



RIKEN KEIKI

# OPTICAL GAS INDICATOR

**Model FI-8000**


- **Max 8 measuring gas range available**
- **2 way of sampling method**  
Pump suction type or Hand aspirating type
- **Intermittent measuring mode available**  
(For pump suction type only)
- **Ingress proof rating IP67**  
Suited for outdoor work.
- **Easy-to-read wide LCD display**
- **Intrinsically safe (ATEX Presafe 14 ATEX 5711)**  
Explosion proof class Exia IIC T4 Ga


**Hand aspirating type**

## History for Riken optical detectors

Analysis-Scientific  
heritage  
approved



Riken gas indicator  
model 3  
(1930)



Riken gas indicator  
model 18  
(1952)



FI-21  
(2001)



FI-8000  
(2015)

Digital  
display

Automatic  
analysis

IP67

Light  
weight

Data  
Logging

Easy  
operation

In early 1930, many of explosion accidents at oil tanker were occurred. To prevent these accidents, a gas detector based on optical interferometric method was developed and Riken Keiki was founded as this product manufacture. The gas detectors were used in a coal mine for safety use throughout the world.

Riken gas indicator model 3 has been distributed to Japanese life as an valuable instrument and approved as a heritage of analytical and scientific instruments by JAIMA and JSIA.

## Model FI-8000

You can select the pump suction type or hand aspirating type, and measuring gas in accordance with the requirements.

FI-8000 TYPE □-□□-□□

### Suction method

A : Hand-aspirating type  
P : Pump suction type

### Chamber length <sup>(※1)</sup>

05 : 5mm  
24 : 24mm  
48 : 48mm

### Detection gas <sup>(※2)</sup>

50 : Anesthetic gas  
51 : Fumigation gas  
99 : Customized

※1 It differs by measuring gas.  
Anesthetic and fumigation : No need to specify  
For customized spec, refer the 3rd page.

※2 Refer the last page for anesthetic gas and fumigation gas.  
See the 3rd page customized spec.

- ◆ Specify suction method for anesthetic gas spec.

FI-8000 TYPE □-24-50

- ◆ Specify suction method for fumigation spec.

FI-8000 TYPE □-48-51

- ◆ Specify suction method and chamber length for customized spec.

FI-8000 TYPE □-□-99

Measuring gas

1 set of FI-8000 can install maximum 8 kinds of measuring gas range under the same chamber length.

Measuring gas list

<Chamber length : 5mm>

Detection gas	Base gas	Range
Methyl bromide	Air	0~100vol%
Sulfur Hexafluoride	Air	0~100vol%
Sulfur Hexafluoride	Air	0~99.9%up
Sulfur Hexafluoride	N2	0~100vol%
Propane	Air	0~100vol%
Iso-butane	Air	0~100vol%
N-butane	Air	0~100vol%
Flon 22	Air	0~100vol%
Dimethyl Ether	Air	0~100vol%
Dimethyl Ether	N2	0~100vol%
Xenon	Air	0~100vol%
Ethylene	Air	0~100vol%
Chorine	Air	0~100vol%
Vinyl chloride	N2	0~100vol%

Detection gas	Base gas	Detection gas
Propane	Air	0~101.3 MJ/m <sup>3</sup> Gross 0°C
Butane	Air	0~134.2 MJ/m <sup>3</sup> Gross 0°C
Propane	Air	0~93.15 MJ/m <sup>3</sup> Net 0°C
Butane	Air	0~123.7 MJ/m <sup>3</sup> Net 0°C

<Chamber length : 24mm>

Detection gas	Base gas	Range
Halothane	O2	0~6vol%
Isoflurane	O2	0~8vol%
Sevoflurane	O2	0~10vol%
Desflurane	O2	0~20vol%
Halothane	Air	0~6vol%
Isoflurane	Air	0~8vol%
Sevoflurane	Air	0~10vol%
Desflurane	Air	0~20vol%
Enflurane	Air	0~10vol%
Enflurane	Air	0~10vol%

Detection gas	Base gas	Detection gas
Helium	Air	0~100vol%
Helium	N2	0~100vol%
Helium	Argon	0~100vol%
Hydrogen	Air	0~100vol%
Hydrogen	N2	0~100vol%
Heavy Hydrogen	Air	0~100vol%
Heavy Hydrogen	N2	0~100vol%
Carbon dioxide	Air	0~100vol%
Carbon dioxide	N2	0~100vol%
Carbon dioxide	Argon	0~100vol%
Neon	Air	0~100vol%
Methane	Air	0~100vol%
Methane	Air	0~100vol%
Nitrus Oxide	Air	0~100vol%
Ozone	O2	0~100vol%

