# Marine

# Gas Detection Solutions







Crude Oil Carriers
LNG / LPG / CNG

**Bulk Carriers** 

**Chemical Tankers** 

Cruise Ships

Iron Ore / DRI

**Coal Carriers** 

**Barges** 

**Container Ships** 

#### **WORLDWIDE SERVICE**

- Personal and portable gas monitors designed for marine use
- Drop ship worldwide
- Same day shipments
- Calibration gas same day shipment

## **SOLAS XI-1/7** compliant products Certified instruments:

— ATEX, MED, CSA, ABS, IECEX



### **Gas Monitoring Solutions for Marine Applications**

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	Cargo Testing						Confined Space Monitoring						
lepoM Features	Inert Monitoring	High Range H2S	100% Volume HC	40m Sample Range	30m Sample Range	4 Gas LEL/ O2/CO/H2S	PID Capability	PPM Hydrocarbon	40m Sample Range	30m Sample Range	Wearable	Calibration Station	
GX-3R						•					•	•	
GX-2012					•	•				•	•	•	
GX-8000					•	•				•			
RX-8000	•		•		•								
RX-8500/8700	•	•	•		•								
EAGLE 2	•	•		•	•	•	•	•	•	•		•	
GX-6000	•				•	•	•	•		•	•	•	



	C	on					
lapow Features	4 Gas LEL/ O2/CO/H2S	PID Capability	PPM Hydrocarbon	40m Sample Range	30m Sample Range	Wearable	Calibration Station
GX-3R	•					•	•
GX-2012	•				•	•	•
GX-8000	•				•		
RX-8000					•		
RX-8500/8700							
EAGLE 2	•	•	•	•	•		•
GX-6000	•	•	•		•	•	•



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		Car	go Tes	sting		Confined Space Monitoring						
lepow Features	Inert Monitoring	High Range H2S	100% Volume HC	40m Sample Range	30m Sample Range	4 Gas LEL/ O2/CO/H2S	PID Capability	PPM Hydrocarbon	40m Sample Range	30m Sample Range	Wearable	Calibration Station
GX-3R						•					•	•
GX-2012					•	•				•	•	•
GX-8000					•	•				•		
RX-8000	•		•		•							
RX-8500/8700	•	•	•		•							
EAGLE 2	•	•		•	•	•	•	•	•	•		•
GX-6000	•				•	•	•	•		•	•	•



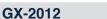
	(	Cargo	Testing	a	C	n					
lepow Features		100% Volume HC	40m Sample Range	30m Sample Range	4 Gas LEL/ 02/CO/H2S	PID Capability	PPM Hydrocarbon	40m Sample Range		Wearable	Calibration Station
GX-3R					•					•	•
GX-2012				•	•				•	•	•
GX-8000				•	•				•		
RX-8000	•	•		•							
RX-8500/8700	•	•		•							
EAGLE 2	•		•	•	•	•	•	•	•		•
GX-6000	•			•	•	•	•		•	•	•

Personal

#### Smallest 4 gas personal monitor

- Simultaneous detection of 4 gases ° LEL, O2, H2S & CO
- Dual audible alarm ports (95 db @ 30 cm)
- 3 visual alarm LED's
- Vibration alarm
- Optional motorized or hand pump

IECEx | ATEX | MED | c CSA us | IP-67



#### 4 gas personal monitor with 30m sample range

- · 3 Operating modes: Normal, leak check, & bar hole
- Monitor ppm % LEL, and % volume methane, O2, CO and H2S
- 0 to 100% volume methane option
- Auto-ranging display of % LEL and % volume
- Alkaline or Li-Ion battery packs

Certifications

IECEx | ATEX | CSA | CE | IP-67



#### 4 Gas: LEL, %Vol HC / O2 / H2S / CO

- Real-time detection 4 channels - 100% LEL / VOL CH4 / H2 / iC4H10
  - 40% O2 / 100ppm H2S / 50ppm CO
- Optional combustible gases
- Acetylene – Hexane
- Methylalcohol
- Toluene
- Mek

Certifications

ATEX | IECEx | MED | IP-67

#### **RX-8000** 2 Gas: LEL. %Vol HC or CH4 IR / O2

#### Real-time detection for combustibles

· 2 Gas inlets

- 100% LEL / 100% Vol. O2
- Large simultaneous display with auto backlighting
- 3 Bright LED alarm windows

