

TRACE GAS MONITOR

GA-360E Series



The two-in-one high-sensitivity analyzer

- **NDIR absorption method with unique cross-flow modulation technique.**
- **Designed to measure impurities in bulk gas (N₂) used in semiconductor and other high-purity gases such as He, O₂, Air and Ar, used in clean rooms, medical facilities and manufacturing processes.**
- **Simultaneous and continuous measurement of any two components among CO, CO₂ and CH₄.**
- **Compact and lightweight, fits in a standard 19-inch rack.**

HORIBA is a worldwide leader in non-dispersive infrared (NDIR) technology and a major NDIR analyzer manufacturer. The heart of the GA-360E Trace Gas Monitor is the multinationally accepted, field-proven, cross-flow modulated HORIBA NDIR analyzer.

Highly reliable trace gas monitors

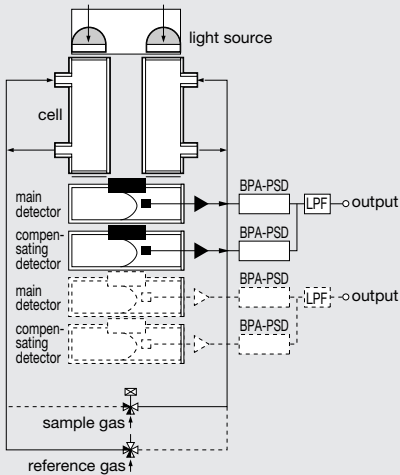
The GA-360E represents a concept in trace gas monitors, is designed to eliminate routine calibration cycles and to provide long-term stable measurement and continuous unattended operation. It furnishes reliable concentration. Every element of the monitor has been selected to offer

the ultimate in reliability and accuracy. Solid-state modular electronics ensure optimum performance and minimum maintenance.

Available in one-or two-component versions

The GA-360E is available in a one-component version to measure a single component, or a two-component versions for measuring any combination of CO, CO₂ and / or CH₄ specified by the customer. Simultaneous measurement of two different components is made possible by linking two detectors to the main unit via a single sample line.

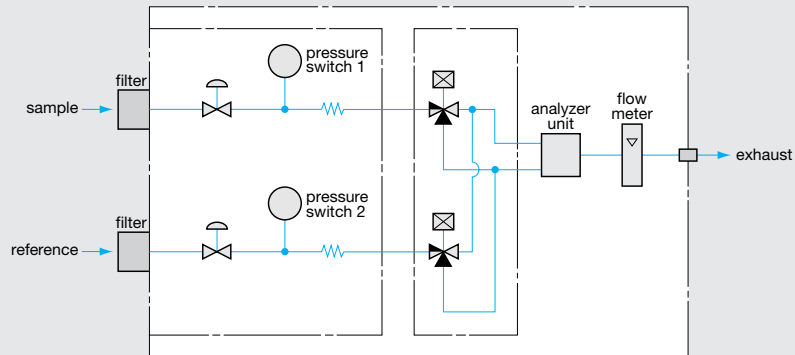
Principle



BPA-PSD: Brand Pass Amplifier
Phase Sensitive Detection
LPF: Low Pass Filter

An infrared beam in the analyzer unit passes through the cell to the detector. During measurement, the solenoid valves alternately direct the sample gas and the reference gas (supplied by the customer) to the cells of the analyzer. The presence of CO, CO₂ and/or CH₄ in the sample gas generates a difference in the intensity of the light reaching the detector when the cell is filled with sample gas from when it is filled with reference gas. This difference causes a metallic membrane in the detector to move back and forth in accordance with the alternating gas flow (cross-flow modulation). The analyzer requires neither an optical chopper nor optical adjustment. Furthermore, this technique virtually eliminates zero drift and greatly enhances analyzer sensitivity. Zero and span calibrations are performed by introducing standard gases.

Flow Schematic



SPECIFICATIONS

Model name: GA-360E

Principle: Non-dispersive infrared (NDIR) absorption technology

Application: CO, CO₂ and CH₄ in N₂, He, O₂, Air, and Ar.

Range: 0 – 1/2/5/10 ppm

Min. detection sensitivity: 0.01 ppm (1 sigma)

Repeatability: ±2% F.S.

Linearity: ±2% F.S.

Zero drift: ±0.02 ppm/day
±0.03 ppm/7days

Span drift: ±2% F.S./day
±3% F.S./7days

Response time (T₉₀): Within 180 sec.

Sample gas flow rate:

Approx. 3.5L/min

Reference gas flow rate:

Approx. 3.5L/min

Indication: Measured value, range, alarm

Reference gas: N₂, He, O₂, Air, and Ar.

Sample / Reference gas pressure: 50~100kpa

Alarm: Flow, chopper, power down

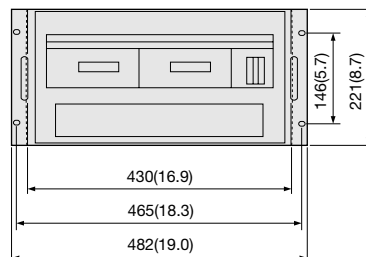
Output: 0 – 1 V, 10V, 4 – 20 mA

Power : AC 100 V, 110 V, 115 V, 220 V, 230 V, 240 V (to be specified)

Remarks:

- 1) The two-component version measures any two of the above three components specified by the customer.
- 2) Reference gas is to be supplied by the customer.

Dimensional Outlines Unit: mm (in)



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