Detection gas	Base gas	Range
LNG or LNG +LPG	—	25~50 MJ/m <sup>3</sup> Gross 0°C
LNG or LNG +LPG	—	22~45 MJ/m <sup>3</sup> Net 0°C

<Chamber length : 48mm>

Detection gas	Base gas	Range
Toluene	Air	0~100%LEL
MEK	Air	0~100%LEL
Ethyl acetate	Air	0~100%LEL
Xylene	Air	0~100%LEL
Iso-propyl alcohol	Air	0~100%LEL
M.E.K	Air	0~100%LEL
Methanol	Air	0~100%LEL
Propane	Air	0~100%LEL
Iso-butane	Air	0~100%LEL
Acetone	Air	0~100%LEL
Ethyl alcohol	Air	0~100%LEL
Methane	Air	0~100%LEL
Hydrogen	Air	0~100%LEL
Ethyl chloride	Air	0~100%LEL
Ethylene	Air	0~100%LEL
Styrene	Air	0~100%LEL
Ammonia	Air	0~100%LEL
Tetrahydroflane	Air	0~100%LEL
Dioxolane	Air	0~100%LEL
Methyl-isopropil-Keton	Air	0~100%LEL
Tetrafluoro-propane	Air	0~100%LEL
Butylacetate	Air	0~100%LEL

Detection gas	Base gas	Range
Methyl Bromide	Air	0~200g/m <sup>3</sup>
Methy Iodine	Air	0~200g/m <sup>3</sup>
Sulfuryl Fluoride	Air	0~200g/m <sup>3</sup>
Methyl Bromide	Air	0~5vol%
Propylene oxide	Air	0~10vol%

Detection gas	Base gas	Range
Ammonia	N2	0~100vol%
Oxygen	N2	0~100vol%

Detection gas for anaesthetic








Detection gas for fumigation

## Specification

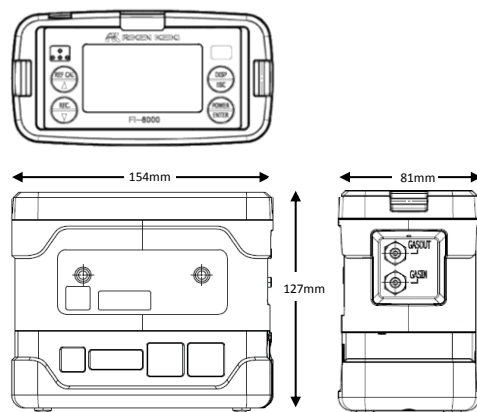
Model	FI-8000	
Measuring principle	Optical interferometric method	
Measuring gas	Refer to the 3 <sup>rd</sup> page.	
Indication accuracy	Within $\pm 3\%$ (at constant temperature)※	
Type	TYPE P-□□-□□	TYPE A-□□-□□
Sampling method	Pump suction type	Hand-aspirating type
Self-diagnosis function	Low battery, Low light, Low contrast, abnormal atmospheric pressure and abnormal temperature	
Display	LCD digital (7-segment value display + code + 20 segment word x 2 lines)	
Each display	Measuring gas, gas concentration, measuring unit and battery capacity reminder	
Power source	Alkaline battery pack (AA size battery x 3 pcs) (standard) Or, Lithium ion battery (optional)	
Ingress proof rating	IP67 equivalent	
Ambient humidity & temperature	Temperature : -20~50°C, Humidity : Below 95%RH (Non-condensing)	
Dimensions	Approx. 154 (W) × 127 (H) × 81 (D) mm	
Weight	Approx. 1.1kg (including alkaline batteries) Approx. 1.2kg (including lithium ion batteries)	
Explosion proof	Intrinsically safe (Exia II CT4) (ATEX pending)	
Continuous operation	Above 12 hrs (for alkaline battery use) Above 18 hrs (for lithium ion battery use) (25°C with no back light on)	Above 16 hrs (for alkaline battery use) Above 24 hrs (for lithium ion battery use) (25°C with no back light on)
External output	IrDA (for data logging)	
Function	Data logging, atmospheric pressure correction, temp compensation	

※ Indication accuracy subject to the measuring gas.

## Accessories

	Common (Anaesthetic/fumigation/customized gas)			Anaesthetic	
Accessories	Gas sampling tube (1m) 	Shoulder strap 	Hand-aspirator (For TYPE A only) 	Absorption tube 	Tube Fix belt 
Optional	Lithium ion battery unit 		AC adaptor 		

## Appearance



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