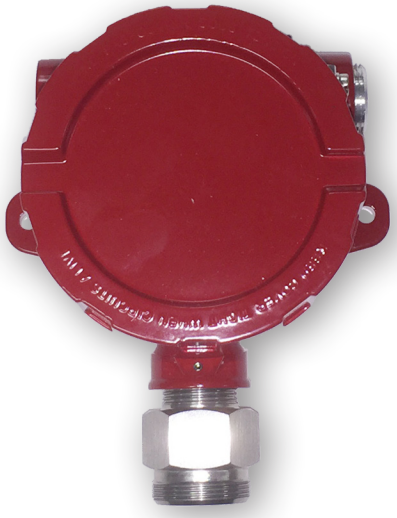
GC803 Combustible Gas Sensor

Catalytic Type with 4-20 mA Transmitter

Self-Contained and Explosion-Proof



The SST Model GC803 Combustible Gas Sensor is used to determine the concentration of gas accumulated in a protected area and transmit this information to a central point. Located inside a stainless steel flameproof housing, the sensing element is exposed to the detected gas through a sintered stainless steel flame arrestor.

The Model GC803 has been designated with a special "poison-resistant" sensing material, and provides accurate measurements in atmospheres where traces of silicone or other poisoning agents may be present. Readings are unaffected by humidity or carbon dioxide. The concentration of combustible gas is measured in terms of the Lower Explosive Limit (LEL). The detector has a built-in electronic "transmitter," which is installed in the associated explosion-proof junction box. This transmitter converts the signal from the catalytic element to a standard 4-20 mA signal. This signal may be connected to a suitable NOVA-5000/ VulcanGuard module, or to any device with a sourcing 4-20 mA input. The Model GC803 is suitable for the most demanding applications. A large body mass ensures excellent vibration characteristics when used in large machinery applications. Corrosion resistant materials permit use in most environments, including offshore platforms.

FEATURES & BENEFITS

- Catalytic sensor with excellent long term zero and sensitivity stability and high poison resistance
- Built-in 4-20 mA output for connection to external equipment
- User programmable LOW alarm and HIGH alarm settings
- Voltage-free dry contact relays for local control
- Explosion-proof approved electronics housing Class I, Group A, B, C, D
- Explosion-proof sensor in stainless steel housing - ATEX listed or ATEX and CSA listed
- Available up to IP66 rating
- Shipped fully assembled and pre-calibrated
- Available with wireless transmitter as an accessory with text, e-mail notifications feature
- Available accessories include rain/waterspray shield, dust cover, duct mount, gas collection cone, and calibration kit
- 5 Year Warranty
- Made in USA

TYPICAL GASES

- For ALL combustible gases
- Methane
- Butane
- Propane
- Ethane
- Pentane
- Hexane
- Heptane
- Octane
- Gasoline (Petrol)
- Hydrogen
- Methanol
- Ethanol
- Acetone
- Toluene
- Isopropyl Alcohol
- Cyclohexane
- Methyl Ethyl Ketone
- Ammonia (LEL)

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Model GC803 Combustible Gas Sensor

System Specifications

Sensor Type:	Catalytic bead (pellistor) with excellent long term zero and sensitivity stability
Poison Resistance:	Highly Resistant
Gases Detected:	Most combustible gases and vapors
Sensor Life:	Typical 5+ years
Measuring Ranges:	0-100% LEL
Accuracy:	+/- 1% LEL(CH_4)
Zero Drift:	< +/- 1/2 mV/Month
Linearity:	Effectively Linear to 100% LEL (to within 5%)
Response Time:	T_{90} <30 seconds
Modes:	Normal operation, set-points, calibration, set-up
Warranty:	5 years
Approvals:	Explosion-proof approved housing Class I, Division I, Groups A B C D; Class I, Zone I, AEx d IIC; Type 4X ATEX: II 2G Ex d IIC Gb

Environmental Specifications

Operating Temperature:	Electronics -40°F to 185°F (-40°C to 85°C) Sensor -40°F to 266°F (-40°C to 130°C)
Operating Humidity:	0-100% RH, non-condensing
Ingress Protection:	IP40 to IP66

Mechanical Specifications

Dimensions:	6.4 x 5.7 x 4.3 inches (163 x 145 x 109 mm)
Weight:	3.0 lbs. (1.4 kg) Aluminum; 7.5 lbs (3.4 kg) Stainless Steel
Controller Housing:	Aluminum or Stainless Steel
Sensor Housing:	Stainless Steel

Specifications subject to change without notice.

Electrical Specifications

Input Power:	24 VDC nominal, 16 to 32 VDC 92 mA standby, 120 mA alarm
Relay Contact Ratings:	6 amps @ 28 VDC or 300 VAC resistive 1/8 HP @ 120/240VAC
Analog Signal:	0-20 mA current sink (600 Ohms or less) Malfunction 0 mA Zero Reading 4 mA 0-100% LEL 4-20 mA Over-range > 20 mA
Field Connections:	4-20 mA output and power - three-wire shielded cable or three conductors in metal conduit All connections: 22 AWG (.35 mm^2) to 12 AWG (4.0 mm^2)
Wireless Communication:	Available with optional wireless transmitter with text, e-mail notification features

Ordering Information

Part No.	Description
803-4-AL	Model GC803 Combustible Gas Sensor *Electronics in aluminum housing* *Sensor in stainless steel housing*
803-4-SS	Model GC803 Combustible Gas Sensor *Electronics in stainless steel housing* *Sensor in stainless steel housing*
Accessories	
851-1-4	Rain shield, stainless steel (IP65)
851-5-4	Water spray shield (for IP66, requires 852-1-4)
852-1-4	Dust cover, stainless steel (requires 851-1-4)
854-1-4	Duct mount, stainless steel
859-1-4	Gas sensor collection cone, stainless steel
858-1-4	Remote calibration adapter
857-01	Calibration kit (test gas sold separately)
10121	Spare calibration/test key
800-4	Replacement catalytic sensor
804-2-AL	Electronics in aluminum housing Sensor in stainless steel, CSA & ATEX listed
804-2-SS	Electronics in stainless steel housing Sensor in stainless steel, CSA & ATEX listed

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