MIDAS S2
PHOSPHINE (PH_3)

Sensor Cartridge Specifications

Selectable gases	Phosphine (PH_3)
Cartridge Part Number	MIDAS S2-E-PH3 2-year extended warranty
Sensor Technology	Electrochemical sensor
Measuring Range	PH_3 0 – 1200ppb
Default Alarm 1	PH_3 150ppb
Default Alarm 2	PH_3 300ppb
LDL, LAL	PH_3 50ppb
Resolution	PH_3 5ppb
Accuracy	≤ ± 5% of measured value
Response Time $t_{62\cdot5}$	Typical 2 seconds
Sensor Cartridge Life Expectancy (Expiration Period)	24 months under typical application conditions Extendable for 1 year through calibration after 24 months
Operating Temperature	0°C to +40°C (32°F to 104°F)
Effect of Temperature Sensitivity	≤ ± 10% of measured value at 20°C
Operating Humidity	10 to 90% non-condensing
Operating Pressure	90 – 110kPa
Calibration Gas	PH_3 600ppb
Warm Up Time	< 20 minutes
Storage Temperature	+5°C to +25°C (+41°F to +77°F)

The sensor data listed is based on the test data with PH_3 gas under normal Lab test conditions (20-25 C, 0 - 60%RH, normal atmosphere pressure); observed performance may vary based on the actual monitoring system and the sampling conditions employed.

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CROSS SENSITIVITIES

Each Midas S2 sensor is potentially cross sensitive to other gases and this may cause a gas reading when exposed to other gases than those originally designated. The table below presents typical readings that will be observed when a new sensor cartridge is exposed to the cross sensitive gas (or a mixture of gases containing the cross sensitive species).

Gas Measured	Chemical Formula	Concentration Applied(ppm)	Reading (ppb PH_3)
Ammonia	NH_3	100	1050
Arsine	AsH_3	1	680
Carbon Monoxide	CO	2000	0
Chlorine	Cl_2	1	0 (Negative Drift)
Diborane	B_2H_6	1	450
Ethanol	C_2H_5OH	2000	0
Germane	GeH_4	1	450
Hydrogen	H_2	5000	0
Hydrogen Chloride	HCl	10	0
Hydrogen Fluoride	HF	10	0
Hydrogen Sulfide	H_2S	0.5	70
Iso Propanol	C_3H_7OH	2000	0
Nitrogen Dioxide	NO_2	8	0 (Negative Drift)
Silane	SiH_4	1	360
Sulfur Dioxide	SO_2	50	550
Ozone	O_3	0.2	0
Ethylene Oxide	C_2H_4O	20	0
Nitric Oxide	NO	50	0
Carbon Dioxide	CO_2	10000	0
Hydrogen Cyanide	HCN	10	170

Interference differs from cartridge to cartridge and over cell life. It is not recommended to calibrate with cross sensitivity factors. The target gas should be used for calibration.

For more information
automation.honeywell.com

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