

# MIDAS<sup>®</sup>-M OZONE (O<sub>3</sub>)

## Smart Sensor Specifications

Bringing new visibility, reliability, and ease-of-use to gas detection in semiconductor processing and industrial manufacturing.

GAS MEASURED	OZONE (O <sub>3</sub> )
Cartridge Part Number	MMS-U2
Sensor Technology	3 electrode electrochemical cell
Measuring Range	O <sub>3</sub> 0 ppm to 0.4 ppm
Default Alarm 1	0.05 ppm (rising)
Default Alarm 2	0.1 ppm (rising)
Accuracy	<±10% of measured value Exposure to O <sub>3</sub> 0.2 ppm for 5 minutes
Response Time (t <sub>62.5</sub> )	Typical 13 seconds
Sensor Cartridge Life Expectancy	24 months under typical application conditions
Operating Temperature	0°C to 40°C (32°F to 104°F)
Effect of Temperature	
Zero	<±0.0018 ppm/°C
Sensitivity	<±0.8% of measured value/°C
Operating Humidity (continuous)	20% RH to 75% RH
Effect of Humidity	
Zero	Abrupt changes will cause a short term drift
Sensitivity	<±1% of measured value/% RH
Operating Pressure	70 kPa to 110 kPa
Effect of Position	No effect in typical application
Long Term Drift	
Zero	No drift
Sensitivity	<5% of measured value/6 months
Calibration Gas	Ozone (0.1 ppm to 0.3 ppm, default 0.2 ppm)
Challenge Gas (Bump Test)	Nitrogen Dioxide (1 ppm)
Warm Up Time	<10 minutes
Storage Temperature	5°C to 25°C (41°F to 77°F)

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

**NOTE:** The O<sub>3</sub> sensor should not be used with SO<sub>2</sub> sensor in same Midas<sup>®</sup>-M unit.

**NOTE:** The abrupt pressure change due to flow load change can cause false gas readings or false alarms.



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## 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®-M transmitter with the designated identification code for each of the following gas types:

DETECTABLE GAS	CHEMICAL FORMULA	MEASURING RANGE

## CROSS SENSITIVITIES

Each Midas-M 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).

**NOTE:** The cross sensitivity data shown below does not form part of the product specification and is supplied for guidance only. Values quoted are based on tests conducted on a small number of sensors and any batch may show significant variation.

GAS/VAPOR	CHEMICAL FORMULA	CONCENTRATION APPLIED (ppm)	READING (ppm O <sub>3</sub> )
Ammonia	NH <sub>3</sub>	100	-3
Arsine	AsH <sub>3</sub>	0.2	0
Carbon Dioxide	CO <sub>2</sub>	5000	0
Carbon Monoxide	CO	100	0
Chlorine	Cl <sub>2</sub>	1	1.2
Chlorine Dioxide	ClO <sub>2</sub>	1	1.5
Chlorine Trifluoride	ClF <sub>3</sub>	1	1 (Theoretical)
Fluorine	F <sub>2</sub>	0.1	0.1
Hydrazine	N <sub>2</sub> H <sub>4</sub>	3	-3
Hydrogen	H <sub>2</sub>	500	-0.05
Hydrogen Chloride	HCl	4	0.4 (Overrange)
Hydrogen Fluoride	HF	6	0.4 (Overrange)
Hydrogen Sulphide	H <sub>2</sub> S	20	1.6
Nitric Oxide	NO	100	1
Nitrogen	N <sub>2</sub>	100%	0
Nitrogen Dioxide	NO <sub>2</sub>	10	6
Sulphur Dioxide	SO <sub>2</sub>	4	0.4 (Overrange)

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Manuals and other information about this product are available at:  
[www.honeywellanalytics.com/en/products/Midas-M](http://www.honeywellanalytics.com/en/products/Midas-M)



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