

# MIDAS<sup>®</sup>-M OXYGEN (O<sub>2</sub>)

## Smart Sensor Specifications

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

GAS MEASURED	OXYGEN (O <sub>2</sub> )
Cartridge Part Number	MMS-D2
Sensor Technology	3 electrode electrochemical cell
Measuring Range	O <sub>2</sub> 0% v/v to 25% v/v
Default Alarm 1	23.5% v/v (rising)
Default Alarm 2	19.5% v/v (falling)
Accuracy	<±0.2% v/v at 20.9% v/v O <sub>2</sub>
Response Time (t <sub>62.5</sub> )	Typical 11 seconds
Sensor Cartridge Life Expectancy	36 months under typical application conditions
Operating Temperature	0°C to 40°C (32°F to 104°F)
Effect of Temperature Zero Sensitivity	<±0.2% of measured value/°C
Operating Humidity (continuous)	15% RH to 90% RH
Effect of Humidity Zero Sensitivity	Follows actual concentration of O <sub>2</sub> present (eg. 20.9% v/v @ 30% RH, 20.04% v/v @ 99% RH/40°C)
Operating Pressure	70 kPa to 110 kPa
Effect of Position	No effect in typical application
Long Term Drift Zero Sensitivity	No drift <5% signal loss over operating life
Calibration Gas	Oxygen (O <sub>2</sub> 20.9% v/v)
Challenge Gas (Bump Test)	Air mixture
Warm Up Time	<30 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 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<sup>®</sup>-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	READING (%v/v O <sub>2</sub> )
Carbon Dioxide	CO <sub>2</sub>		Enhance O <sub>2</sub> reading by 0.3% / % CO <sub>2</sub>
Hydrogen	H <sub>2</sub>	100% v/v	-9
Methane	CH <sub>4</sub>	100% v/v	No response
Nitrogen Dioxide	NO <sub>2</sub>	25 ppm in air	No response

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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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