GG-NH3-2%

HIGH-RANGE AMMONIA SENSOR

Key Features

- Ammonia selective catalytic bead sensor technology
- Useful for activation of electrical shunt-trip or E-stop up to 20,000 ppm
- Low cost compared to infrared type ammonia sensors
- Industry standard linear 4/20 mA output
- Absolutely no zero drift compared to other catalytic bead type sensors
- Sensing element designed for long life in harsh industrial environments
- Designed to perform in temperatures of -40°F to +150°F
- Accurately monitor explosive NH3 levels for emergency response situations
- Real-time continuous monitoring
- 2-year warranty, including replacement sensor element

AMMONIA COMPRESSOR ROOM EXPLOSION PREVENTION.
HIGH-RANGE SENSOR AT A LOW-RANGE PRICE.

The GG-NH3-2% is designed to detect and monitor potentially explosive levels of ammonia vapors in the event of a catastrophic failure. Codes specify an electrical shunt-trip of the mechanical room at a level not higher than 25% LEL to remove potential ignition sources in the event of a serious ammonia leak. The GG-NH3-2% allows for an earlier trip level of 12.5% LEL.

The GG-NH3-2% utilizes an ammonia selective catalytic bead sensor technology with a matched pair of detector elements. When ammonia vapors enter the sensor, the passive bead remains un-changed while the active detector bead catalyzes the oxidation of gas, generating heat and changing its resistance. The resulting change in resistance is accurately measured across the bridge circuit.

The GG-NH3-2% provides an industry standard linear 4/20 mA output signal proportional to 0-2% (0-20,000 ppm) ammonia. The potted transmitter is compatible with most gas detection systems and PLCs. Long sensor life with minimal span adjustment can be expected in most mechanical room applications. The sensor element is designed for simple calibration and is field replaceable.

Applications

- Compressor Rooms
- Electrical Shutdown
- Heat Treatment
- Tank Rooms
- Sea Vessels
- Refrigeration System
- Cold Storage
- Pulp and Paper
- Breweries
- Refineries
- Chemical Plants

Benefits

- Low cost explosion protection
- Long sensor life (5+ years typical)
- Simple operation & calibration

CALIBRATION TECHNOLOGIES INC.
GAS DETECTION SPECIALISTS

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Since low-range sensors can't detect high enough and high-range sensors can't detect accurately at low levels, the use of the **GG-NH3-2%** sensor in conjunction with low-range GG-NH3 sensors ensures a second-stage line of defense in the event of a serious ammonia leak. Intended for electrical shutdown, the **GG-NH3-2%** provides protection against potentially explosive situations.

From hot mechanical rooms, to acid washdowns of processing areas, the **GG-NH3-2%** is prepared to survive in just about any harsh industrial condition. Every circuit board is sealed forever in potting compound, protecting sensitive electronic components and copper tracing from corrosion. A specially vented chemical-resistant polycarbonate enclosure protects the sensor from accidental damage, weather, and direct hose-hits from clean-up crews.

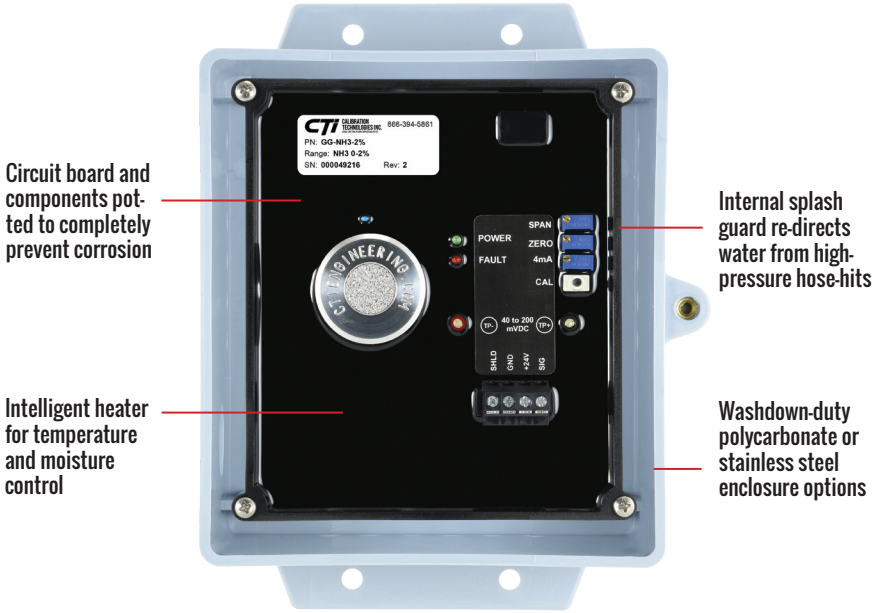
Typical sensor life is 5-7 years, with minimal to no cross-sensitivity to most other gases. Field replaceable sensor element keeps long term maintenance simple and low cost.

Ordering Information

The **GG-NH3-2%** is delivered calibrated and ready to install. The assembly includes sensor and potted transmitter mounted inside the hinged polycarbonate enclosure. Use the model numbers below to order.

Order #: GG-NH3-2%
GG-NH3-2%-ST (stainless enclosure)
GG-NH3-2%-RS (replacement sensor)


replacement sensor element



SPECIFICATIONS

Due to ongoing research and product improvement, specifications are subject to change

Input Power:
+24 VDC, 250 mA

Detection Principle:
Catalytic Bead

Detection Method:
Diffusion

Gases:
Ammonia (NH3)

Ranges:
0-2% (20,000 ppm)

Output Signal:
Linear 4/20 mA (max input impedance: 700 Ohms)

Linearity:
+/- 0.5% of full-scale

Repeatability:
+/- 1% of full-scale

Response Time:
T50 = less than 30 seconds
T90 = less than 90 seconds

Accuracy:
+/- 5% of value, but dependent on calibration gas accuracy

Zero Drift:
Less than 0.01% of full-scale per month, non-cumulative

Span Drift:
Application dependent, but generally less than 2% per month

Temperature Range:
-40°F to +150°F (-40°C to +66°C)

Humidity Range:
5% to 100% condensing

Wiring Connections:
3 conductor, shielded, stranded, 20 AWG cable (General Cable C2525A or equivalent) up to 1500 ft

Terminal Block Plugs: (Field Wiring)
12-26 AWG, torque 4 lbs-in

Enclosure:
NEMA 3RX injection-molded, washdown-duty polycarbonate sensor housing with hinged lid and captive screw. For non-classified areas. Optional 316 18 GA, NEMA 3RX washdown-duty stainless steel housing with hinged lid and captive screw. For non-classified areas

Dimensions:
7.5" high x 6.5" wide x 3.75" deep

Weight:
3 lbs

Certification:
ETL listed to UL standard 61010-1, and CSA standard C22.2 No. 61010-1-12

Warranty:
2 years (including sensor element)