

Gas Flow Sensors

FR03

- Surface mount structure
- High measurement repeatability
- Low voltage loss



| | | |
|------------------|------------------------|--|
| Flow measurement | Maximum flow | 500mL/min @20°C 101.325kPa |
| | Measurement accuracy | [25, 500] mL/min: ±2.5% [0, 25] mL/min: ±0.5%FS |
| | Repeatability | 0.50% |
| | Working pressure | ≤200kPa |
| | Burst pressure | ≥0.7MPa |
| | Working temperature | 0°C ~ 50°C |
| Output signal | Output method | Digital IIC or analog voltage |
| | Analog signal | Linearity 0.5V ~ 4.5V |
| | IIC communication rate | 100kHz |
| | Signal refresh time | ≤1ms |
| | Signal response time | ≤3ms |
| | Electrical interface | PH2.0-5P plug-in connector |
| Other | Working voltage | DC5V ~ 14V |
| | Working current | ≤30mA |
| | Storage temperature | -20°C ~ 80°C |
| | Measurement medium | Dry and clean non-corrosive gas |
| | ΔPmax | ≤2000Pa |

FR03H

- 500ml/1L/2L/3L optional
- Low pressure loss
- High measurement repeatability



| | | |
|------------------|------------------------|--|
| Flow measurement | Maximum flow | 5L/min @20°C 101.325kPa |
| | Measurement accuracy | [0.15, 5] L/min ±2.5% [0, 0.15] L/min ±0.5%FS |
| | Repeatability | 0.50% |
| | Working pressure | ≤200kPa |
| | Burst pressure | ≥0.3MPa |
| | Working temperature | 0°C ~ 50°C |
| Output signal | Output method | Digital IIC or analog voltage |
| | Analog signal | Linearity 0.5V ~ 4.5V |
| | IIC communication rate | 100kHz |
| | Signal refresh time | ≤1ms |
| | Signal response time | ≤3ms |
| | Electrical interface | PH2.0-5P Plug-In Connector or 2.54mm-5P Pin |
| Other | Working voltage | DC4.9V ~ 14V |
| | Working current | ≤30mA |
| | Storage temperature | -20°C ~ 80°C |
| | Measurement medium | Dry and clean non-corrosive gas |
| | ΔPmax | ≤1000Pa |



Environmental monitoring



Respirators and ventilators



Mass flow controllers

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Multi-in-one Air Quality Sensor Modules

9-in-1 Air Quality Module



Integrated laser-dust, NDIR-CO₂, electrochemical-HCHO&O₃&CO, MEMS-NO₂, MOX-VOC, temp. & humi. sensors

ZPHS01B

| | | |
|---------------------|---|---|
| Detection range | CO ₂ : 0~5000 ppm PM2.5: 0~1000 µg/m ³ CH ₂ O: 0~6.250 mg/m ³ O ₃ : 0~10 ppm CO: 0~500 ppm | TVOC: 0~3 grades NO ₂ : 0.1~10 ppm Temperature: -20~65°C Humidity: 0~100%RH |
| Working voltage | 5 V DC | |
| Average current | < 300 mA | |
| Output | UART(TTL) | |
| Working temperature | -10~50 °C | |
| Size | 135.0×50.0×26.2 mm | |

5-in-1 Air Quality Module



Integrated laser-dust, NDIR-CO₂, temp. & humi., MOX-VOC or electrochemical-HCHO sensors

ZPHS01C

| | |
|---------------------|--|
| Detection range | CO ₂ : 400~5000 ppm PM2.5: 0~1000 µg/m ³ CH ₂ O: 0~1.6 ppm TVOC: 4 grades Temperature: 0~65°C |
| Working voltage | 5 V DC |
| Average current | < 500 mA |
| Output | UART(TTL) |
| Working temperature | 0~50 °C |
| Size | 62.5×61.0×25.0 mm |

Dust, Temp. & Humi., VOC Integrated Module



Integrated laser-dust, MEMS-VOC, temp. & humi. sensors, good consistency and stability.

