Optional : 1 st and 2 nd (user adjustable), Self-resetting) Trouble alarms : sensor connection, low battery, circuit trouble and calibration error			
Alarm methods	Gas alarms : intermittent buzzer, flashing lights, blinking gas concentration reading Trouble alarms : continuous buzzer, lights on, trouble displayed			
Sampling method	Internal sample pump			
Flow rate	400~500 ml/min			
Response time (T90) (with 1m sampling hose)	Less than 30 sec.	Less than 20 sec.	Less than 30 sec.	Less than 30 sec.
Accuracy (at 25°C)	+/- 5% of F/S or +/-10% of indication value	+/- 0.7vol%	0-30ppm: +/- 1.5ppm 30.5-100.0ppm: +/- 15% of Indication value	+/- 20% of indication value (101-1,000ppm)
Power source	Alkaline batteries (Size C) 4pcs			
Continuous operation	Alkaline battery : Approx. 30 hours (no alarm or light, at 25°C)			
Dimension & Weight	Approx. 200(W) × 80(H) × 142 (D)mm Approx. 1.8kg (including batteries)			Approx. 2.0kg (including batteries)
Operating Temp. & Humidity	-10~+50°C, below 90%RH (non-condensing)			
Display	Digital LCD (with back light)			
Safety rating	Exiad II BT3X (Alkaline batteries "Size C" only), MED approved			
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 CH₄, O₂, CO and CO₂ gas detector with an Infrared (NDIR) type sensor, galvanic cell type sensor and Electro-chemical cell type sensor. These sensors provide accurate detection of CH₄, O₂, CO and CO₂ levels even in N₂ and other inert environments. The measuring ranges are 0-100%LEL/0-100%vol for CH₄, 0-25%vol for O₂, 0-1000ppm for CO and 0-20.0%vol for CO₂ 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 ₄)	Oxygen (O ₂)	Carbon monoxide (CO)	Carbon dioxide (CO ₂)
Detection principle	NDIR (Non-Dispersive infrared)	Galvanic cell	Electro-chemical cell	NDIR (Non-Dispersive infrared)
Detection range (digit)	0-100%LEL(0.5%LEL) 0-100%vol(0.5%vol)	0-25%vol (0.1%vol)	0-1,000ppm (1ppm)	0-20.0%vol 0-2%vol(0.01%vol) -5%vol(0.05%vol) -20%vol(0.1%vol)
Alarm types	Gas alarms : Off (Optional : 1 st and 2 nd (user adjustable), Self-resetting) Trouble alarms : sensor connection, low battery, circuit trouble and calibration error			
Alarm methods	Gas alarms : intermittent buzzer, flashing lights, blinking gas concentration reading Trouble alarms : continuous buzzer, lights on, trouble displayed			
Sampling method	Internal sample pump			
Flow rate	400~500 ml/min			
Response time (T90) (with 1m sampling hose)	Less than 30 sec.	Less than 20 sec.	Less than 30 sec.	Less than 30 sec.
Accuracy (at 25°C)	+/- 5% of F/S or +/-10% of indication value	+/- 0.7vol%	0-150ppm: +/- 15ppm 151-1,000ppm: +/- 15% of Indication value	+/- 5% of F/S
Power source	Alkaline batteries (Size C) 4pcs			
Continuous operation	Alkaline battery : Approx. 30 hours (no alarm or light, at 25°C)			
Dimension & Weight	Approx. 200(W) × 80(H) × 142 (D)mm Approx. 1.8kg (including batteries)			
Operating Temp. & Humidity	-10~+50°C, below 90%RH (non-condensing)			
Display	Digital LCD (with back light)			
Safety rating	Exiad II BT3X (Alkaline batteries "Size C" only), MED approved			
Special functions	Peak hold, Datalogging			
Standard accessories	①Carrying case with shoulder strap, ②Filter tube with flow monitor and junction tube, ③Gas sampling hose, ④Gas sampling probe, ⑤Alkaline batteries (4pcs), ⑥CO ₂ scrubber (RX-515), ⑦Instruction manual			

• Specifications subject to change without notice.

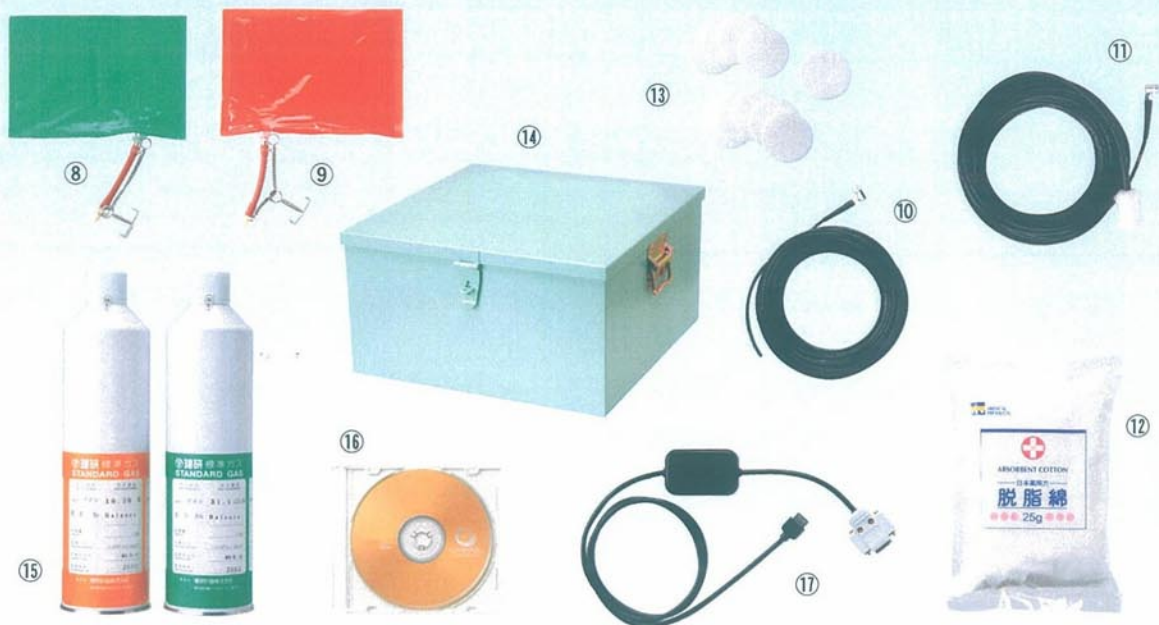
● Standard accessories

- 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



● 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 Calibration gas cylinder
- ⑯ Datalogging software
- ⑰ Communication cable



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