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CATALOG KỸ THUẬT · JOHNSON CONTROLS

Cảm biến khí CO, NO2 GS3000

cho bãi đỗ xe, hầm và trong nhà

GS3000 Johnson Controls – cảm biến khí CO, NO2 điện hóa cho hầm, bãi đỗ xe và lớp học; ngõ ra 4–20 mA/0–10 V, BACnet hoặc Modbus, relay báo động, vỏ IP65.

Mã: GS3000 · Hãng: Johnson Controls · Hotline: 093 797 2339

dlk.com.vn/gs3000-johnson-controls-cam-bien-khi-co-no2.html



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GS3000 Outdoor CO and NO2 Gas Detection Sensors

The GS3000 Outdoor Gas Detection Sensors Series monitors levels of carbon monoxide (CO) or nitrogen dioxide (NO2) to provide early warnings of elevated concentrations.

Available as a standalone CO or NO2 sensor, or as a dual CO and NO2 sensor*, the GS3000 series is engineered to provide installation flexibility and real cost savings.

Other features include:

- Analog or Binary output options
- BACnet network compatible to communicate with BAS
- LCD display for configuration
- Status LEDs
- Two adjustable controls or alarm relays
- Adjustable audible (buzzer) alarm
- Visual strobe alarm
- Temperature sensor variations

A single calibration kit – available as an accessory – works for both CO and NO2 models.

*The dual sensor device is available in two configurations: CO and NO2 housed in an enclosure or as CO with remote NO2 sensor that you can mount at a higher location.

- Sensors are held in field-replaceable sensor pods to reduce installation costs.
- The pod design provides a greater area of gas sampling than that of devices that use a single vent hole.
- Replacement pods are pre-calibrated to make swapping sensors quick and easy.
- IP65 polycarbonate sensor enclosures with a hinged and gasketed cover provide ease of installation and access for setup and configuration.



Technical specifications	
Specification	Description
Carbon monoxide	Measurement: Electrochemical
	Accuracy: ±5 ppm or ±5% of reading, whichever is greater
	Measurement range: 0 ppm to 100 ppm, 0 ppm to 150 ppm, 0 ppm to 300 ppm, 0 ppm to 400 ppm, or 0 ppm to 500 ppm, field-selectable
	Response time: <30 seconds
	Reproducibility: ±2%, same day
	Long term drift: <5% per year
	Expected lifespan: 5 to 7 years in air
Nitrogen dioxide	Measurement: Electrochemical
	Accuracy: ±0.2 ppm or ±5% of reading, whichever is greater
	Measurement range: 0 ppm to 10 ppm
	Response time: <30 seconds
	Reproducibility: ±2%, same day
	Long term drift: Zero: < ±2 ppm per year Span: < 2% signal per month
	Expected lifespan: >2 years
Temperature sensor	Sensor: 1K ohm Platinum, 1K ohm Nickel, Analog, or BACnet Range: -4°F to 122°F (-20°C to 50°C), -32°F to 122°F (0°C to 50°C)
Relay outputs	Contact ratings: Form C (NO + NC), 5 A at 140 VAC, 5 A at 30 VDC Relay setpoint + hysteresis: programmable through the menu Relay time delay: programmable through the menu
LCD	Size (H x W): 0.6 in. x 1.4 in. (1.5 cm x 3.5 cm), alpha-numeric 2-line x 8 characters Backlight: enable or disable through the menu
LED indicators	Red or green status Red alarm
Power supply	24 VDC ±20% or 24 VAC ±10%, non-isolated half-wave rectified
Output signals	4 mA to 20 mA active (sourcing) or 0 VDC to 5 VDC, 0 VDC to 10 VDC, BACnet
Output drive capability	Current: 550 ohm maximum Voltage: 10K ohm minimum
Protection circuitry	Reverse voltage-protected, overvoltage protected
Wiring connections	Screw terminal block, 14 AWG to 22 AWG
Ambient operating range	-4°F to 122°F (-20°C to 50°C), 15% RH to 90 % RH noncondensing, 0.9 atm to 1.1 atm
Storage conditions	-22°F to 140°F (-30°C to 60°C)
Enclosure	IP65, UL94-V0
Dimensions (H x W x D)	Main enclosure: 8 in. x 7.24 in. x 2.15 in. (202.3mm x 184mm x 54.3mm) Remote NO2 enclosure: 4.31 in. x 3.28 in. x 2.05 in. (109.5mm x 83.3mm x 52mm)
Country of origin	Canada
Compliance	Manufactured in an ISO 9001 Registered Quality System
CE	Europe: CE Mark - Johnson Controls declares that this product is in Compliance with the essential requirements and other relevant provisions of the EMC Directive.



