GENERAL MONITORS
Protection for life.

MODEL PA4000

Photoacoustic Infrared Gas Monitor

Features

- Photoacoustic infrared technology
- Concentration range from %v/v, ppm, to ppb depending on gas
- Easy to install, operate, and maintain
- Operates over a wide temperature range
- Easy-to-read display showing gas concentration(s) and alarms

Benefits

- Allows gas detection in applications where contaminants or interferants preclude use of other techniques
- Suitable for monitoring gases in several applications
- Low cost of ownership
- Can be installed in numerous environments and configurations
- Ease of operation

Description

The PA4000 photoacoustic gas monitor uses infrared sensing technology, allowing accurate measurement of gas vapors with minimum interference from other vapors. The monitor provides precise, low-cost, high-performance monitoring for a variety of gases such as hydrocarbons, solvents, alcohols, CO_2, CO, and toxics. The PA4000 is stable and highly selective to the gas of interest. The monitor can operate for months with virtually no zero drift. The monitor has detectability as low as 0.01 ppm for certain applications.

For most installations, gas monitoring begins after simply mounting the instrument, connecting the sample line, and powering the unit. The monitor typically draws the gas sample via an internal pump, allowing the unit to be mounted in a convenient operator location if the area to be monitored is inaccessible. A pressurized sample can also be delivered to the unit, eliminating the necessity for the internal pump. An internal flow switch alerts operators if the gas sample is blocked by either a dirty end-of-line filter or clogged sample line. The direct-reading display shows the actual gas value as well as any alarms and diagnostic messages. The gas monitor comes factory calibrated, ready to detect a specific gas in the range desired.

Cross-sensitivity to water vapor, a common problem with other types of infrared analyzers, does not occur with this instrument. Its proprietary sensing technique determines the amount of water vapor in the sample and subtracts it from the gas reading. This permits the gas reading to be extremely stable, with no compromise in the unit's sensitivity.

The unit monitors the signal and can operate three alarm levels at a software-selectable gas concentration values. The PA4000 Gas Monitor can be configured to monitor from up to eight remote areas. Standard features include vacuum fluorescent display, audio alarm, four relays, and 4-20 mA and 0-10 V outputs. The unit can be housed in GP, XP, or rack-mount enclosures.

The PA4000 can be expanded to monitor up to 8 locations simply by adding the multipoint sequencer option. The display indicates the monitored location and the corresponding gas concentration at each location.

Applications

- Agriculture
- Chemical
- Construction
- Electric Utility
- Hazardous Materials
- Indoor Air Quality
- Medical
- Mining
- Oil and Gas
- Pulp and Paper
- Spray Painting
- Water and Wastewater
- Welding

MODEL PA4000

System Specifications

Type: Photoacoustic Infrared

Range: 0-10 ppm
0-100 ppm
0-1000 ppm
0-1% by volume
0-10% by volume
0-100% by volume
0-100% LEL

For 0-1000 ppm range:
Accuracy: 0-100 ppm ± 2 ppm;
100-1000 ppm ± 10% reading

Linearity: 0-100 ppm linear,
100-1000 ppm ± 2% of full scale

Sensitivity: 2 ppm

Resolution: 1 ppm
Note: *Specifications for other ranges dependent upon application. Consult factory.*

Response Time: Updated reading every 7 seconds

Reproducibility: ± 2 ppm over 12 months at specified operating conditions

Approvals: UL, C-UL (electric safety), Performance UL 2075, CE Marking

Classification: General Purpose
Enclosure: Class I, Div. 1, Groups B, C,and D (XP version only)

Modes: Setup, calibration, data (event logging, diagnostics)

Accessories: Wireless remote controller (XP version only), calibration kits, beacon, horn

Warranty: 18 months from date of shipment or one year from date of installation, whichever occurs first

Mechanical Specifications

NEMA: 18" H x 16" W x 15 1/4" D
40 lbs.

Rack Mount: 7" H x 17 5/8" W x 15 1/4" D
19 lbs.

XP: 19 1/8" H x 19 1/8" W x 9 1/2" D
100 lbs.

Conduit Entries: 0.875" through holes

Inlet Connection: 1/4" OD ss compression fittings

Environmental Specifications

Operating Temperature Range: 32°F to +122°F (0°C to +50°C)

Storage Temperature Range: -67°F to +158°F (-55°C to +70°C)

Temperature Effect: ± 0.3% per ˚C of reading

Operating Humidity Range: 0-95% RH, non-condensing

Electrical Specifications

Input Power: 120 VAC ± 10% at 0.56 A, or
240 VAC ± 10% at 0.3 A

Analog Signal: 4 to 20 mA sourcing, 1,000 ohm load, 0-10 V, 2 kohm load

Relay Rating: 4 SPDT (240 V) relays @ 8 A resistive

RS-232 Output: 9,600 baud

RFI/EMI Protection: EN 2004/108/EC, EN 50270:2007 Type 2, EN 61000-4-3:2007 Criteria B, EN 6100-6-4:2007

Cable Requirements: 18 AWG, twisted-pair, 12 AWG (max) 500 ft (166 m) max

Max. Total Tubing Length: 150 ft with 1/8" ID
500 ft with 3/16" ID

Status Indicators: 2 line x 20-character vacuum display, warning, alarm, diagnostics, calibration

Standard Configuration: PA4000-1-1-1-1-0-0-0-0-1-0-1-0
Butane, 0-1000 ppm, internal display, NEMA 4 enclosure

Specifications subject to change without notice.

Represented by:

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Thank you for reading this data sheet.

For pricing or for further information, please contact us at our UK Office, using the details below.

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