

AMMONIA SENSOR

MODEL TOX-NH₃/SS36

FEATURES

- Low Voltage Circuits
- Automatic Calibration Interrupt and Delayed Return to on Line
- Fault Indication-visual and Electrical
- Explosion Proof Housing
- Low Sensitivity Check Button Built-in
- Industry standard signal can be interfaced directly to DDC System
- Reliable Operation and Monitoring Integrity

GENERAL DESCRIPTION

The Toxalert Model Tox-NH₃/SS36 Ammonia Sensor module is designed for use in conjunction with Toxalert Tox Series controllers or any standard direct digital 4-20 mA loop controller (DDC).

The Tox-NH₃/SS36 utilizes semiconductor sensor technology to provide monitoring of ammonia in the part per million (PPM) ranges. Semi conductor sensors have a resistance in air that is affected by oxygen adsorbed on the surface of the sensor element. Oxygen atoms capture electrons on the semiconductor surface, thereby changing its resistance depending on the concentration of the ammonia. This change in resistance is monitored by the system controller.

The sensor operates on 24 VDC input power and has a non-linear 4-20 mA DC current loop output. A magnetically activated switch in the sensor locks the loop current at 4 mA (zero gas) during calibration. The loop current is also locked upon applying power to the sensor. This calibration delay feature holds the loop in this condition for five minutes to insure that no false alarm occurs during sensor recovery or warm-up.

Also, this sensor module may be calibrated with ammonia gas or with methane. Thus, the user does not have to obtain a special calibration gas.



MODEL TOX-NH₃/SS36

SPECIFICATIONS:

- **Type:** Solid State Metal Oxide Semiconductor
- **Range:** 20 to 500 ppm Ammonia in air
- **Response Time:** 3 minutes to 80% indication
- **Typical Life:** Three years in normal service
- **Operating Temperature :** 28°F to 158°F
- **Relative Humidity:** 5 to 95% RH non-condensing
- **Storage Temperature:** -67°F to 185°F
- **Electrical Data:**
 - Input Voltage:** 14 – 30 vdc
 - Input Power:** 2.1 Watt
 - Input Current:** 90 mA @ 24 vdc
 - Loop Resistance:** 800 Ohms at 28vdc
 - Output Signal:** 4 to 20 mA Non-linear
 - Signal Output-Trouble:** 0 mA
 - Wiring:** 3 wire non-isolated
- **Unit Construction:**
 - Mounting:** Conduit ¾" NPT or flexible cable
 - Housing:** Explosion proof (Nema 7)
(Div 1, Class 1, Groups C, D)
 - Physical:** 6.75" x 4" x 3.5" (HxWxD)
 - Weight:** 2 pounds

Gas Sensor Modules available from Toxalert include:

Ammonia (NH₃)
Combustible Gas
Carbon Monoxide (CO)
Carbon Dioxide (CO₂)
Chlorine (Cl₂)
Oxygen (O₂)
Hydrogen (H₂)
Hydrogen Chloride (HCl)
Hydrogen Cyanide (HCN)
Hydrogen Sulfide (H₂S)
Nitric Oxide (NO)
Nitrogen Dioxide (NO₂)
Ethylene Oxide (ETO)
Refrigeration
And more....