

DET

TRONICS

Gas Detection Products

Eight Channel Model 8000 & 8100

Combustible & H₂S Controller

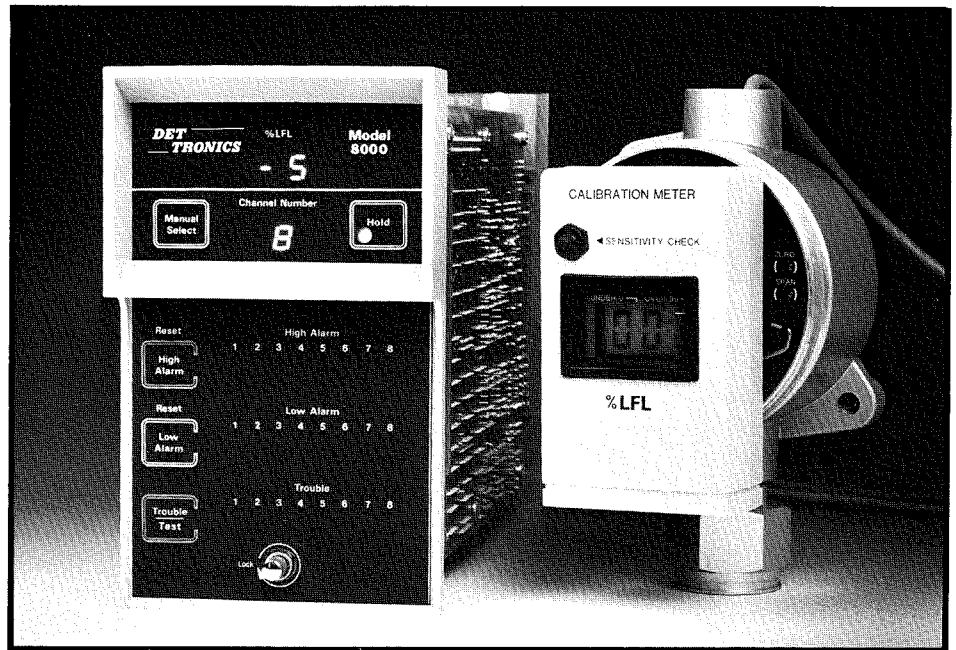
Simultaneous monitoring of eight independent gas detection channels with the convenience of a scanning digital display is provided by the state-of-the-art Det-Tronics Model 8000 & 8100 eight channel controller. Combining the advantage of combustible or H₂S sensors with the latest solid-state technology, the Model 8000 & 8100 offer the industrial user significant new benefits, lower costs and reduced space requirements.

Designed to provide continuous monitoring of combustible gas and H₂S concentrations in large industrial installations, the Model 8000 & 8100 supplies a continuously updated picture of the conditions at each of the remote sensor locations throughout the facility. The channel number and LFL percentage or PPM H₂S for each channel, which operates on a scanning principle, are displayed on the digital readout for a period of one second. If desired, the readout can be advanced or frozen on any channel.

The Model 8000 & 8100 utilizes a touch panel for highly reliable switch functions. The TEST switch on the touch panel provides sequential testing of all front panel LEDs and readout segments.

The Model 8000 & 8100 feature remote, one man calibration. This allows one man to perform routine calibration without the need for two-way communication and alarm/system downtime. A digital, remote calibration meter provides an accurate readout during calibration, plus a new feature called SENSITIVITY CHECK. This feature provides the operator with a means of measuring the remaining sensor life by reading the direct signal of the sensor during calibration.

The alarm circuits are independent from the digital scanning display circuit. Although the digital readout is scanning all channels, the alarm circuit is continuously monitoring all 8 channels. Therefore, regardless of which channel is being displayed on the readout, if any channel exceeds the Low or High alarm set points, the output relays will energize. Also, all alarm conditions



are shown by latching LED indicators for each channel. The conditions displayed are High Alarm, Low Alarm, and Trouble.

Four Model 8000 & 8100 modules handling 32 channels can be mounted in a 19-inch rack thus providing significant savings in space, cost, and power. To provide future growth capabilities, the Model 8000 & 8100 can begin with only one sensor. More sensors can be connected at any time, and the controller easily programmed to scan the appropriate number of channels.

In addition to its eight-channel capability, the Model 8000 & 8100 incorporate such advanced features as non-summing sensors, compact de-

sign, remote calibration, power interruption time delay, 24 VDC battery backup capability, and dual alarm setpoints.

As an option, the Model 8000 & 8100 can be equipped with individual HIGH and/or LOW alarm relay contacts for each channel. This individual alarm option provides either normally open (NO) or normally closed (NC) 3A, 115 VAC or 24 VDC resistive contacts. These relays are SPST, form 1A contact.

Also available as an option is 4-20 mA recorder output per channel for permanent records or computer interface.

Significant User Benefits

Cost and Space Savings Single module monitors up to eight sensors for significant savings in cost, space, and power.

Application Versatility Monitors up to eight separate areas, detects different combustible gases, or H₂S, or provides redundant detection of one area.

Non-summing Configuration Improves system reliability and prevents expensive false alarms.

Future Growth Potential Operates with one to eight sensors; exact number is switch programmable.

Separate Systems Scanning and alarm circuits are separate and independent of each other.

Sensitivity Check The digital display on the Remote Calibration Meter provides a direct reading of sensor life.

Individual Alarm Option A 3AMP relay contact for Low and High Alarm per channel.

Recorder Output Option 4-20 mA recorder output per channel is available.

Test Function Checks all of the LEDs and display elements on the front panel.

RFI Protection Digital circuitry protects the unit from radio frequency interference.

Power Interruption Time Delay Alarm circuit is deactivated on start-up, power interruption, or sensor/transmitter replacement.

