

FI-8000

Optical Gas Indicator

The Riken FI-8000 optical interferometric gas concentration meter measures vaporizer output concentration using a digital display and does not require correction factors. FI-8000 can install maximum 8 kinds of measuring gas range under the same chamber length

Product description

The FI 8000, can be set up for the measurement of gases from combustibles and solvents. In addition there are specific models for the measurement of VCM, gas purity, fumigation gases and anesthetic gases.



Features

- ✓ Max 8 measuring gas ranges available
- ✓ 2 ways of sampling method, Pump suction type or Hand aspirating type
- ✓ Intermittent measuring mode available (For pump suction type only)
- ✓ Ingress proof rating IP67
- ✓ Easy-to-read wide LCD display
- ✓ Intrinsically safe (ATEX Presafe 14 ATEX 5711), Explosion proof class Exia II CT4 Ga

Applications

- ✓ Oil tanker / Gas Carrier
- ✓ Chemical Tanker / Bulk Carrier
- ✓ Gas Plant / Gas Supplier Services
- ✓ Confined Space
- ✓ Industry
- ✓ Refineries / Petrochemical / Chemical Plants
- ✓ Water / Wastewater Treatment
- ✓ Power Plant / Fuel Cell Facilities

Technical specifications

Type	Type P	Type A
Measuring principle	Optical interferometric method	
Measuring gas	Refer to the 3rd page.	
Indication accuracy	Within $\pm 3\%$ (at constant temperature)	
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 & temp	Temperature: $-20\text{--}50\text{ }^{\circ}\text{C}$, Humidity: Below 95%RH (Non-condensing)	
Dimensions	Approx. 154(W) \times 127(H) \times 81(D) mm	
Weight	Approx. 1.1kg (including alkaline batteries) Approx. 1.2kg (including lithium ion batteries)	
Explosion proof	Intrinsically safe Exia CT4 ATEX pending	
Continuous operation	Above 12 hrs (for alkaline battery use) Above 18 hrs (for lithium ion battery use) (25% with no back light on)	Above 16 hrs (for alkaline battery use) Above 24 hrs (for lithium ion battery use) (25% with no backlight on)
External output	IrDA (for data logging)	
Function	Data logging, atmospheric pressure correction, temp compensation	

Measuring gas

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	N ₂	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	N ₂	0~100vol%
Xenon	Air	0~100vol%
Ethylene	Air	0~100vol%
Chorine	Air	0~100vol%
Vinyl chloride	N ₂	0~100vol%
Propane	Air	0~101.3 MJ/m ³ Gross 0°C
Butane	Air	0~134.2 MJ/m ³ Gross 0°C
Propane	Air	0~93.15 MJ/m ³ Net 0°C
Butane	Air	0~123.7 MJ/m ³ Net 0°C

Chamber length: 24mm		
Detection gas	Base gas	Range
Halothane	O ₂	0~6vol%
Isoflurane	O ₂	0~8vol%
Sevoflurane	O ₂	0~10vol%
Desflurane	O ₂	0~20vol%
Halothane	Air	0~6vol%
Isoflurane	Air	0~8vol%
Sevoflurane	Air	0~10vol%
Desflurane	Air	0~20vol%
Enflurane	O ₂	0~10vol%
Enflurane	Air	0~10vol%

Helium	Air	0~100vol%
Helium	N ₂	0~100vol%
Helium	Argon	0~100vol%
Hydrogen	Air	0~100vol%
Hydrogen	N ₂	0~100vol%
Heavy Hydrogen	Air	0~100vol%
Heavy Hydrogen	N ₂	0~100vol%
Carbon dioxide	Air	0~100vol%
Carbon dioxide	N ₂	0~100vol%
Carbon dioxide	Argon	0~100vol%
Neon	Air	0~100vol%
Methane	Air	0~100vol%
Methane	N ₂	0~100vol%
Nitrus Oxide	Air	0~100vol%
Ozone	O ₂	0~100vol%

LNG or LNG +LPG	—	25~50 MJ/m ³ Gross 0°C
LNG or LNG +LPG	—	22~45 MJ/m ³ Net 0°C

Chamber length: 24mm		
Detection gas	Base gas	Range
Toluene	Air	0~100vol%
MEK	Air	0~100vol%
Ethyl acetate	Air	0~100vol%
Xylene	Air	0~100vol%
Iso-propyl alcohol	Air	0~100vol%
M.E.K	Air	0~100vol%
Methanol	Air	0~100vol%
Propane	Air	0~100vol%
Iso-butane	Air	0~100vol%
Acetone	Air	0~100vol%
Ethyl alcohol	Air	0~100vol%
Methane	Air	0~100vol%
Hydrogen	Air	0~100vol%
Ethyl chloride	Air	0~100vol%
Ethylene	Air	0~100vol%
Styrene	Air	0~100vol%
Ammonia	Air	0~100vol%
Tetrahydroflane	Air	0~100vol%
Dioxolane	Air	0~100vol%
Methyl-isopropil-Keton	Air	0~100vol%
Tetrafluoro-propane	Air	0~100vol%
Butylacetate	Air	0~100vol%

Methyl Bromide	Air	0~200g/m ³
Methyl Iodine	Air	0~200g/m ³
Sulfuryl Fluoride	Air	0~200g/m ³
Methyl Bromide	Air	0~5vol%
Propylene oxide	Air	0~10vol%
Phosphine	Air	0~50g/m ³
Hydrogen Cyanide	Air	0~200g/m ³

Ammonia	N ₂	0~100vol%
Oxygen	N ₂	0~100vol%

□ Detection gas for anaesthetic

□ Detection gas for fumigation

The Bruusgaard System



TBS is a unique turnkey portable gas detection solution, giving you increased safety and substantial cost savings through standardised instruments, routines, training and procurement.

Logistic Support

At any given time we know the status of all vessels and sites covered by The Bruusgaard System. We consolidate all shipments and make sure you have everything you need on board until next scheduled delivery. This results in fewer shipments and substantial savings!

- Year round follow up of instruments, spares and consumables
- Handling of all shipments & logistics
- Annual reports per vessel including budgeting



Safety

QA – strict routines and logging

- Crew are able to use instruments and follow routines correctly
- Instruments are in proper working condition at all times
- Instruments are calibrated at correct intervals
- Sensors and other items are replaced at correct intervals
- Usage of instruments is logged, including abnormal observations
- Traceability – instrument history and usage
- Routines and procedures can merge into the overall QA-system

Effective and proven training is an integrated part of The Bruusgaard System.

Instruments

All the equipment used for gas detection and calibration is placed in a custom-made wall cabinet. Including Log & Instruction Manual, which are crucial to maintaining the safety integrity.

- Standardised vessel specific gas detector solutions
- Total solutions including all equipment and routines necessary for efficient and safe use, storage and maintenance

Cost Savings

Some of our customers have been able to go from 8 to 10 suppliers down to 1 – translating into cost savings of up to 40-50%. For one vessel, this could be thousands of dollars annually, and for a whole fleet, the cost savings can be dramatic. This is achieved through:

- One contact for worldwide supply of spares & gases
- All service and calibration can be done on site.
- Reductions of instrument types from 10-12 to 2-3

Reduced maintenance costs through:

- On board calibration
- Fewer instruments on board
- No need for spares on board
- One PO per year
- Increased safety
- Less use of administrative time