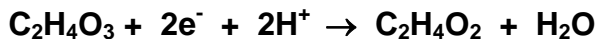


**E-Chem Sensor Data  
Model H10-51 Peracetic Acid (PAA) Smart Sensor**

Model H10-51 Peracetic Acid vapor sensor is an electrochemical device used for the selective detection of PAA vapor in ambient air. Peracetic acid is a liquid in which PAA and hydrogen peroxide are both present. The H10-51 is designed to measure peracetic acid vapor without response to H<sub>2</sub>O<sub>2</sub>. It is used in conjunction with ATI's Model C16 portable leak detector or Models D12 or F12 toxic gas transmitters. H10-51 sensors contain internal electronics and memory that control sensor bias and store calibration data, calibration history, and limited data log.

The PAA sensor is a 2-electrode electrochemical cell and operates by generating a small electrical current proportional to the partial pressure of PAA vapor in the surrounding air. The current results from the reduction of peracetic acid to acetic acid on the measuring electrode. Reduction of PAA is shown in the formula below.



The table below provides the operational and performance specifications for the H10-51 PAA vapor sensor. Contact ATI or your ATI local representative with questions regarding specific applications for this sensor.

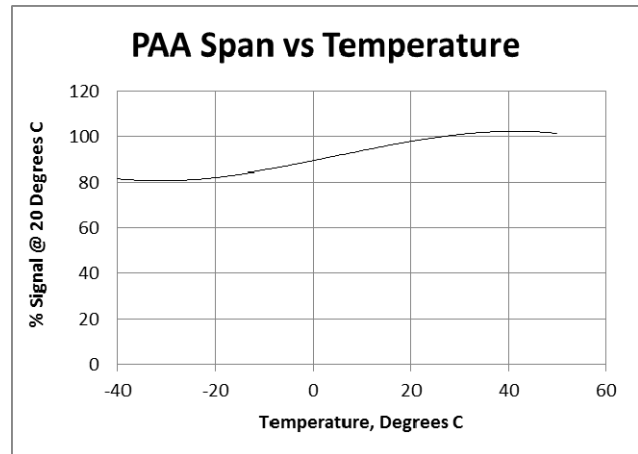
Primary Response	Volume % Peracetic Acid (PAA)
Measuring Range	0.05 – 5.00 PPM V/V
Sensor Current	0.25 $\mu$ A/PPM Nominal
Sensor Current Variability	0.10 – 0.50 $\mu$ A/PPM
Linearity	$\pm$ 3%
Response Time	T <sub>50</sub> $\leq$ 15 Seconds, T <sub>90</sub> $\leq$ 60 seconds
Temperature Range	-20° to +50° C
Memory	Internal e <sup>2</sup> memory for Calibration Data and Calibration History
Pressure Range:	- 5 to + 50 PSIG
Pressure Variability	Output proportional to PAA partial pressure
Operating Humidity	0-99% RH Non-condensing (Intermittent) 20-90% RH Non-condensing (Continuous)
Zero Stability	$\pm$ 0.02 PPM at constant temperature $\pm$ 0.05 PPM over $\pm$ 10° C ambient temperature change
Span Drift	< 2%/Month
Temperature Effect on Span	See Graph
Operating Life	> 24 Months Typical in Clean Conditions
Storage Recommendation	Recommended maximum of 1 year for best sensor performance. Store at less than 25° C in a sealed container.
Size	1" D x 1.25" H (25 mm x 32 mm)
Weight	17 grams

**E-Chem Sensor Data**  
**Model H10-51 Peracetic Acid (PAA) Smart Sensor**

H10-51 PAA sensors exhibit response to a variety of gases and vapors. When applying this sensor to specific applications, the user should verify whether vapors other than the target vapor are present in the application. Note that cross-sensitivity data is approximate. In some cases, response to other gases may not be stable or may be transient.

Electrochemical sensors exhibit a response that is temperature dependent to a limited extent. Although the effect of temperature is not large, it is useful to be aware of the effect. Shown below is a graph showing the effect on span (uA/PPM) of changing temperature.

Gas	Symbol	Response to 1 PPM
Hydrogen Peroxide	H <sub>2</sub> O <sub>2</sub>	None
Ethanol	C <sub>2</sub> H <sub>5</sub> OH	None
Chlorine	Cl <sub>2</sub>	1.0
Bromine	Br <sub>2</sub>	1.0
Chlorine Dioxide	ClO <sub>2</sub>	0.7
Ozone	O <sub>3</sub>	0.05
Hydrogen Cyanide	HCN	None
Carbon Monoxide	CO	None
Nitrogen Dioxide	NO <sub>2</sub>	0.3
Hydrogen Sulfide	H <sub>2</sub> S	None
Methyl Mercaptan	CH <sub>3</sub> SH	None
Hydrogen Fluoride	HF	None



Shown below is a typical response time graph for a PAA sensor. Note that response times can become significantly slower at temperatures below -20°C.

