

## Midas<sup>®</sup> SENSOR CARTRIDGE SPECIFICATIONS

### Halogen Group (Cl<sub>2</sub> F<sub>2</sub>) MIDAS-S-HAL, MIDAS-E-HAL



Gas Measure	Chlorine (Cl <sub>2</sub> )
<b>Cartridge Part Number</b>	MIDAS-S-HAL 1 year standard warranty MIDAS-E-HAL 2 year extended warranty
<b>Sensor Technology</b>	3 electrode electrochemical cell
<b>Measuring Range (ppm)</b>	Cl <sub>2</sub> 0 – 2ppm
<b>Minimum Alarm 1 Set Point</b>	0.25ppm
<b>Repeatability</b>	< ± 5% of measured value
<b>Linearity</b>	< ± 3% of measured value
<b>Response Time t<sub>62.5</sub></b>	≤ 5 seconds
<b>Sensor Cartridge Life Expectancy</b>	≥ 24 months under typical application conditions
<b>Operating Temperature</b>	0°C to +40°C (32°F to 104°F)
<b>Effect of Temperature</b>	No effect (0°C to 20°C) Zero < ± 0.005ppm / °C (20°C to 40°C) Sensitivity < ± 1.8% of measured value / °C
<b>Operating Humidity (continuous)</b>	20 – 75% rH
<b>Effect of Humidity</b>	Zero < 0.003ppm / % rH Sensitivity < ± 0.3% of measured value / % rH
<b>Operating Pressure</b>	70 – 110kPa
<b>Effect of Position</b>	No effect in typical application
<b>Long Term Drift</b>	Zero < ± 2ppm / year Sensitivity < 10% of measured value / year
<b>Calibration Gas</b>	Chlorine (Cl <sub>2</sub> )
<b>Challenge Gas (Bump Test)</b>	Chlorine (Cl <sub>2</sub> )
<b>Warm Up Time</b>	< 10 minutes
<b>Storage Temperature</b>	+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

#### Other Detectable Gases

The following additional gases can be detected with this sensor cartridge. Sensor performance and characteristics will be representative of the data as tabulated above. Consult the Technical Manual to set up the Midas<sup>®</sup> transmitter with the designated identification code for each of the following gas types.

Detectable Gas	Chemical Formula	Measuring Range
Fluorine	F <sub>2</sub>	0-4ppm

#### Cross Sensitivities

Each Midas<sup>®</sup> 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 Cl <sub>2</sub> )
Ammonia	NH <sub>3</sub>	50	-1.9
Carbon Monoxide	CO	20000	0
Hydrogen Chloride	HCl	9	1.25
Hydrogen Sulphide	H <sub>2</sub> S	25	-16.3
Nitrogen Dioxide	NO <sub>2</sub>	50	1.25 (transient)
Sulphur Dioxide	SO <sub>2</sub>	50	9.1

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