

Product Bulletin

9GS

Carbon Dioxide Sensor

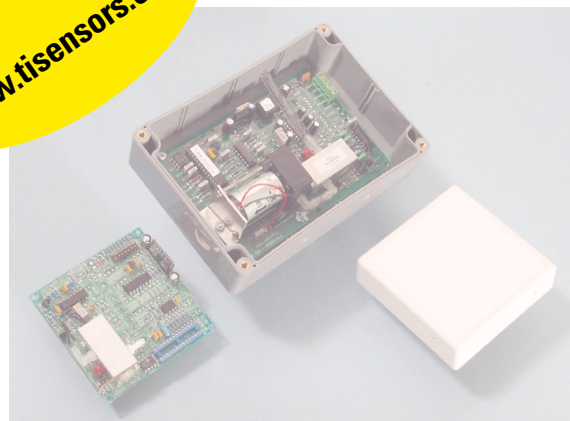
- High CO₂ concentrations: 0-5% and 0-25%
- Non-Dispersive Infrared sensor
- Dual lamp Virtual Reference™
- Field selectable scale & relay points
- Proven history & high quality

The 9GS is part of our gas sensor family for high CO₂ concentrations (0-5% and 0-25%), typically used in atmosphere control equipment for incubators and food storage, transportation and processing. It uses a proven, discriminating non-dispersive infrared (NDIR) sensor with a second lamp acting as a reference channel for improved

long term stability. The 9GS has a reputation for ease of calibration, high quality and reliability. Calibration, scale and relay trip points are all easily adjustable with our handheld two push butt "CAL-B-Key" interface. No PC interface needed. It is available as a bare board ready to mount in your control box, or in an attractive ready-

to-wall-mount case. Texas Instruments, well known technology leader, has designed and manufactured HVAC/R sensors and controls for more than 40 years. For CO₂ concentrations under 5000 ppm for indoor air quality applications, please check out our 4GS.

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Product Specification

Sensing Method	Non Dispersive Infrared (NDIR)
Sampling Mode	Diffusion and/or pump capability
Range	9GS-1 0-25% 9GS-4 0- 5% (and field selectable with CAL-B-Key)
Accuracy (@25°C, 760mm Hg)	+/- .5% volume or 5% of reading, whichever is greater
Pressure Effect	0.19% of reading per mm Hg
Warm-up	<90 seconds
Response Time	<20 seconds to 63% of step change @500 ml/min flow rate
Calibration	<ul style="list-style-type: none"> • 9GS-1: factory calibrated at 0%, 5%, 10% and 20% • 9GS-4: factory calibrated at 0% and 4% • Zero cal. suggested upon installation (via optional auto cal button or CAL-B-Key) • Span cal recommended each 3 years (via CAL-B-Key, Gas not supplied by TI)
Output	<ul style="list-style-type: none"> • 0-5Vdc standard (1K ohm impedance) • 4-20mA and 0-1Vdc • User selectable scale • Relay optional (see below)
Relay Trip Points	<ul style="list-style-type: none"> • 9GS-1: default = 10%, user selectable from 3% to 25% • 9GS-4: default = 3%, user selectable from 3% to 5% (In 1% increments with CAL-B-Key).
Relay Rating	10-500 mA @ 24 Vac or 30 Vdc
Input Power	12 Vdc +/- 5%
I/O interface	Terminal block - 6 screws (2 input, 2 output, 2 relay)
Temperature Ranges	0°C to +50°C (operating) -40°C to +70°C (storage)
Humidity Range	5-95%, non-condensing
Case	3.84" x 3.84" x 1.10" (ABS, UL94V0)
Higher Volume Options	<ul style="list-style-type: none"> • Weathertight case • Integral O₂ sensor • Pigtail leads, connector

Part Numbers

9GS - 1 - 5 ZC (standard)

Sensing Scale

1 = 0-25%
4 = 0 - 5%

Output

5 = 0-5V
1 = 0-1V
A = 4-20mA

Add a "Z" if zero button wanted
Add a "C" if case wanted
Add an "R" if relay wanted

Accessory: CAL-B-Key
Interface keypad and cable for scale changes and calibration.

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