

# RKI Sensor Specification

**Features:** Fast warm-up time  
Good zero stability  
Quick response time

**Part Number:**  
**Sensor Application:**

## Phosphine (PH<sub>3</sub>)

ESM-01DH-D-PH3  
Direct Connect, S2, M2,  
Eagle 2, SC-01

Technical Specifications			
Measuring Principle	Amperometric 3-electrode sensor	Accuracy	+/- 10% of reading or +/- 5% of full scale (whichever is greater)
Range of Measurement	0 – 1 ppm	Repeatability	+/- 5% of reading
Resolution	1% of full scale	T <sub>90</sub> Response time (20°C, 2 min. exposure)	90 seconds

Operating Conditions			
Temperature Range	-20°C to +45°C	Life Expectancy	2-3 Years
Humidity Range	10-95% RH, Non Condensing	Warranty	1 Year

## Known Gas Interferences

Gas	PPM Gas Applied	Reading
Acetylene (C <sub>2</sub> H <sub>2</sub> )	1.03 ppm	0.7 ppm
Ammonia (NH <sub>3</sub> )	40 ppm	0 ppm
Arsine (AsH <sub>3</sub> )	1.1 ppm	0.8 ppm
Carbon Monoxide (CO)	60 ppm	0.1 ppm
Chlorine (Cl <sub>2</sub> )	0.8 ppm	-0.1 ppm
Diborane (B <sub>2</sub> H <sub>6</sub> )	5 ppm	1.4 ppm
Disilane (Si <sub>2</sub> H <sub>6</sub> )	1.2 ppm	1.2 ppm
Ethanol (C <sub>2</sub> H <sub>5</sub> OH)	1.38 % Vol.	0.1 ppm
Germanium Tetrahydride (GeH <sub>4</sub> )	1 ppm	0.8 ppm
Hydrogen (H <sub>2</sub> )	2040 ppm	0.6 ppm
Hydrogen Chloride (HCl)	6.5 ppm	0.3 ppm

Gas	PPM Gas Applied	Reading
Hydrogen Cyanide (HCN)	6 ppm	0.6 ppm
Hydrogen Fluoride (HF)	6 ppm	0 ppm
Hydrogen Selenide (SeH <sub>2</sub> )	5.1 ppm	1.6 ppm
Hydrogen Sulfide (H <sub>2</sub> S)	3 ppm	0.8 ppm
Isopropyl Alcohol (IPA) ((CH <sub>3</sub> ) <sub>2</sub> CHOH)	1.11 % Vol.	0.3 ppm
Methanol (CH <sub>3</sub> OH)	1.05 % Vol.	0 ppm
Nitrogen Dioxide (NO <sub>2</sub> )	5.1 ppm	-1.2 ppm
Ozone (O <sub>3</sub> )	0.6 ppm	-0.1 ppm
Silane (SiH <sub>4</sub> )	2.3 ppm	1.9 ppm
Sulfur Dioxide (SO <sub>2</sub> )	3.2 ppm	0.8 ppm