



## Midas® Sensor Cartridge Specifications

### Carbon Monoxide (CO)

### MIDAS-E-COX, MIDAS-S-COX

Gas Measured	Carbon Monoxide (CO)
<b>Cartridge Part Number</b>	MIDAS-S-COX 1 year standard warranty MIDAS-E-COX 2 year extended warranty
<b>Sensor Technology</b>	3 electrode electrochemical cell
<b>Measuring Range</b>	CO 0 – 100ppm
<b>Minimum Alarm 1 Set Point</b>	12.5ppm
<b>Lower Detection Limit</b>	11ppm
<b>Linearity</b>	< ± 2% of measured value
<b>Repeatability</b>	< ± 2% of measured value
<b>Resolution</b>	0.5ppm
<b>Response Time <math>t_{62.5}</math></b>	≤ 60 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>	
Zero	< ± 0.035ppm / °C
Sensitivity	< ± 0.8% of measured value / °C
<b>Operating Humidity</b>	10 to 90% RH
<b>Effect of Humidity</b>	
Zero	< ± 0.02ppm of measured value / % RH
Sensitivity	No effect
<b>Operating Pressure</b>	90 – 110kPa
<b>Effect of Position</b>	No effect in typical application
<b>Long Term Drift</b>	
Zero	< 2ppm / year
Sensitivity	< ± 5% of measured value / year
<b>Calibration Gas</b>	Carbon Monoxide (CO)
<b>Bump Test Gas</b>	Carbon Monoxide (CO)
<b>Warm Up Time</b>	< 20 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.

#### 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 Measured	Chemical Formula	Concentration Applied(ppm)	Reading (ppm CO)
Acetone	(CH <sub>3</sub> ) <sub>2</sub> CO	1000	0
Acetylene	C <sub>2</sub> H <sub>2</sub>	40	80
Ammonia	NH <sub>3</sub>	100	0
Carbon Monoxide	CO	100	100
Chlorine	Cl <sub>2</sub>	2	0
Ethanol	C <sub>2</sub> H <sub>5</sub> OH	2000	3
Ethylene	C <sub>2</sub> H <sub>4</sub>	100	110
Hydrogen	H <sub>2</sub>	100	35
Hydrogen Sulfide	H <sub>2</sub> S	25	0
Iso Propanol	C <sub>3</sub> H <sub>7</sub> OH	200	0
Nitric Oxide	NO	50	8
Nitrogen Dioxide	NO <sub>2</sub>	800	20
Sulfur Dioxide	SO <sub>2</sub>	50	0.5

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.

#### Please Note:

While every effort has been made to ensure accuracy in this publication, no responsibility can be accepted for errors or omissions. Data may change, as well as legislation, and you are strongly advised to obtain copies of the most recently issued regulations, standards, and guidelines. This publication is not intended to form the basis of a contract.