ZH10

| | |
|------------------------------|-------------------------------------|
| PM2.5 size & effective range | 0.3~10 µm, 0~1000 µg/m ³ |
| VOC output | 0~500 level pollution signal |
| Output | UART_TTL or PWM output (3.3V level) |
| Working voltage | 5.0±0.5 V DC, ripple ≤50 mV |
| Working current | < 150 mA |
| Temperature | -10~60 °C: ±1 °C |
| Humidity | 0~90 %RH (no condensation); ±5 %RH |
| Size | 38.0×35.0×12.0 mm |

Digital Type VOC, Temp. & Humi. Module



Good sensitivity to HCHO, benzene, alcohol, CO, NH₃, H₂, cigarette smoke, etc.

ZPS20

| | |
|---------------------|---|
| Detection range | 0~5 ppm |
| Working voltage | 5.0±0.2V DC (No voltage reverse connect protection) |
| Output | TTL level (200ohm protected resistance inside) |
| Working current | ≤60 mA |
| Response time | ≤20 s |
| Working temperature | 0~50 °C |
| Working humidity | ≤95% RH |
| Size | 24.0×20.0×17.7 mm |

Electrochemical HCHO Detection Module



- Temp. & Humi. Compensation
- High resolution
- Excellent linear output

ZE510

| | |
|--------------------------|---------------------------------------|
| Detection range | 0~5 ppm |
| Working Voltage | 3.7~5.5 V |
| Resolution | ≤0.01 ppm |
| Response time | ≤60 s |
| Output | UART output (3V TTL Electrical Level) |
| Working Temp. & accuracy | -20~50 °C, ±0.5 °C (0 °C ~ 50 °C) |
| Working Hum. & accuracy | 15~90 %RH, ±5 %RH |
| Lifespan | 5 years (in air 18 °C ~ 25 °C) |
| Size | 25.5×23.0×5.3 mm |

MEMS Tem. & Humi. Sensor



- Low cost
- Compact size
- High precision

WHT20B

| | |
|----------------------|---|
| Detection range | 0~100 %RH; -40~85 °C |
| Working voltage | 2.0~5.5 V |
| Resolution | 0.01%RH; 0.01°C; |
| Response time (T63%) | humidity < 8s; temperature 5-30s |
| Output | Two-wire digital interface, standard I2C protocol |
| Accuracy | ±3.0 %RH; ±0.5°C |
| Repeatability | ±0.1 %RH; ±0.1°C |
| Lifespan | 2 years (in air) |
| Size | 3.0×3.0×1.0 mm |

Air Conditioner

HVAC System

Air Purifier

Air Quality Monitors

IAQ Sensors

NDIR CO2 Sensor

- Optional pin or terminal version
- The air chamber is gold-plated
- Good stability



MH-Z19C

| | |
|----------------------------------|-------------------------------------|
| Detection range | 400~10000 ppm(optional) |
| Working voltage | 5.0±0.1 V DC |
| Average current | <40 mA (@5V supply) |
| Accuracy | ±(50 ppm+5% reading) |
| Response time (T ₉₀) | < 120 s |
| Output | Serial Port (UART) (TTL level 3.3V) |
| | PWM |
| Lifespan | >10 years |
| Size | 32.9×19.7×10.8 mm |

NDIR CO2 Sensor

- >10 years lifespan
- High cost-effectiveness
- Excellent consistency



MH-Z1911A

| | |
|----------------------------------|-------------------------------------|
| Detection range | 400~10000 ppm(optional) |
| Working voltage | 5.0±0.1 V DC |
| Average current | <30 mA (@5V supply) |
| Accuracy | ±(50 ppm+5% reading) |
| Response time (T ₉₀) | < 120 s |
| Output | Serial Port (UART) (TTL level 3.3V) |
| | PWM |
| Lifespan | >10 years |
| Size | 32.9×19.7×10.8 mm |

NDIR CO2 Sensor

- Ultra low power
- Long lifespan
- High accuracy



MH-Z1311A

| | |
|----------------------------------|--|
| Detection range | 0~10000 ppm(optional) |
| Working voltage | 5.0±0.1 V DC |
| Average current | 150 uA (@5V power supply) |
| Accuracy | ± (30 ppm+3% reading value)(15 to 35°C) ± (10 % reading value)(-10 to 15°C, 35 to 50°C) |
| Response time (T ₉₀) | < 60 s |
| Output | Serial Port (UART) (TTL level 3.3V) |
| Lifespan | > 15 years |
| Size | 32.3×19.5×11.4 mm |