GS3000 Indoor Gas Detection Sensors

The GS3000 Indoor Gas Detection Sensor Series offers two separate models to measure CO or NO2 levels.

Both units reflect the latest thinking in innovative sensor design and are engineered to maintain safe, healthy spaces for your occupants.

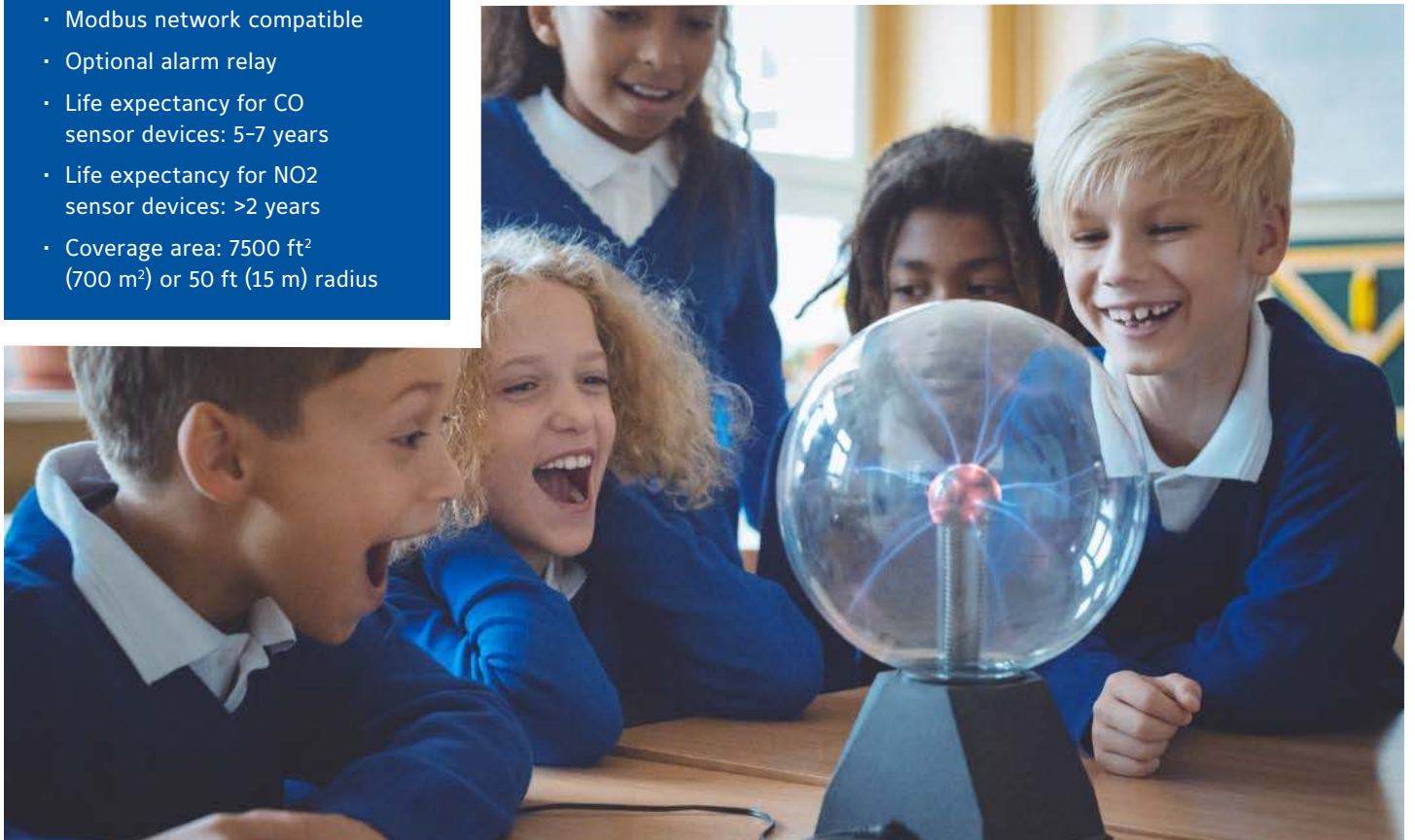
These models utilize an electrochemical sensor to monitor the CO or NO2 level and output a factory-calibrated signal for responsive alerts.

