



INDUSTRIAL GRADE NDIR GAS SENSOR

SRH, SJH, SBH, SBrH Series
For CO₂, CH₄, C₃H₈, CH₃Br



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Cubic Core Technology

NDIR

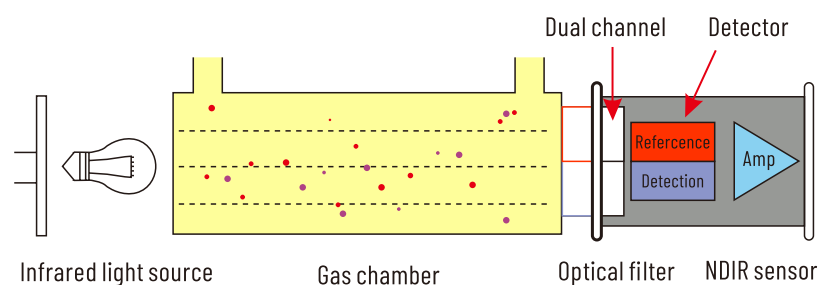
Non-dispersive Infrared(NDIR) Principle Dual beam design

Molecules like carbon dioxide (CO₂), methane (CH₄), propane (C₃H₈) and methyl bromide (CH₃Br) can all be directly measured in air by monitoring a specific spectral absorption wavelength in the infrared range.

An NDIR sensor design can be simplified into its core components:

- A gas chamber that allows air and gas molecules to naturally diffuse into and out of the chamber
- A light source that emits light into the gas chamber
- A photodetector and optical filter that measures the increase or decrease of light intensity at a specific light wavelength
- An amplifier circuit to measure the output light intensity measurement signal from the photodetector

CO₂ molecules inside the gas chamber will only absorb a specific wavelength of the light. The filter allows only the specific wavelength corresponded to pass through it. One detector measures the intensity of infrared light that is related to the intensity of CO₂ and can be described through the Lambert-Beer's Law. The other detector is as for reference. The change in sensor signal reflects the change in gas concentration.





SJH Series -CH₄ Sensors

Features

- NDIR technology
- Long lifespan (>10 years)
- Shock-resistant IR source available, diffusion sampling
- Temperature & Humidity Compensation
- High Humidity Alarm with Fail-Safe Design
- Reference channel for self-compensation
- Auto zero-calibration mechanism
- Ex-proof grade Ex ia II C T4 Ga
- Digital and analog voltage signal output (UART-TTL/DA output)

Applications

- Mine, Metallurgy, Oil & Gas
- LNG gas leakage alarming
- Liquefied gas station
- Fuel gas transport
- Chemical industry
- Sewage system
- Biogas monitoring
- Environmental monitoring

SJH Selection

Specifications		SJH Type	
Sensor Dimension (mm)	Φ20*19	SJH-5A	SJH-100A
	Φ20*16.6	SJH-5B	SJH-100B
Concentration Range		0~5%Vol	0~100%Vol
Accuracy		0~1%: ±0.06%Vol 1%~full range: ±6% of Reading	
Resolution		0.01%Vol	
Working Temperature		-40°C~70°C	



SBH Series - C₃H₈ Sensors

Features

- NDIR technology
- Long lifespan (>10 years)
- Shock-resistant IR source available, diffusion sampling
- Temperature & Humidity Compensation
- High Humidity Alarm with Fail-Safe Design
- Reference channel for self-compensation
- Auto zero-calibration mechanism
- Ex-proof grade Ex ia II C T4 Ga
- Digital and analog voltage signal output (UART-TTL/DA output)

Applications

- Metallurgy, Oil & Gas
- LPG gas leakage alarming
- Petrol chemical industry
- Refrigerant leakage monitoring
- Biological and Pharmaceutical chemistry

SBH Selection

Specifications		SBH Type
Sensor Dimension (mm)	Φ20*19	SBH-2A
	Φ20*16.6	SBH-2B
Concentration Range		0~2%Vol
Accuracy		0~1%: ≤ ±0.06%Vol 1%~full range: ≤ ±6% of reading
Resolution		0.01%Vol
Working Temperature		-40°C~70°C



SBrH Series -CH₃Br Sensors

Features

- NDIR technology
- Long lifespan (>10 years)
- Shock-resistant IR source available, diffusion sampling
- Temperature & Humidity Compensation
- High Humidity Alarm with Fail-Safe Design
- Reference channel for self-compensation
- Digital and analog voltage signal output (UART-TTL/DA output)
- High precision