Air Quality VOC Module

- Factory calibrated
- Low power
- High sensitivity



ZP07

| | |
|---------------------|---|
| Detection target | CH2O, C6H6, CO, H2, C2H5OH, NH3, smoke, essence &etc. |
| Working voltage | 5.0±0.2 V DC |
| Working current | ≤60 mA |
| Output | TTL level signal (built-in 200Ω protection resistor) |
| Response time | ≤20 s |
| Working temperature | 0 ~ 50 °C |
| Working humidity | ≤95 %RH |
| Lifespan | > 5 years |
| Size | 24.0×19.9×9.2 mm |

Infrad Dust Sensor

- High cost-effectiveness
- Easy to install
- High Stability



ZPH04B

| | |
|---------------------|---|
| Detection range | 0~500 µg/m ³ |
| Particle size range | >1 µm |
| Accuracy | ± 25 % or ± 25 µg/m ³ whichever is greater |
| Output | UART_TTL output PWM output |
| Working voltage | 5.0 ± 0.2 V DC |
| Working current | < 150 mA |
| Warm-up time | 1 min (Device warming-up time) |
| Working temperature | 0 ~ 50 °C |
| Working humidity | 0 ~ 95 %RH (no condensation) |
| Physical interface | EH2.54-5P (Terminal socket) |
| Size | 59×45×20 mm |

Laser Dust Sensor

- Quick response
- Low cost
- Small size



ZH07

| | |
|----------------------------------|--|
| Detection range | 0~1000 µg/m ³ |
| Particle size range | 0.3~10 µm |
| Accuracy | 0~100 µg/m ³ : ±15 µg/m ³ ; 101~1000 µg/m ³ : ±15 % of reading |
| Output | UART_TTL output (3.3V level, default) PWM output (3.3V level, default) |
| Working voltage | 4.8 ~ 5.5 V DC |
| Working current | < 120 mA |
| Response time (T ₉₀) | < 30 s |
| Working temperature | -10 ~ 60 °C |
| Working humidity | 0 ~ 80 %RH (no condensation) |
| MTTF | Continuous uninterrupted>10000 h |
| Size | 48.0×40.0×12.5 mm |

Electrochemical CH2O Module

- PPB digital reading
- High accuracy
- Fully pre-calibrated



ZE08K

| | |
|---------------------|---|
| Detection range | 0~5 ppm |
| Working voltage | 3.7~5.5V |
| Resolution | ≤0.01 ppm |
| Response time | ≤60 s |
| Output | DAC (0.4~2V voltage signal corresponding concentration: 0~5PPM) UART output (3V TTL level) |
| Working temperature | -20 ~ 50 °C |
| Lifespan | 5 years (in clean air 18 °C~25 °C) |
| Size | 25.5×23.0×7.0 mm |

Electrochemical O3 Module

- PPB level reading
- Temperature compensation
- High sensitivity



ZE25A-O3

| | |
|---------------------|------------------------|
| Detection range | 0~2 ppm |
| Working voltage | 3.7~5.5 V |
| Resolution | 0.001 ppm |
| Response time | ≤90 s |
| Output | UART output (3V level) |
| Working temperature | -10 ~ 55 °C |
| Lifespan | 2 years (in air) |
| Size | 25.5×23.0×7.0 mm |

Toxic Gas Sensors

Industrial electrochemical Sensor



ME3

- Low consumption
- Good anti-interference
- Excellent repeatability
- High sensitivity
- Excellent stability

ME3 series electrochemical sensors are suitable for portable instruments. It performs well in the fields of industry and environmental protection. ME series sensors have stable and reliable performance, high sensitivity and good selectivity. Especially because of its electrochemical principle, this series of sensors has no power consumption. ME3 series sensors can be used in atmospheric monitoring, industrial sites, and underground pipe corridors. It mainly tests industrial toxic and harmful gases.

