Honeywell

Midas® SENSOR CARTRIDGE SPECIFICATIONS

Silane Low Level (SiH_4)
MIDAS-S-SHL, MIDAS-E-SHL

Gas Measured	Phosphorous Oxychloride (SiH_4)
Cartridge Part Number	MIDAS-S-SHL 1 year standard warranty MIDAS-E-SHL 2 year extended warranty
Sensor Technology	3 electrode electrochemical cell
Measuring Range (ppm)	SiH_4 0 – 2ppm
Minimum Alarm 1 Set Point	0.24ppm
Repeatability	< ± 5% of measured value
Linearity	< ± 10% of measured value
Response Time $t_{62.5}$	< 3 seconds
Sensor Cartridge Life Expectancy	≥ 24 months under typical application conditions
Operating Temperature **Effect of Temperature** Zero Sensitivity	0ºC to +40ºC (32ºF to 104ºF) < ± 0.0017ppm / °C (0°C to 20°C) < ± 0.006ppm / °C (20°C to 40°C) < ± 1% of measured value / ºC
Operating Humidity (continuous) **Effect of Humidity** Zero Sensitivity	15 – 90% rH < 0.0014ppm / % rH < ± 2% of measured value / % rH
Operating Pressure	90 – 110kPa
Effect of Position	No effect in typical application
Long Term Drift Zero Sensitivity	 TBA < ± 10% of measured value / year
Calibration Gas	Silane (SiH_4)
Challenge Gas (Bump Test)	Hydrogen Sulphide (H_2S)
Warm Up Time	< 20 minutes
Storage Temperature	+5°C to +25°C (+41°F to +77°F)

The sensor data listed is based on ideal test environment; observed performance may vary based on the actual monitoring system and the sampling conditions employed

Cross Sensitivities

Each Midas® 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 / Vapor	Chemical Formula	Concentration Applied (ppm)	Reading (ppm SiH_4)
Ammonia	NH_3	100	0
Arsine	AsH_3	1	1
Carbon Monoxide	CO	2000	0.1
Chlorine	Cl_2	5	-0.6
Diborane	B_2H_6	1	0.7
Ethanol	C_2H_5OH	500	0
Hydrogen	H_2	5000	Max 0.2, Avg 0.1
Hydrogen Chloride	HCl	8.7	1.6
Hydrogen Fluoride	HF	10	0
Hydrogen Sulphide	H_2S	5	1.8
Iso Propanol	C_3H_7OH	500	0
Nitrogen Dioxide	NO_2	50	-11
Phosphine	PH_3	1	1.4
Sulphur Dioxide	SO_2	50	1.4

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