

Unique Design Gas Sensors

Long Life Ammonia Electrochemical Sensor (L-Series)

Compared with traditional consumptive-biased NH₃ sensors, the SemeaTech L-series offers:

Models: 4NH3-100L; 4NH3-200L; 4NH3-500L; 4NH3-1000L; 4NH3-5000L

Features:

- **Long Lifespan** - Non-depletive mechanism (2-year warranty)
- **High Stability** - Minimal environmental impact (stable signal output at -40°C)
- **Ideal for Harsh Environments** - Farms, cold storage and ammonia refrigeration systems



Unbiased Design of Traditional Biased Electrochemical Sensors (NO, HCl)

Models: 7HCL-20U; 7HCL-50U; 4HCL-20U; 4HCL-50U

Models: 4NO-5U; 4NO-200U; 7NO-5U; 7NO-100U

Features:

- **No warm-up time**
- **High resolution (ppb level)**



Sensor Models with Special Suffix

Sulfur Dioxide (SO₂) Sensors for Extreme Environments

Models: 4SO₂-20B; 4SO₂-20BF; 7SO₂-20B; 7SO₂-20BF (B = Dry/Humidity Resistant, F= H₂S filter)

Key Features:

- **Extended Environmental Range**
 - Humidity: 5~95 % RH (vs standard 15%~90%)
 - Temperature: 60°C max (7-Series) / 50°C (4-Series)
- **High-Gas Endurance** - Stable performance under continuous 100ppm SO₂ exposure
- **Selective H₂S Filtration**



CO-Resistant Hydrogen (H₂) Sensor

Models: 4H₂-40000A (A = Anti-CO interference)

Key Features:

- **99% CO Interference Rejection**
- **Specially designed for mixed-gas scenarios (H₂/CO)**



High-Temperature H₂S Sensors

Models: 4H₂S-100HT; 7H₂S-100HT (HT=High Temperature)

Key Features:

- **Extended temperature range (65°C)**
- **Improved humidity resistance**



Long-Life Lead-free Oxygen (O2) Electrochemical Gas Sensors

Models: 4O2-LF; 4O2-LF-M; 4O2-LF-100%; 4O2-LF-5000 ppm*(Coming Soon)

Key Features:

- **Lead-Free Design** - Environmentally friendly and RoHS compliant
- **Wide Range Coverage** - Supports both macro & trace O2 detection:
 - 4O2-LF: 0-25% vol (standard range)
 - 4O2-LF-M: 0-30% vol (extended range with high output signal)
 - 4O2-LF-100%: Full-range measurement (0-100% vol O2 vs. traditional 0–25% vol limit)
 - 4O2-LF-5000 ppm*: 0–5000 ppm (trace level detection)
- **Perfect Linearity** – $R^2=1$ across entire measurement range (no logarithmic fitting required for 4O2-LF-100%)



Advanced Sensors for Specialized Industrial Gas Detection

Specialty Gas Sensors

Covers hard-to-detect industrial gases: TEOS, N2H4, GeH4, AsH3, SiH4, Br2, HBr, H2O2, COCl2, B2H6, C3H3N

Key Features:

- **Unique Gas Detection Capability** - Targets difficult-to-monitor industrial gases
- **Authentic Gas Calibration** - Tested with actual target gases (no cross-interference gas surrogate)
- **Precision Measurement** - Delivers reliable data for critical safety applications
- **Industrial Safety Solution** - Designed to protect workers in hazardous environments
- **Niche Market Focus** - Address gaps in specialty gas monitoring solutions



Gas Calibrator and Generator

Models: CGG-HF-15; CGG-HF-50; CGG-CH2O-20; CGG-HCL-30 sensor calibrators; Calibration Gas Generator

Key Features:

- **Compact & portable** – Field-deployable design
- **Cylinder-free solution** – Ideal when gas cylinders are unavailable
- **Smart concentration control** – Precisely adjusted by:
 - Tube specifications
 - Carrier gas flow rate
 - Ambient temperature



Electrochemical Gas Sensors

- Complete offerings for mini, 3, 4, and 7-Series EC Gas Sensors:

CO H₂S O₂ H₂ C₂H₄ (ETO) SO₂ NO₂ NO NH₃ PH₃ ClO₂ Cl₂ Br₂ HCL HCN
CH₃SH THT C₂H₃CL (VCM) O₃ HF CH₂O C₂H₂ C₂H₄ AsH₃ COCL₂ HBr GeH₄ and more...

- NH₃ sensors with 5-year operating life and non-depleting regardless of ambient ammonia concentration
- SO₂ sensors with long-term stability, minimized cross-sensitivities and environmental dependencies
- O₂ sensors designed for 5-year operating life and lead-free
- H₂S sensors designed to work at 65 oC for 2 years
- CH₂O (formaldehyde) sensors with high selectivity
- Smart module available for digital output (UART and I2C)



Air Quality Monitoring Sensors

- Sensor types: CO, SO₂, O₃, NO₂, NO, H₂S, and NH₃
- Detecting air pollutants and odors in ppb resolution
- High stability and low environmental impact
- Smart module available for digital output (UART and I2C)



Mini-series Sensors

- Compact and lightweight design
- Portability and easy integration, cost-effective
- Smart module available for digital output (UART)



Semiconductor Process Monitoring - 4SM Series

Models: 4SM Cl₂-5; 4SM SO₂-20; 4SM HCL-10; 4SM H₂S-50; 4SM TEOS-50;
4SM SiH₄-20; 4SM B₂H₆-1; 4SM PH₃-2; 4SM HF-5\10\15\30

- High Resolution - Detects trace gases at ppb to ppm levels (meets low TLV-TWA requirements)
- Chemical Interference Resistance - Eliminates false alarms from process-specific interferents
- Dry-Tolerant Design - Withstands prolonged gas flow without electrolyte drying.



Low-Power Consumption Dual Channel NDIR Sensors

Models: 4CO₂-LP-5%*; 4CH₄-LP-5%*(Coming Soon)

Key Features:

- Ultra-Low Power Consumption – Average current 1.2 mA
- Embedded Intelligence – On-board microprocessor for:
 - Signal processing
 - Environmental temperature compensation
 - Non-linearity correction
- Flexible Outputs Options– UART and analog interfaces
- Certificate pending



PID and UV Lamps

- Detection range: 5 to 10,000 ppm
- No significant output sensitivity loss over the sensor lifespan
- Non-electrode UV lamp technology maximizing the lamp lifespan
- Designed for minimized humidity and temperature effects
- Consistent resolution (including the 1 ppb model) over the sensor lifespan
- Low strike voltage supporting the on-and-off duty cycle of PID gas monitors
- Digital outputs (UART and I2C) are available



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