Industrial electrochemical Module



ZE03

- Pre-calibrated in factory
- UART and analog voltage output
- Good stability
- Excellent anti-interference ability
- High resolution

ZE03 is a general-purpose and high-performance electrochemical module. It uses three electrodes, an electrochemical gas sensor, and a high-performance microprocessor. By installing different gas sensors, the module could detect relevant gas. It has both digital output and analog voltage output, which is convenient for use and calibration, and shortens the development period. It is a combination of the mature electrochemical detection principle and sophisticated circuit design, to meet different detection needs.

| Detected Gas | Range | Resolution | Voltage output range | Response time(T90) |
|--------------|-------------|------------|----------------------|--------------------|
| NH3 | (0~100)ppm | 1ppm | (0.6~3) V | ≤150S |
| H2S | (0~100)ppm | 1ppm | (0.6~3) V | ≤30S |
| CO | (0~1000)ppm | 1ppm | (0.6~3) V | ≤30S |
| O2 | (0~25)%VOL | 0.1%VOL | (1.5~0) V | ≤15S |
| H2 | (0~1000)ppm | 1ppm | (0.6~3) V | ≤120S |
| C2H4 | (0~100)ppm | 0.1ppm | (0.6~3) V | ≤120S |
| HCHO | (0~50)ppm | 0.1ppm | (0.6~3) V | ≤120S |
| O3 | (0~10) ppm | 0.1ppm | (2~0) V | ≤120S |
| SO2 | (0~20) ppm | 0.1ppm | (0.6~3) V | ≤30S |
| NO2 | (0~20) ppm | 0.1ppm | (2~0) V | ≤30S |
| HCL | (0~10)ppm | 0.1ppm | (2~0) V | ≤60S |
| HCN | (0~100)ppm | 0.1ppm | (0.6~3) V | ≤120S |
| CL2 | (0~20) ppm | 0.1ppm | (2~0) V | ≤60S |
| HF | (0~10)ppm | 0.1ppm | (2~0) V | ≤60S |
| ETO/VOC | (0~100)ppm | 0.1ppm | (0.6~3) V | ≤120S |
| PH3 | (0~1000)ppm | 0.1ppm | (0.6~3) V | ≤30S |
| DG01 (odor) | (0~50) ppm | 0.01ppm | (0.6~3) V | ≤120S |



Atmospheric Monitoring & PID Sensors

PID Sensor

- Fast response time
- High sensitivity
- Reliable stability



4R-PID

| Detection range | 0~10 ppm | 0~40 ppm | 0~100 ppm | 0~6000 ppm | 0~10000 ppm |
|----------------------|---|----------|-----------|------------|-------------|
| Resolution | 1 ppb | 10 ppb | 25 ppb | 500 ppb | 2 ppm |
| Sensitivity (mv/ppm) | >40 | >10 | >5 | >0.1 | >0.1 |
| Target gas | VOC, energy≤10.6eV volatile gases | | | | |
| Working voltage | 3.2~5.5 V | | | | |
| Zero voltage | UD>20 mV | | | | |
| Output voltage | 0.02~2.0 V (3.3 V max) | | | | |
| Response time (T90) | ≤5 s | | | | |
| Accuracy | ±2% (No Condensation) | | | | |
| Humidity | 0~99% (No Condensation) | | | | |
| Working pressure | 800~1200 mbar | | | | |
| Working temperature | -20~50 °C | | | | |
| Lifespan | 3 years (lamp and electrode not included) | | | | |
| Size | φ20.4×16.6 mm | | | | |

Industrial electrochemical Module

- High sensitivity & resolution
- Good stability
- ppb level resolution



ZE12A

| Target gas | CO | SO2 | NO2 | O3 | H2S |
|-----------------------|---|---------|---------|---------|---------|
| Detection range | 0~10 ppm | 0~1 ppm | 0~1 ppm | 0~1 ppm | 0~1 ppm |
| Output Data | 0.4~2 V DAC standard voltage signal UART Output(3V level, compatible with 5V) | | | | |
| Working voltage | 5.0±0.1 V DC | | | | |
| Response time | ≤120 s | | | | |
| Resolution | ≤10 ppb | | | | |
| Weight | < 75 g | | | | |
| Operating environment | Temp.: -20~50°C Hum.: 15~90 %RH (no condensation) | | | | |
| Storage Temp. | -20~50°C | | | | |
| Lifespan | 2 years (in air) | | | | |
| Size | φ38.6×41.8 mm | | | | |