Remote Calibration Standard with the Model 8000 & 8100, remote calibration requires only one worker, eliminates two-way communication, and reduces system and alarm downtime.

Dual Alarm Functions Adjustable low and high alarms plus individual, latching LEDs indicate any and all channels in alarm condition.

Low Power Consumption The controller dissipates less than 4 watts per channel, increases system reliability, and reduces cooling requirements.

Channel Selection Front touch panel allows channel freeze or advance.

One Year Warranty One-year normal service guaranteed on sensor and controllers.

Specifications

Range

Model 8000: 0–99% LFL (LEL)
 Model 8100: 0–99 PPM H₂S
 Under/over range indication

Size (HWD)

7" x 4.25" x 11.25"
 (17.78 cm x 10.80 cm x 28.58 cm)

Weight

8 pounds (3.62 kg)

Power

Standard
 105–130 VAC, 60 Hz; 18–30 VDC
Optional
 215–245 VAC, 50 Hz; 18–30 VDC

Consumption

3 Watts/channel

Numbers of Channels

One to eight

Display Scan Rate

1 sec/channel

System Response Time

Model 8000: 90% of full scale in less than 20 seconds in still air (Methane)

Model 8100: Less than 30 seconds to reach 20 PPM given 40 PPM H₂S

Nominal System Drift

Zero ±2% full scale

Span ±3% full scale

Operating Temperature

Controller
 0 to 70°C (32° to 158°F)

Sensor/Remote Calibration
 –40 to +85°C (–40 to +185°F)

Storage Temperature

–55 to +100°C (–67 to +212°F)

Sensor Cable Requirements

Maximum Resistance (3 conductor)
 30 Ohms closed loop (8000)
 20 Ohms closed loop (8100)

Alarm Relays

One set of SPDT 3A 115 VAC resistive relay for each alarm function (Low, High, Trouble)

Option: Individual SPST 3A, 115 VAC or 24 VDC resistive relay (Low & High Alarm)

Indicators

LFL or PPM display (2 digit LED), Channel (1 digit LED), Low Alarm (Yellow), High Alarm (Red), Trouble (Blue), Individual channel alarm LED (8 each for Low Alarm, High Alarm, and Trouble)

Recorder Output (Option)

4–20 mA recorder output sensor

Ordering Information

	MODEL 8000	MODEL 8100
Controller	226650-	226841-
Sensor	225006-	225629-
Poison Resistant Sensor	226530-	—
Junction Box	226555-	226905-
Remote Calibration Transmitter	226585-	226908-
Remote Calibration Meter	226616-	226906-
19" Rack (4 Controllers)	225476-	225476-
19" Panel Mount (4 controllers)	225736-	225736-
Panel Mount (1 Controller)	225451-	225451-
Blank Panel	225477-	225477-
Sensor Dust Cover (Stainless Steel)	225312-	225312-
Operation Manual	226622-	226622-
Calibration Kit	Specify Gas	226515-

NOTE:

Dash numbers will be assigned for traceability purposes at time of shipment.



Approved

MODEL 8000

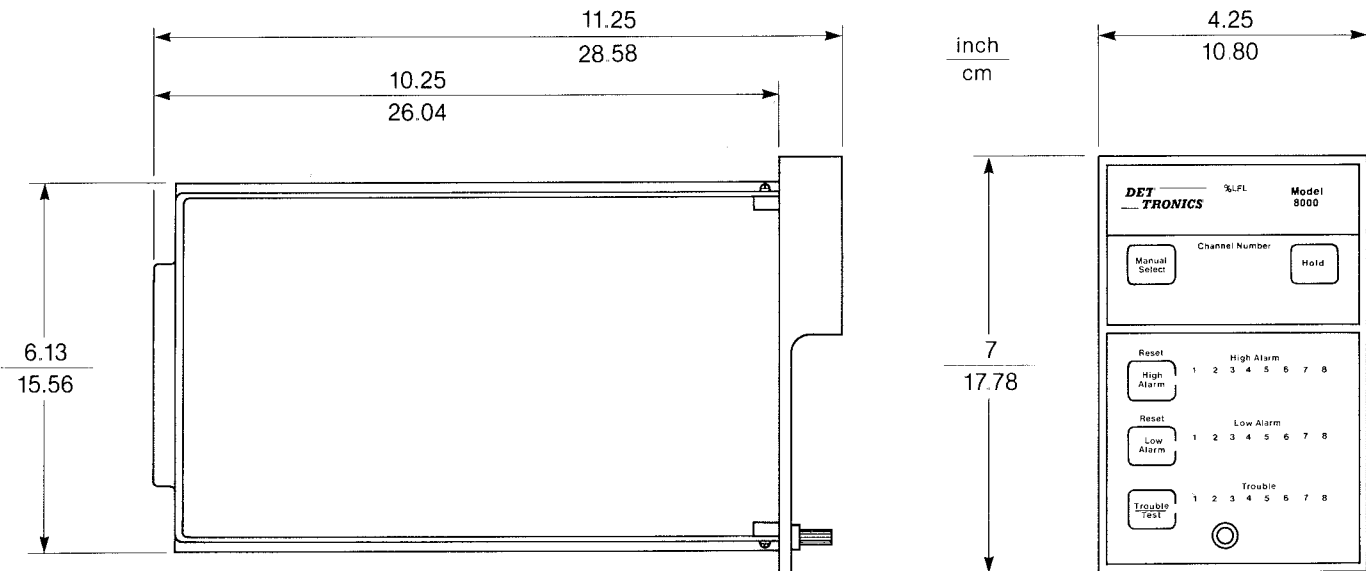


MODEL 8000



LR33947

MODEL 8000



Your local Det-Tronics Representative

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