

GG-NH<sub>3</sub>-EXPEXPLOSION-PROOF  
LOW-RANGE AMMONIA SENSOR**Key Features**

- Explosion-proof enclosure for classified areas
- Ammonia specific electrochemical sensor technology
- 0-100 ppm up to 0-1,000 ppm ranges available
- Electronics potted to eliminate internal corrosion
- Industry standard 24VDC, linear 4/20 mA output
- Operating temperature from 0°F to +140°F
- Accurately monitor NH<sub>3</sub> levels for important action levels
- No false alarms from interference gases
- Real-time continuous monitoring for early leak detection

## Low-range ammonia detection. Explosion-proof design.

The GG-NH3-EXP is designed for early leak detection of ammonia vapors in hazardous areas. Most codes specify audio visual alarms at 25 ppm and emergency ventilation at 150 ppm in the event of an ammonia leak. The GG-NH3-250-EXP provides great accuracy at both of these levels.

The GG-NH3-EXP utilizes a proven ammonia specific electrochemical sensor, designed and manufactured in Columbia, MO. Tight quality control and years of testing ensure no false alarms due to cross-sensitivities from other gases, or false alarms from temperature and humidity fluctuations.

The GG-NH3-EXP provides an industry standard linear 4/20 mA output signal proportional to ppm concentration of ammonia. Long sensor life with minimal span adjustment can be expected in most mechanical room applications. The sensor is designed for simple calibration and the sensor head is easily field replaceable.

**Applications**

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

**Benefits**

- Low cost explosion protection
- No false alarms from interference gases
- Simple operation & calibration



Since low-range sensors can not detect high enough and high-range sensors can't detect accurately at low levels, the use of **GG-NH3-EXP** sensors in conjunction with the high-range GG-NH3-2%-EXP sensor ensures a second line of defense in the event of a serious ammonia leak.

The **GG-NH3-EXP** is intended for horn/strobe and emergency ventilation activation, and is also useful for alarm outputs such as phone dialers, solenoid valves and other alarm functions.

Typical sensor element life is 3 years, with no cross-sensitivity to other gases. Field replaceable sensor elements keeps long term maintenance simple and low cost. Every circuit board is potted to completely eliminate corrosion to the electronic components and copper tracing on the circuit board. An explosion-proof aluminum enclosure houses the transmitter.

## Ordering Information

The **GG-NH3-EXP** is delivered calibrated and ready to install. The assembly includes sensor and potted transmitter mounted inside an explosion-proof enclosure. Use the model numbers below to order.

- Order #:** [GG-NH3-100-EXP](#)  
[GG-NH3-250-EXP](#) (standard)  
[GG-NH3-300-EXP](#)  
[GG-NH3-500-EXP](#)  
[GG-NH3-1000-EXP](#)  
[GG-NH3-RC-EXP](#) (replacement sensor)



replacement sensor element



## SPECIFICATIONS

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

### Input Power:

+24 VDC, 50 mA

### Detection Principle:

Electrochemical

### Detection Method:

Diffusion

### Gases:

Ammonia (NH<sub>3</sub>)

### Ranges:

0-100 ppm  
 0-250 ppm (standard)  
 0-300 ppm  
 0-500 ppm  
 0-1,000 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 10 seconds  
 T90 = less than 30 seconds

### Accuracy:

+/- 5% of full-scale

### Zero Drift:

Less than 0.1% of full-scale per month, non-cumulative

### Span Drift:

Less than 2% per month

### Temperature Range:

0°F to +140°F (-18°C to +60°C)

### Humidity Range:

5% to 95% non-condensing

### Wiring Connections:

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

### Terminal Block Plugs: (Field Wiring)

26-12 AWG, torque 4 lbs-in

### Weight:

3.75 lbs

### Dimensions:

6.75" high x 5.25" wide x 4.5" deep

### Enclosure:

Copper-free aluminum body, epoxy powder coat finish, neoprene gasket, for hazardous areas.

#### NEC/CEC:

Class I, Division 2, Groups B, C, D  
 Class II, Division 1, Groups E, F, G  
 Class II, Division 2, Groups F, G  
 Class III

NEMA/EEMAC: 3, 4, 4X, 7BCD, 9EFG

UL Standard: 1203

CSA Standard: C22.2 No. 30

FM Classification No.: 3615

ATEX Certificate KEMA 02 ATEX 2265U

IEC Standards EN:60079-0, EN:60079-1, EN:60529

### Warranty:

2 years (including sensor element)