Industrial Gas Detection Module



ZCE04B

- Real-time serial port output concentration
- Easy to use
- Temperature compensation

| Detection gas | CO | H2S | O2 | CH4 |
|---------------------|-----------------------|-----------|-----------|------------|
| Range | 0~1000 ppm | 0~100 ppm | 0~30 %vol | 0~100 %LEL |
| Resolution | 1 ppm | 1 ppm | 0.1 %vol | 1 %LEL |
| Working voltage | 3.5~5 V | | | |
| Working current | <100 mA | | | |
| Response time | <30 s | | | |
| Output way | UART (2.8V level) | | | |
| Working conditions | -20~50 °C, 15~90 %RH | | | |
| Storage temperature | 0~20 °C (recommended) | | | |
| Expected lifespan | 2 years(in clean air) | | | |
| Size | 46.0×46.0×18.5 mm | | | |



Online Gas Monitoring System



Fixed Gas Detector



Portable Gas Detector

Carbon Monoxide (CO) Sensors

Electrochemical CO Sensor

MEu-2CO

- High sensitivity
- Fast response
- Long lifespan



| | |
|----------------------------------|-------------------|
| Measurement range | 0~1000 ppm |
| Sensitivity | (45±15) nA/ppm |
| Resolution | 0.5 ppm |
| Response time (T ₉₀) | < 15 s |
| Repeatability | < 3% output value |
| Anticipated using life | 8 years |
| Size | φ20.0×16.5 mm |

Electrochemical CO Sensor

ME2-CO-φ20

- UL certified
- Good stability
- Low power



| | |
|----------------------------------|-------------------|
| Measurement range | 0~1000 ppm |
| Sensitivity | > 0.015 μA/ppm |
| Resolution | 0.5 ppm |
| Response time (T ₉₀) | < 50 s |
| Repeatability | < 3% output value |
| Anticipated using life | 7 years |
| Size | φ20.0×16.4 mm |

Electrochemical CO Sensor

ME2-CO-φ14*5

- Low power
- Small size
- Long lifespan



| | |
|----------------------------------|-------------------|
| Measurement range | 0~1000 ppm |
| Sensitivity | > 0.8 nA/ppm |
| Resolution | 1 ppm |
| Response time (T ₉₀) | < 30 s |
| Repeatability | < 3% output value |
| Anticipated using life | 10 years |
| Size | φ13.8×4.8 mm |

Electrochemical CO Sensor

ME2-CO-φ14*14

- Low cost
- Small size
- Low power



| | |
|----------------------------------|-------------------|
| Measurement range | 0~1000 ppm |
| Sensitivity | > 0.8 nA/ppm |
| Resolution | 1 ppm |
| Response time (T ₉₀) | < 30 s |
| Repeatability | < 3% output value |
| Anticipated using life | 3 years |
| Size | φ13.8×14.6 mm |

Electrochemical CO Sensor

MEs-CO

- Long lifespan
- Good consistency
- Wide temperature range



| | |
|----------------------------------|-------------------|
| Measurement range | 0~1000 ppm |
| Sensitivity | (1.0-2.0) nA/ppm |
| Resolution | 1 ppm |
| Response time (T ₉₀) | < 30 s |
| Repeatability | < 3% output value |
| Temperature range | -20~80 °C |
| Anticipated using life | 10 years |
| Size | φ13.8×51.1 mm |

Electrochemical CO Module

ZE15-CO

- Calibrated in factory
- Digital output
- High resolution



| | |
|------------------------|-------------------|
| Measurement range | 0~500 ppm |
| Output | UART |
| Working voltage | 5V~12V DC |
| Resolution | 0.1 ppm |
| Response time | ≤ 30 s |
| Temperature range | -10~55 °C |
| Anticipated using life | 3~5 years |
| Size | 22.3×25.4×19.0 mm |