With its unobtrusive, discreet design, the GS3000 Indoor Sensors are well-suited to spaces – such as classrooms – where aesthetics and unobtrusive installation are important.



Key features include:

- Analog or Binary output options
- Modbus network compatible
- Optional alarm relay
- Life expectancy for CO sensor devices: 5-7 years
- Life expectancy for NO2 sensor devices: >2 years
- Coverage area: 7500 ft² (700 m²) or 50 ft (15 m) radius



Technical specifications	
Specification	Description
Carbon monoxide	Measurement: Electrochemical
	Sample method: Diffusion
	Measurement range: Analog: 0 ppm to 300 ppm Modbus: 0 ppm to 500 ppm
	Accuracy: ±5 ppm or ±5% of reading, whichever is greater 32°F to 122°F (0°C to 50°C), 15% RH to 95% RH
	Stability: <5% signal loss per year
	Response time: <35 seconds for 90% step change
	Expected lifespan: 5 to 7 years in air
	Output Signal: 4mA to 20 mA (non-relay version is loop-powered, relay version is sourcing), 0 VDC to 10 VDC, or Modbus, factory-calibrated
	Consumption: 20 mA maximum, non-relay model 40 mA maximum, relay model
	Optional alarm relay, not available with Modbus: Relay contacts: Form C contacts (N.O. and N.C.), 5 A at 250 VAC, 5 A at 30 VDC Relay trip point: 25 ppm, 60 ppm, or 150 ppm, jumper-selectable Relay hysteresis: 3% or 9 ppm
Nitrogen dioxide	Measurement: Electrochemical
	Sample method: Diffusion
	Measurement range: 0 ppm to 10 ppm
	Accuracy: ±0.2 ppm or ±5% of reading, whichever is greater
	Expected lifespan: >2 years in air
	Output signal: 4mA to 20 mA sourcing
	Consumption: 50 mA maximum
	Alarm Relay: Relay contacts: Form C contacts (N.O. and N.C.), 5 A at 30 VDC, p.f. = 1 Relay trip point: 1 ppm, 3 ppm, or 5 ppm, jumper-selectable Relay hysteresis: 3%
Operating conditions	1–4°F to 122°F (–20°C to 50°C), 15% RH to 90% RH, 0.9 atm to 1.1 atm
Coverage area	7500 ft ² (700 m ²) or 50 ft (15 m) radius
Power supply	24 VDC ±20% or 24 VAC ±10%, non-isolated half-wave rectified
Wiring connections	Screw terminal block, 14 AWG to 22 AWG
Enclosure	ABS, UL94–V0, IP65, NEMA 4X
Enclosure dimensions (H x W x D)	4.1 in. x 2.8 in. x 1.9 in. (10.4 cm x 7.1cm x 4.8 cm)
Country of origin	Canada
Compliance CE	Europe: CE Mark – Johnson Controls declares that this product is in compliance with the essential requirements and other relevant provisions of the EMC and RoHS Directives.



GS300 Series CO Transmitter

Introduction

The GS3000 Indoor Gas Detection Sensor Series uses an electrochemical sensor to monitor the carbon monoxide (CO) or nitrogen dioxide (NO₂) level and to output a factory-calibrated signal. The output signals available for the CO detector are 4 mA to 20 mA, 0 VDC to 10 VDC, or a Modbus signal. Optionally, you can configure the device with an alarm relay. The output signal available for the NO₂ detector is 4 mA to 20 mA and comes standard with a configurable alarm relay.



