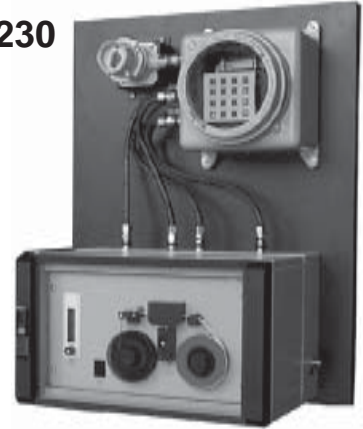


Hydrogen Sulfide Gas Analyzer



PPA4230



APPLICATION

The measurement of Hydrogen Sulfide (H_2S) in gas streams such as reformer recycle gas and ethylene/propylene plants is an important refinery application. The PPA4230 utilizes lead acetate paper tape coupled to a photocell for the H_2S measurement. The fast response time of the PPA4230 enables fast corrective action when high levels of H_2S are detected which results in catalyst and corrosion protection in gas plants.

The following applications are typical streams that are monitored with the PPA4230 Hydrogen Sulfide Analyzer:

- Hydrogen Recycle Gas
- Natural Gas Pipelines
- Fuel Gas
- Propane/Butane Mixtures
- Storage Tank Monitoring

FEATURES AND BENEFITS

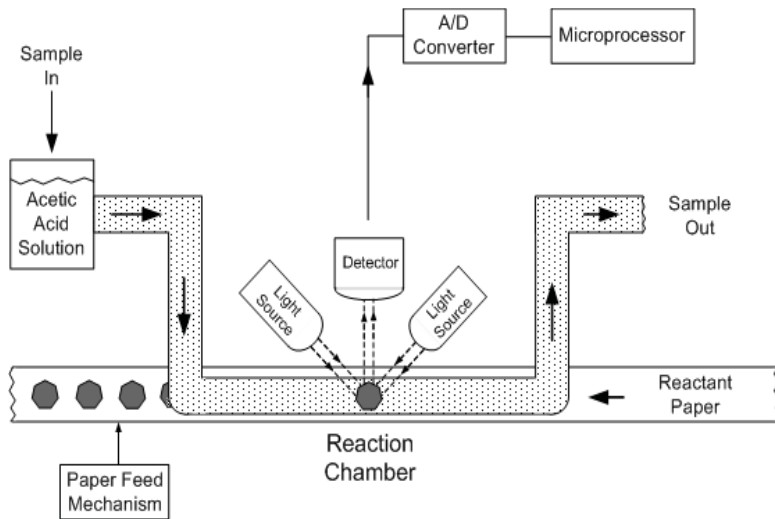
- Microprocessor ensures ease of use and reliable operation.
- High Selectivity to Hydrogen Sulfide (H_2S).
- Digital display with H_2S concentration reported in PPM, PPB or mg/M^3 .
- Wide dynamic range (ppb, ppm to % measurements with dilution system).
- Stable photocell that is zeroed before each analysis cycle.
- Long tape life; tape is not advanced until spot is saturated.
- Self-diagnostics aid in troubleshooting operations.
- Analytical method supported by ASTM Method D4084-94.

OPTIONS

- Manual/Auto Validation System
- Sample Handling Systems
- Vent Pressure Compensation System
- Systems Integration Capability



OPERATION




PPA4230 Schematic

The PPA4230 is based on the lead acetate paper tape principle (see schematic). The incoming sample enters a humidifier containing an acetic acid solution, then flows into a reaction chamber where it passes over the exposed area of the paper tape impregnated with lead acetate. Hydrogen sulfide reacts with lead acetate to form lead sulfide that causes a brown stain on the paper tape. The intensity of the dark stain on the tape is correlated to the concentration of H_2S in the sample.

At the beginning of each measurement cycle the detector measures and stores the photocell resistance value (R_0). At the end of the analysis cycle, a new resistance reading (R_1) is taken and compared to R_0 . The difference between R_0 and R_1 is proportional to the H_2S concentration of the sample. The microprocessor calculates the H_2S value (including linearity adjustment) and displays the value in ppb, ppm or mg/m^3 . The analysis cycle continues until the analysis spot is saturated. Then the paper is advanced to the next test area for the next analysis

GENERAL SPECIFICATIONS

Range:	0 to 50 ppb up to 0 to 100 ppm H_2S by volume (dilution system required for ranges above 50 ppm)	PPA4230-GP	336/EEC and 94/9/EC General Purpose In accordance with directives 89/336/EEC and 73/23/EEC
Repeatability:	$\pm 2\%$ of full scale value	Utilities:	
Linearity:	$\pm 2\%$ of full scale value	Input Power:	115 V $\pm 10\%$, 50/60 Hz ± 2 Hz, or 230 V $\pm 10\%$, 50/60 Hz ± 2 Hz
Analysis Cycle Time:	variable depending on application (5 seconds to 6 minutes)	Power Consumption:	50 VA
Ambient Temperature:	14 to 104° F (-10 to 40° C)	Gas:	Air or Nitrogen supply, when dilution required
Output Signal:	4 to 20 mA analog; RS232 digital	Humidifier for Tape:	5 % Acetic Acid solution
Elec. Classification:		Sample Flow Rate:	3.2 to 4.8 gal/hr at 15 psig (12 to 18 l/hr at 1.05 bar)
PPA4230:	 II 2G; EExde [ib] ib II B + H2 T4 LCIE 02 ATEX 6243X in accordance with directives 89/	Dimensions (approx):	30 in. (762 mm) w x 16 in. (406 mm) d x 38 in. (965 mm) h



Specifications subject to change without notice.

ABB Inc.
Analytical & Advanced Solutions
843 N. Jefferson Street
Lewisburg, WV 24901
USA

Office: (304) 647-4358
FAX: (304) 645-4236

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