Portable CO Detector



Fixed CO Detector

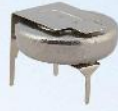


CO Alarm

Hydrogen H2 Gas Sensors

MEV-GH01

- Low consumption
- Wide linear range
- Good anti-interference ability



| | |
|----------------------------------|--|
| Sensor type | Electrochemical |
| Detection range | 0~2000ppm (Max.5000ppm) |
| Sensitivity | (0.5~1.5)nA/ppm |
| Resolution | 1ppm |
| Response time (T ₉₀) | <30s |
| Load resistance (recommended) | (500/1K/2K)Ω |
| Repeatability | <5% output value |
| Output linearity | Linear |
| Temperature range | -10℃~+50℃ (common) -40℃~+70℃ (occasionally) |
| Humidity range | 15%~90%RH |
| Lifespan | 10 years |

MPV-820

- Good selectivity
- Simple application circuit
- Long life



| | | | |
|-------------------------------|--------------------------------|--|--------------------------|
| Sensor type | Flat Surfaced MOS | | |
| Standard encapsulation | TO-5 | | |
| Detection range | 100~3000ppm | | |
| Standard circuit conditions | Loop voltage | V _C | 5.0V±0.1V DC |
| | Heating voltage | V _H | 5.0V±0.1V DC |
| | Load resistance | R _L | Adjustable |
| | Heater consumption | P _H | ≦350 mW |
| | sensitive materials resistance | R _S | 0.5~10 KΩ (in 200ppm H2) |
| Standard condition of testing | Temperature; humidity | 20℃±2℃; 65%±5%RH | |
| | Standard test circuit | V _C /V _H : 5.0V±0.1V | |

ZE610

- Good stability
- High linear output
- Temperature compensated



| | |
|---------------------|---|
| Sensor type | Electrochemical Sensor Module |
| Detection range | 0~5000ppm |
| Output data | DAC(0.4~2V standard voltage output corresponding to 0~full scale) |
| | UART Output (3V-TTL Electrical Level) |
| Working voltage | 5V~12V (No voltage reverse connect protection) |
| Warm up time | ≦5 minutes |
| Response time | ≦60s |
| Resume time | ≦60s |
| Resolution | 10ppm |
| Working temperature | -10℃~+55℃ |
| Working humidity | 15%RH~90%RH (No condensation) |
| Storage temperature | -10℃~+55℃ |

MC33J

- Quick response
- Good stability
- Good repeatability



| | | |
|----------------------------------|---------------------------|---------|
| Sensor type | Catalytic | |
| Detection range | 0~100%LEL | |
| Working voltage | 0.8±0.1V | |
| Working current | 170±10mA | |
| Sensitivity | 1% H2 | 15-35mV |
| Linearity | ≦5% | |
| Response time (T ₉₀) | ≦2s | |
| Start-up time in air | ≦1s | |
| Working environment | -20~+95℃, less than 95%RH | |
| Storage environment | -20~+55℃, less than 95%RH | |
| Lifespan | 5 years | |

GMV-2021B

- All solid state
- Low power consumption
- Long life



| | | | |
|---|--------------------------------|----------------|--|
| Sensor type | MEMS-MOS | | |
| Standard encapsulation | Ceramic | | |
| Detection range | 0.1~1000ppm | | |
| Standard circuit conditions | Loop voltage | V _C | ≦24V DC |
| | Heater voltage | V _H | 2.5V±0.1V AC or DC |
| | Load resistance | R _L | Adjustable |
| Sensor character under standard test conditions | Heater consumption | P _H | ≦50mW |
| | Sensitive materials resistance | R _S | 1KΩ~30KΩ (in 200ppmH2) |
| | Heater resistance | R _H | 80±5Ω (Room temperature) |
| | Sensitivity | S | R _H (in air)/R _S (in 200ppmH2) ≧ 5 |

