

## ETHYLENE OXIDE (ETO) SENSOR

## MODEL TOX-ETO/ANA

### FEATURES:

- Linear 4-20 mA output signal
- Automatic low sensitivity check
- Low voltage circuits
- Sensor failure indication
- Interfaces directly to DDC Systems.
- Output locked during warm up and calibration.
- Explosion proof housing.

### GENERAL DESCRIPTION:

The Model TOX-ETO/ANA, self-contained Ethylene Oxide sensor module, utilizes electrochemical technology to provide accurate monitoring of Ethylene Oxide (C<sub>2</sub>H<sub>4</sub>O) in the range of 0-20 ppm.

It is designed for fixed installations and use in ambient monitoring applications.

The sensor module is a 4 to 20 mA transmitter designed for use in conjunction with Toxalert's Models TOX-4ANA and ToxControl Controllers or any industry standard 4-20 mA loop controller.



The sensor module requires a three wire connection to a controller that provides a nominal 28 vdc power and the module sources current in proportion to the gas concentration.

### GUIDE SPECIFICATION:

Provide an Ethylene Oxide (ETO) sensor(s) with a range of 0 to 20 ppm (parts per million) and a linear output of 4 to 20 mA over its range. The sensor shall be housed in an explosion proof housing and have explosion proof conduit connection to the housing to maintain system integrity. The sensing element shall be electrochemical and have a life expectancy of two years. The sensor response time shall reach 90% of level being sensed in 90 seconds. The sensor shall be powered by low voltage and have a self check capability and an LED to indicate sensor "Low Sensitivity." If the sensor fails, its output shall drop to zero to signal the controller of failed condition. The sensor shall be as manufactured by Toxalert, Inc.

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**SPECIFICATIONS:**

- **Type:** Electrochemical cell-diffusion barrier type
- **Range:** 0 to 20 ppm ethylene oxide in air
- **Response Time:** 90 seconds to 90% indication
- **Typical Life:** Two years in normal service
- **Operating Temperature :** 4° to 122°F  
-20° to 50°C
- **Relative Humidity:** 15 to 90% RH non-condensing
- **Electrical Data:**
  - Input Voltage:** 14 – 30 vdc
  - Input Power:** 1.4 Watt
  - Input Current:** 40 mA @ 28 vdc
  - Loop Resistance:** 800 Ohms
  - Output Signal:** Linear 4 to 20 mA
  - 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:** H: 7.6", D: 4.6", W: 4.2"
  - Weight:** 2.7 pounds

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**Gas Sensor Modules available from Toxalert include:**

Ammonia (NH<sub>3</sub>)  
Combustible Gas  
Carbon Monoxide (CO)  
Carbon Dioxide (CO<sub>2</sub>)  
Chlorine (Cl<sub>2</sub>)  
Oxygen (O<sub>2</sub>)  
Hydrogen (H<sub>2</sub>)  
Hydrogen Chloride (HCl)  
Hydrogen Cyanide (HCN)  
Hydrogen Sulfide (H<sub>2</sub>S)  
Nitric Oxide (NO)  
Nitrogen Dioxide (NO<sub>2</sub>)  
Ethylene Oxide (ETO)  
Refrigeration  
And more....