**Calibration Station** 

**Calibration Station** 

Simultaneously bump / calibrate, charge,

Multiple modules connected to a PC (10

Simultaneously bump / calibrate, charge, and

Multiple modules connected to a PC (10 max)

and collect data up to 10 instruments

Stand-alone station (no PC Required)

On board calibration certificates

collect data up to 10 instruments

Stand-alone station or PC connect

Charging (Li-Ion Battery Pack)

On board calibration certificates

SDM-3R

max) 2 Gas inlets

SDM-2012

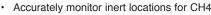
Lithium ion rechargeable battery pack

Certifications

ATEX | IECEx | MED | IP-67



#### · Dual range detection of CH4 in %Vol. and %LEL



Detects O2, CO, and CO2



ATEX | IECEx | MED | IP-67



**RX-8700** 

#### Dual range detection of %Vol. and %LEL for HC

Simultaneously bump / calibrate, charge, and

- Accurately monitor inert locations for HC
- Dual Range H2S 0-100 & 0-1000 ppm

collect data up to 10 instruments

Stand-alone station or PC connect

Charging (NiMH batteries)

2 Calibration gas ports

3 Gas: LEL, %Vol HC IR / O2 / H2S Low & High Range

Certifications

ATEX | IECEx | MED | IP-67

**Calibration Station** 

#### Eagle 2

#### 6 Gas portable monitor with 40m sample range

- Monitor HC gas from inerted tanks
- HC ranges include 100% LEL and 30% volume
- Auto-ranging display between % volume and % LEL HC or CH4
- PID sensor for VOC testing
- Alkaline or NiMH batteries

Certifications

CSA | CE | ABS



#### **Calibration Station**

#### SDM-6000

- Simultaneously bump / calibrate, charge, and collect data up to 10 instruments
- Touch screen control display
- On board calibration certificates
- One power source for multiple units
- · 3 Gas inlets with 6 gas option

#### **GX-6000**

#### 6 Gas portable with PID, IR & super toxics

- 5 Operating modes
- 2 Interchangeable smart sensor slots
- · Library of over 600 VOCs
- PID library of over 600 VOC's
- Alkaline or Li-lon battery packs
- 30m sample range without PID

Certifications

IECEx | ATEX | (CSA) pending | CE | IP-67







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## **Global Partners in Marine Monitors**











**RK SINGAPORE** 

South Korea

**USA** 510-441-5656 www.rkiinstruments.com

Japan 81-3-3966-1113 www.rikenkeiki.co.jp

65 6275 3398 www.rkinstruments.com.sg

**Singapore** 

82-51-712-9900 www.rikenkeiki.co.kr/en/

**RK Germany** 49 (0) 6196 7777681 www.rikenkeikigmbh.com















\* Check RKI website for complete listing of agents.

#### **SOLAS XI-1/7 COMPLIANT GAS MONITORS**

#### New SOLAS XI-1/7 Regulation Defines Atmospheric Test Instruments for Confined Spaces Pre-entry Measurement

Many vessels are constructed with enclosed spaces (also known as confined spaces) which can pose hazards to personnel required to enter these spaces to perform work: Toxic gases, lack of oxygen and risk of explosion from flammable or combustible gases and vapors. Some examples of this type of space include, but are not limited to, cargo and ballast tanks, hulls, and holds. These risks can be mitigated by conducting pre-entry tests with appropriate multi-gas detector.

#### Pre-entry measurement: Requirements for a portable multi-gas detector

SOLAS XI-1/7 defines the requirements for gas detectors to be used

- Explosion protection: The device must meet be certified to relevant explosion protection standards. There are several standards that exist around the world, including ATEX, IECeX, CSA, etc.

- Durability: A robust housing protects against impact, and intrusion of particulates or water (IP rating).
- Pre-entry sampling: the gas detector must have a means of sampling from the confined space prior to entry, by inserting a hose or probe and observing test results in a safe area before entering.
- Calibration and testing: All gas detectors require periodic testing to ensure reliability. Proper calibration equipment must be provided, and records of testing maintained on board the vessel.
- Electromagnetic compatibility: The gas detector must not be adversely affected by other electronic devices or equipment in the area, nor can they cause interference with said equipment.