ZC61

- MEMS process
- Intelligent algorithms
- Anti-electromagnetic interference



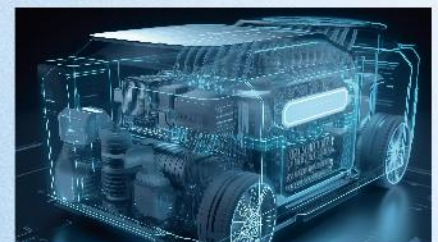
| | |
|----------------------------------|--------------------------|
| Sensor type | MEMS Sensor Module |
| Detection range | 0~40000ppm |
| Supply voltage(V) | DC 12V (9~16V) |
| Detection accuracy | ±10% above1%H2 |
| Output signal | CAN |
| Response time (T ₉₀) | ≦3s |
| Rated current | <25mA |
| Power consumption | <0.5W |
| Working temperature | -35~+85℃ |
| Working humidity | ≦95%RH (No condensation) |
| Storage temperature | -40~+125℃ |
| Protection grade | IP67 |



Combustible Gas Boiler



Energy Storage Power Station



Vehicle Hydrogen Leak Alarm

Combustible Gas Sensors

MOS Combustible Gas Sensor

- Long lifespan
- Low cost
- Simple drive circuit



MQ-4

| | | | |
|---|---------------------|-------------------|--|
| Detection range | | 300~10000 ppm CH4 | |
| Standard Circuit | Loop voltage | V_C | 5.0±0.1 V DC |
| | Heater voltage | V_H | 5.0±0.1 V AC or DC |
| | Heater consumption | P_H | ≤ 1 W |
| Sensor character under standard test conditions | Sensitivity | S | $R_0(\text{in air})/R_S(\text{in 5000ppm CH4}) \geq 5$ |
| | Output voltage | V_S | 2.5 V ~ 4.0 V (in 5000ppm CH4) |
| | Concentration slope | α | ≤ 0.6 ($R_{5000ppm}/R_{1000ppm}$ CH4) |
| | Lifespan | | 10 years |
| Size | | φ19.0*16 mm | |

MOS Combustible Gas Sensor

- Small size
- Fast response and resume
- Low power



MP-4

| | | | |
|---|---------------------|-------------------|--|
| Detection range | | 300~10000 ppm CH4 | |
| Standard Circuit | Loop voltage | V_C | ≈ 24V DC |
| | Heater voltage | V_H | 5.0±0.1 V AC or DC |
| | Heater consumption | P_H | ≈ 350 mW |
| Sensor character under standard test conditions | Sensitivity | S | $R_0(\text{in air})/R_S(\text{in 5000ppm CH4}) \geq 5$ |
| | Output voltage | V_S | 2.5 V ~ 4.0 V (in 5000ppm CH4) |
| | Concentration slope | α | ≈ 0.6 ($R_{5000ppm}/R_{1000ppm}$ CH4) |
| | Lifespan | | 10 years |
| Size | | φ9.4*7.0 mm | |

Catalytic Combustible Gas Sensor

- Bridge output voltage in linear
- Resist H2S poisoning & organosilicone
- Good repeatability & selectivity



MC105

| | |
|----------------------------|------------------------|
| Measuring range | 0~100 %LEL |
| Working voltage | 2.5±0.1 V |
| Working current | 150±10 mA |
| Sensitivity | 20~50 mV (20%LEL CH4) |
| | 30~70 mV (45%LEL C3H8) |
| Response time (T_{90}) | ≤ 10 s |
| Working conditions | -10~+55 °C, < 95 %RH |
| Lifespan | 5 years |
| Size | φ12.0*9.5 mm |

Catalytic Industrial Combustible Gas Sensor

- Fast response
- Good stability
- Anti-explosion mark Exd I Mb



MC113

| | |
|----------------------------|------------------------|
| Measuring range | 0~100 %LEL |
| Working voltage | 2.8±0.1 V |
| Working current | 90±10 mA |
| Sensitivity | 20~40 mV (20%LEL CH4) |
| | 30~60 mV (45%LEL C3H8) |
| Response time (T_{90}) | ≤ 10 s |
| Working conditions | -40~+70 °C, < 95 %RH |
| Lifespan | 3 years |
| Size | φ6.0*6.5 mm |

