

DIESEL EXHAUST SMOKE/VOC SENSOR

MODEL TOX-VOC

TYPICAL INSTALLATIONS:

- Bus Garages
 - Fire Stations
 - Tunnels
 - Truck Warehouses
 - Welding Shops
 - Vehicle Maintenance & Storage
 - Highway Departments
 - Utilities
 - Public Works
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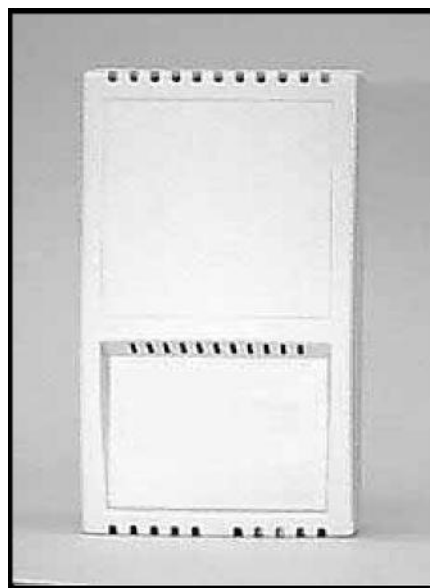
GENERAL DESCRIPTION:

The model TOX-VOC diesel smoke full spectrum sensor is designed to interface with Toxalert International's TOX series control units. The TOX-VOC is a microprocessor-based air quality sensor utilizing metal-oxide semi conductor technology. This is a full spectrum sensor sensitive to a wide variety of air pollutants such as smoke, hydrocarbons, gasoline fumes, acetone, toluene, etc. (see Table 3). The TOX-VOC indicates its status with indicators for auto-power on and processor normal, ok, low, mid or high for level of contaminant detected.

BACKGROUND:

The diesel engine exhausts a great percentage of smoke (soot) as well as, many hydrocarbons (e.g., ethylene, formaldehyde, methane, benzene, and polynuclear aromatic hydrocarbons) and toxic gases (e.g., nitric oxide, nitrogen dioxide and oxides of sulfur). The smoke is particularly evident at the beginning of a work shift, when all the buses or trucks are started in a maintenance/storage facility.

Even though, the exhaust smoke is not classified as a toxic, it is considered a carcinogen (reference: carcinogenic effects of exposure to diesel exhaust - NIOSH Publication No. 88-116). Therefore many facility owners are monitoring the smoke/hydrocarbons (VOC) as well as, the toxic oxides of nitrogen.



Model TOX-VOC

FEATURES:

- Micro processor based
 - Power Indication
 - Low, mid, high reading indicators
 - Humidity and Temperature compensated
 - Completely solid state for long life
 - Low voltage class two (2) wiring
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SPECIFICATIONS

- **Type:** Metal semi conductor
 - **Input voltage:** 20- 30VAC from TOX controller
 - **Operating Temperature:** 32° to 104°F (0-40°C)
 - **Display:** 5 indicators ok, low, mid, high
 - **Sample Method:** Diffusion
 - **Supply Current:** 220 MA(max)
 - **Operating Humidity:** 0-85% non-condensing
 - **Enclosure:** AE wall mount
2.75"W x 4.65"H x 1.25"D
(70 x 118 x 32mm)
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TABLE 1

PARTIAL LIST OF CONTAMINATES DETECTED BY TOXALERT INTERNATIONAL TOX-VOC SENSOR.

CHEMICAL

Ethylene
Benzene, Toluene, Xylene
Methane
Formaldehyde
Methyl Ethyl Ketone
Acetone
Ethyl Alcohol
Hydrogen
Hydrogen Sulfide
Methyl Alcohol
Methyl Chloride
Vinyl Chloride
Trichloroethylene
Propane
Carbon Monoxide
Freon-22
Ammonia

COMMON SOURCE

Diesel exhaust
Diesel exhaust, solvents and motor fuels
Diesel exhaust, decomposition and synthesis
Diesel exhaust, disinfectants and preservatives
Solvents and cleaning products
Solvents and organic synthesis
Solvents and liquor fermentation
Used in synthetics
Water and putrefying matter
Solvents, antifreeze and synthetics
Solvents, paints and refrigerants
Textiles and polymers
Solvents and cleaning agents
Fuels and chemical synthesis
Combustion of carbon
Refrigerants and aerosols
Solvents and refrigerants