

## Monitors Toxic & Combustible Gases

## Accessible Real-time Gas Level Value (ppm)

## Field Adjustable Alarm Thresholds (ppm)

## Integrated Vent Fan Control

## Audible & Visual LED Alarm Status

### Description

The **Toxic & Explosive Smart Gas Monitor** features an LCD display for each gas sensed, LED indicators for relay status and TX/RX LED indicators for RS-485 comm status. The units can be purchased with Pre-calibrated sensors thereby reducing calibration costs and minimizing downtime. The user can select multiple screens from the menu that display relay status, time, TWA, STEL, concentration, and other data. Programming and calibration is nonproprietary and is accessed through a user selectable password that protects system integrity.

The unit can be installed as stand-alone or networked with Quest equipment through the RS-485 comm port (each gas sensor is assigned a unique address). A user-selectable output provides either 2 - 10VDC, 4 - 20mA or 1 - 5 VDC, 4 - 20mA. User programmable relays and a buzzer are also standard allowing several options to energize relays through instantaneous activation upon a preselected concentration or activation through a time-waited average concentration.



### Features

- Monitors Carbon Monoxide (CO) and Methane (CH<sub>4</sub>) gases
- Powered by -48VDC ensures gases are being monitored during commercial AC power failure
- Pre-calibrated sensors available for easy replacement without calibration
- Non-proprietary set-up and calibration procedures
- Uses Electrochemical & Catalytic Bead sensors
- Digital display of TWA, STEL, concentration and relay status
- Alarm thresholds adjustable 0 to 90% in the field via LCD / Keypad
- Provides audible and visual alarms
- Integral buzzer with four user-selectable tone styles
- Provides separate relays for toxic and explosive gas alarms, sensor/power fail and ventilation fan
- Stand-alone operation
- RS-485 or Modbus communication to Quest controller

## Specifications

**Part Number:** 151022 - Stand-alone Toxic & Explosive Gas Monitor  
151023 - Direct Replacement for Sierra Monitor 2400

**Input Power:** 24V DC Nominal, range 18-72V DC, 0.3A DC Total Max  
24V AC Nominal, range 18-36V AC, 0.3A AC Total Max

**DC Power Output:** +24V DC and ground (max power 60mA) for remote Smoke Detector

### Outputs - Relay Contact Rating

**K1 SPDT:** normally de-energized for CO sensor alarm. 10A, 1/8 H.P., 277V AC (Resistive)

**K2 SPDT:** normally de-energized for CH4 sensor alarm. 10A, 1/8 H.P., 277V AC (Resistive)

**K3 DPDT:** normally de-energized for power/sensor fault. 5A, 1/8 H.P., 277V AC (Resistive)

**K4 DPDT:** normally de-energized for Ventilation fan control common to all active sensors. One of the C contacts common leg on K4 is fused with a 4A fast blo fuse. 5A, 1/8 H.P., 277V AC (Resistive)

**Fuse:** Polyswitch 1.6A Polyswitch resets after fault cleared and powered up

**Sensors:** Carbon monoxide, Electrochemical. 0-250 ppm, Methane, Catalytic Bead: 0-100% LEL

**Preset Alarm Threshold:** CO@35 ppm, CH4@10% LEL (5000 ppm)

**Panel Indicators:** 5 Status LEDs

RS485 TX Status (Green)

RS485 RX Status (Green)

Relay 1 Status (Red)

Relay 2 Status (Red)

Relay 3 Status (Red)

**Carbon Monoxide Sensor (CO):** 0 to 250 ppm operating range; factory set to 35 ppm.

**Methane Sensor (HC):** 0-100% LEL operating range; factory set at 5,000 ppm.

**Display:** LCD graphic display c/w backlight

**Keypad:** 3 Capacitive touch sensing keys: F1, F2, F3

**Buzzer:** 80 db at 10 cm, 2700 Hz Buzzer with 3 programmable tones

**Output Signal:** RS-485, ModBus, user selectable (4-20mA, 1-20VDC or 4-20mA 1- 5 VDC) signal outputs

**Operating Temperature:** -40 to 158°F (-40 to +70°C), depends on sensor specification

**Ambient Humidity:** 5% to 95% RH (non-condensing)

**Storage Temperature:** 32 to 104°F (0 to 40°C) depends on sensor specification

**Size:** 12.4" w x 13.3" h x 5.3" d (315 x 338 x 135 mm)

**Shipping Weight:** 8 lb (3.6 kg)

**Warranty:** 1 year

**Smoke Detector Peripheral:** Optional low profile, self-diagnostic, 4-wire photoelectric with built-in sounder, order part #300136