MIDAS S2
MINERAL ACID GROUP (HF, BF_3, WF_6)

Sensor Cartridge Specifications

Selectable gases	Hydrogen Fluoride (HF) Boron Trifluoride (BF_3) Tungsten Hexafluoride (WF_6)
Cartridge Part Number	MIDAS S2-E-HFX 2-year extended warranty
Sensor Technology	Electrochemical sensor
Measuring Range	HF 0 – 12ppm BF_3 0 – 8ppm WF_6 0 – 12ppm
Default Alarm 1	HF 1.5ppm BF_3 1ppm WF_6 1.5ppm
Default Alarm 2	HF 3ppm BF_3 2ppm WF_6 3ppm
LDL, LAL	HF 1.05ppm BF_3 0.7ppm WF_6 1.05ppm
Resolution	HF 0.05ppm BF_3 0.05ppm WF_6 0.05ppm
Accuracy	≤ ± 10% of measured value
Response Time $t_{62\cdot5}$	Typical 60 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	≤ ± 20% of measured value at 20°C
Operating Humidity	20 to 75% non-condensing
Operating Pressure	90 – 110kPa
Calibration Gas	HF 6ppm BF_3 4ppm WF_6 6ppm
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 HF 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 (ppm HF)
Chlorine	Cl_2	1	1.5
Diborane	B_2H_6	1	0 (Negative drift)
Hydrogen Chloride	HCl	4	3.2
Hydrogen Sulfide	H_2S	25	0 (Negative drift)
Nitrogen Dioxide	NO_2	5	0.65
Phosphine	PH_3	1	0 (Negative drift)
Sulfur Dioxide	SO_2	50	0 (Negative drift)
Arsine	AsH_3	1	0
Carbon Monoxide	CO	2000	0
Hydrogen	H_2	20000	0
Iso Propanol	C_3H_7OH	500	0
Methanol	CH_3OH	500	0
Silane	SiH_4	10	0
Ammonia	NH_3	50	0
Ozone	O_3	0.2	0
Ethylene Oxide	C_2H_4O	20	0
Nitric Oxide	NO	50	0
Carbon Dioxide	CO_2	10000	0

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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