Applications

- Industrial Safety
- Fumigation
- Agriculture pesticide
- Grain storage
- Wood preservation
- Entry-Exit Inspection and Quarantine

SBrH Selection

Specifications		SBrH Type
Sensor Dimension (mm)	Φ20*19	SBrH-5A
	Φ20*16.6	-
Concentration Range		0~5%Vol
Accuracy		0~1%: ±0.06%Vol 1~5%: ±6% of reading
Resolution		0.01%Vol
Working Temperature		-40°C~70°C



SRH Series -CO₂ Sensors

Features

- NDIR technology
- Long lifespan (>10 years)
- Shock-resistant IR source available
- Temperature & Humidity Compensation
- High Humidity Alarm with Fail-Safe Design
- Matrix calibration
- Reference channel for self-compensation
- Full range linearized and digital signal output (UART-TTL)

Applications

- CO₂ gas leakage alarming
- Incubator monitoring
- Agriculture industry
- Rebreather diving safety
- Underground garage
- Hydroponic culture
- Cellar and gas stores
- Marine vessels
- Landfill gas
- Controlled-atmosphere storage, cold-chain

SRH Selection

Specifications		SRH Type					
Sensor Dimension (mm)	Φ20*19	SRH-05A	SRH-1A	SRH-2A	SRH-5A	SRH-10A	SRH-20A
	Φ20*16.6	SRH-05B	SRH-1B	SRH-2B	SRH-5B	SRH-10B	SRH-20B
Concentration Range		0~5000ppm	0~1%Vol	0~2%Vol	0~5%Vol	0~10%Vol	0~20%Vol
Accuracy		±200ppm	±400ppm	0~1%: ≤ ±0.1%Vol 1%~5%: ≤ ± (0.05%+5% of reading) 5%~full range: ≤ ±6% of reading			
Resolution		1ppm		0.01%Vol			
Working Temperature		-40°C~70°C					



Low Power Consumption
High Cost-Effective



New Product

SRH-40 Sensor

SRH-40 sensor is based on dual beam non-dispersive Infrared (NDIR) technology to detect CO₂ levels from 0~40% volume in air and is a cost-effective and high performing solution for the most difficult applications and ideally suited to be applied for grain storage, silobag monitoring.

Features

- Low Power Consumption
- Shock-resistant IR source available
- Temperature & Humidity Compensation
- High Humidity Alarm with Fail-Safe Design
- Matrix Calibration
- Reference channel for self-compensation
- Full range linearized and digital signal output

Applications

- Intelligent agriculture
- Silobag monitoring
- Rebreather diving safety
- Gas drainage pipes monitoring
- CO₂ production monitoring
- Grain storage
- Silobag monitoring
- Landfill gas
- Abandoned oil wells monitoring

Specifications

Specifications		Type
Sensor Dimension (mm)	Φ20*19	-
	Φ20*16.6	SRH-40
Concentration Range		0~40%Vol
Accuracy		0~5% Vol: ±0.5% Vol 5%~40% Vol: ≤ ±10% of reading
Resolution		0.01%
Working Temperature		-25°C~55°C
Working Current		<2mA

Low Power Miniature NDIR Sensor Series

Cubic low power miniature sensor series leverage existing reliable NDIR product platform, and designed to extend operating time of single gas and multi-gas portable gas detectors including methane, propane, carbon dioxide.



IR Source NDIR Sensor

Feature

- Low power IR source
- Smart sampling work mechanism
- Low power consumption to 1mA
- Matrix calibration ensure excellent accuracy
- Fast response time ($T_{90} < 20s$)
- Long life time over 10years
- Durable stainless-steel enclosure



**LED NDIR Sensor
(Launching in process)**

Feature

- State-of-the-art power management with LED and Low power MCU
- Ultra-low power consumption at uA level
- Matrix calibration ensure excellent accuracy
- Fast response time ($T_{90} < 20s$)
- Long life time over 10years
- Durable stainless-steel enclosure

Notes: If you want to learn more about our new product , please send email to info@gassensor.com.cn or leave message on <https://en.gassensor.com.cn/>

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All products are in continuous development and therefore specifications may be subject to change without prior notice.