

# RKI Sensor Specification

## Nitric Acid (HNO<sub>3</sub>)

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

**Part Number:** ES/ESM/ESU-K233-HNO<sub>3</sub>  
**Sensor Application:** EAGLE, Fixed Systems

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

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

## Known Gas Interferences

Gas	PPM Gas Applied	Reading
Acetic Acid (CH <sub>3</sub> COOH)	100.0 ppm	82.5 ppm
Acetyl (CH <sub>3</sub> )CO	1.0% vol.	0.0 ppm
Ammonia (NH <sub>3</sub> )	39.4 ppm	0.0 ppm
Arsine (AsH <sub>3</sub> )	1.0 ppm	0.0 ppm
Bromine (Br <sub>2</sub> )	1.0 ppm	5.0 ppm
Butane (C <sub>4</sub> H <sub>10</sub> )	1.0% vol.	0.0 ppm
Carbon Dioxide (CO <sub>2</sub> )	1.0% vol.	0.0 ppm
Carbon Monoxide (CO)	286.6 ppm	0.0 ppm
Chlorine (Cl <sub>2</sub> )	0.8 ppm	4.0 ppm
Chlorine Trifluoride (ClF <sub>3</sub> )	1.0 ppm	4.5 ppm
Chloroform (CHCl <sub>3</sub> )	0.69% vol.	0.0 ppm
Diborane (B <sub>2</sub> H <sub>6</sub> )	10.0 ppm	0.0 ppm
Disilane (Si <sub>2</sub> H <sub>6</sub> )	10.0 ppm	0.0 ppm
Ethanol (C <sub>2</sub> H <sub>5</sub> OH)	10.0% vol.	0.0 ppm
Fluorine (F <sub>2</sub> )	2.0 ppm	6.5 ppm
Hexafluoroethane (C <sub>2</sub> F <sub>6</sub> )	1.0% vol.	1.0 ppm
Hydrogen (H <sub>2</sub> )	99.9% vol.	0.0 ppm
Hydrogen Bromide (HBr)	5.6 ppm	1.0 ppm

Gas	PPM Gas Applied	Reading
Hydrogen Chloride (HCl)	3.0 ppm	10 ppm
Hydrogen Cyanide (HCN)	20.0 ppm	-2.0 ppm
Hydrogen Fluoride (HF)	6.0 ppm	23 ppm
Hydrogen Sulfide (H <sub>2</sub> S)	32.8 ppm	-0.5 ppm
I.P.A. ((CH <sub>3</sub> ) <sub>2</sub> CHOH)	3.0% vol.	0.0 ppm
Iodine (I <sub>2</sub> )	1.0 ppm	4.0 ppm
Methane (CH <sub>4</sub> )	99.9% vol.	0.0 ppm
Methanol (CH <sub>3</sub> OH)	10.0% vol.	0.0 ppm
Nitrogen Dioxide (NO <sub>2</sub> )	101.0 ppm	15 ppm
Nitrogen Trifluoride (NF <sub>3</sub> )	1.0 ppm	0.0 ppm
Nitric Oxide (NO)	102.4 ppm	0.0 ppm
Ozone (O <sub>3</sub> )	5.0 ppm	17.5 ppm
Phosgene (COCl <sub>2</sub> )	1.0 ppm	0.0 ppm
Phosphine (PH <sub>3</sub> )	1.1 ppm	0.0 ppm
Silane (SiH <sub>4</sub> )	10.0 ppm	0.0 ppm
Sulfur Dioxide (SO <sub>2</sub> )	10.0 ppm	10 ppm
Tetrafluoromethane (CF <sub>4</sub> )	1.0% vol.	0.00 ppm