Hot Wire Combustible Gas Sensor

- Good linearity
- Quick response
- Good repeatability



MR007

| | |
|----------------------------|------------------------|
| Detection range | 0~100 %LEL |
| Working voltage | 2.5±0.1 V |
| Working current | 150±10 mA |
| Sensitivity | 12~45 mV (20%LEL CH4) |
| | 10~30 mV (20%LEL C3H8) |
| Response time (T_{90}) | ≤ 10 s |
| Working conditions | -40~+70 °C, < 95 %RH |
| Lifespan | 5 years |
| Size | φ12.4*10.2 mm |

Laser Methane (CH4) Sensor

- High precision
- Good selectivity
- Digital output, UART (TTL 3.3V)



MH-L9041A

| | |
|--------------------|--|
| Detection range | 3~100 %LEL |
| Accuracy | ±3 %LEL |
| Resolution | 0.2 %LEL |
| Response time | ≤ 15 s (cold boot) |
| Working voltage | 3.6~5 V DC |
| Average current | ≤ 60 mA @25°C |
| Working conditions | -20~60 °C, 0~99 %RH (no condensation) 80~116 kpa |
| Lifespan | ≥ 5 years |
| Size | φ40.0*68.0 mm |

NDIR Industrial Methane (CH4) Sensor

- Temperature compensation
- Low consumption
- Minimum temperature: -40°C



MH-441D

| | |
|----------------------------|------------------------|
| Detection range | 0~10 %VOL |
| Working voltage | 3.6~5 V DC |
| Output | UART/0.4~2.0 V DC |
| Average current | 60 mA |
| Response time (T_{90}) | < 30 s |
| Working conditions | -40 °C~60 °C, 0~95% RH |
| Lifespan | > 5 years |
| Size | φ20.0*22.4 mm |

NDIR Industrial Combustible Gas Sensor

- Flameproof structure
- Support high humidity environment
- -60 °C can be customized



MH-T7042

| | |
|----------------------------|-----------------------|
| Detection range | 0~100 %VOL selectable |
| Working voltage | 4.5~5.5 V DC |
| Output | UART |
| Average current | <100 mA |
| Response time (T_{90}) | < 30 s |
| Working conditions | -40~70 °C, 0~95% RH |
| Lifespan | > 5 years |
| Size | φ51.0*65.0 mm |



Combustible Gas Leak Monitoring



Fire/Safety Detection System



Combustible Gas Leak Alarm

Flame Detection Solutions

For industrial and civil fields, the excellent detection characteristics of the flame sensor can realize early warning of fire, and escort industrial production and residents' life.

Forest Flame Detection & Pre-alarm

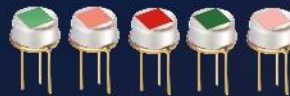
Smart Flame Detection Camera

Four Core Strengths

- Low false alarm, low false negative, excellent reliability
- Large viewing angle, short response time, long detection distance
- Easy system integration
- Cost-effective

Flame Detection Infrared Sensors

Pyroelectric Flame Sensors



| Module | RPTA913CC | RPTA913CD | RPTA913CE | RPTA913CF | RPTA913CG |
|-------------------------|-----------|-----------|-----------|-----------|-----------|
| Central wavelength (nm) | 3800±40 | 4300±50 | 4400±40 | 4480±40 | 5000±40 |
| FWHM (nm) | 180±20 | 600±40 | 400±20 | 620±40 | 180±20 |
| Light transmittance | > 90% | > 90% | > 90% | > 90% | > 90% |

- High sensitivity, long-distance detection
- Large field of view, wide detection range
- Low noise, strong anti-vibration interference

Photoconductive Flame Sensors



| | |
|--------------------------------|--|
| Response wavelength range | 1~3 μs |
| Peak wavelength | 2.7 μm |
| Response time | 200 μs |
| Peak normalized detection rate | 1*10 ¹¹ cm·Hz ^{1/2} /W |
| Dark resistance | 0.3~3 MΩ |
| Working temperature | -30~60 °C |

- Quick response
- High detection rate



| | |
|--------------------------------|--|
| Response wavelength range | 1~5 μs |
| Peak wavelength | 3.8 μm |
| Response time | 20 μs |
| Peak normalized detection rate | 1*10 ¹⁰ cm·Hz ^{1/2} /W |
| Dark resistance | 1~10 MΩ |
| Working temperature | -30~60 °C |

- Photosensitive area can be customized