

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 (CH₄) 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

Toxic & Explosive Gas Monitor

Part Number
151022 & 151023

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, Cata-
lytic 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)

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: 10" w x 10.25" h x 4" d (254 x 260 x 102 mm)

Weight: 5 lb (2.3 kg)

Warranty: 1 year

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

Specifications subject to change without notice



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.

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