Figure 1: GS3000 Indoor Gas Detection Sensor

Ordering Information

Table 1: Selection chart

Product code	Description	Relay options	Output options	Order code
GS300	Wall or surface-mount CO detector	No relay	4 mA to 20 mA	GS300WMXXX4
			Modbus	GS300WMXXXM
			0 VDC to 10 VDC	GS300WMXXX1
		With relay	4 mA to 20 mA	GS300WMXR14
			0 VDC to 10 VDC	GS300WMXR11
GS301	Wall or surface-mount NO ₂ detector	Adjustable relay	4 mA to 20 mA	GS301WMXR14
GS30x	GS3000 CO or NO ₂ calibration kit	N/A	N/A	GS3CALKIT

Table 2: Replacement sensor pods

Product code	Description
GS3R0WMXXX4	Replacement CO sensor for GS300WMXXX4
GS3R0WMXXXM	Replacement CO sensor for GS300WMXXXM
GS3R0WMXXX1	Replacement CO sensor for GS300WMXXX1
GS3R0WMXR1A	Replacement CO sensor for GS300WMXR1A
GS3R0WMXR11	Replacement CO sensor for GS300WMXR11
GS3R1WMXR14	Replacement NO ₂ sensor for GS301WMXR14



Technical Specifications

Table 3: GS3000 Indoor Gas Detection Sensor technical specifications

Specification	Description
Carbon monoxide	Measurement: Electrochemical
	Sample method: Diffusion
	Measurement range: Analog: 0 ppm to 300 ppm Modbus: 0 ppm to 500 ppm
	Accuracy: ± 5 ppm or $\pm 5\%$ of reading, whichever is greater 32° F to 122° F (0°C to 50°C), 15% RH to 95% RH
	Stability: <5% signal loss per year
	Response time: <35 seconds for 90% step change
	Expected lifespan: 5 to 7 years in air
	Output Signal: 4mA to 20 mA (non-relay version is loop-powered, relay version is sourcing), 0 VDC to 10 VDC, or Modbus, factory-calibrated
	Consumption: 20 mA maximum, non-relay model 40 mA maximum, relay model
	Optional alarm relay, not available with Modbus: Relay contacts: Form C contacts (N.O. and N.C.), 5 A at 250 VAC, 5 A at 30 VDC Relay trip point: 25 ppm, 60 ppm, or 150 ppm, jumper-selectable Relay hysteresis: 3% or 9 ppm
Nitrogen dioxide	Measurement: Electrochemical
	Sample method: Diffusion
	Measurement range: 0 ppm to 10 ppm
	Accuracy: ± 0.2 ppm or $\pm 5\%$ of reading, whichever is greater
	Expected lifespan: >2 years in air
	Output signal: 4mA to 20 mA sourcing
	Consumption: 50 mA maximum
	Alarm Relay: Relay contacts: Form C contacts (N.O. and N.C.), 5 A at 30 VDC, p.f. = 1 Relay trip point: 1 ppm, 3 ppm, or 5 ppm, jumper-selectable Relay hysteresis: 3%
Operating conditions	-4° F to 122° F (-20°C to 50°C), 15% RH to 90% RH, 0.9 atm to 1.1 atm
Coverage area	7500 ft ² (700 m ²) or 50 ft (15 m) radius
Power supply	24 VDC $\pm 20\%$ or 24 VAC $\pm 10\%$, non-isolated half-wave rectified
Wiring connections	Screw terminal block, 14 AWG to 22 AWG
Enclosure	ABS, UL94-V0, IP65, NEMA 4X
Enclosure dimensions (H x W x D)	4.1 in. x 2.8 in. x 1.9 in. (10.4 cm x 7.1cm x 4.8 cm)
Country of origin	Canada
Compliance	Europe: CE Mark – Johnson Controls declares that this product is in compliance with the essential requirements and other relevant provisions of the EMC and RoHS Directives.
	



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