

MIDAS[®]-M SULPHUR DIOXIDE (SO₂)

Smart Sensor Specifications

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



GAS MEASURED	SULPHUR DIOXIDE (SO ₂)
Cartridge Part Number	MMS-S2
Sensor Technology	3 electrode electrochemical cell
Measuring Range	SO ₂ 0 ppm to 8 ppm
Default Alarm 1	1 ppm (rising)
Default Alarm 2	2 ppm (rising)
Accuracy	<±5% of measured value Exposure to SO ₂ 4 ppm for 5 minutes
Response Time (t ^{62.5})	Typical 7 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 Sensitivity	< ± 0.01 ppm/°C < ± 0.4% of measured value/°C
Operating Humidity (continuous)	15% RH to 90% RH
Effect of Humidity Zero Sensitivity	No effect < ± 0.5% of measured value/% RH
Operating Pressure	90 kPa to 110 kPa
Effect of Position	No effect in typical application
Long Term Drift Zero Sensitivity	TBA <10% of measured value/year
Calibration Gas	Sulphur Dioxide (2 ppm to 6 ppm, default 4 ppm)
Challenge Gas (Bump Test)	Sulphur Dioxide (4 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 SO₂ sensor should not be used with O₃ or HF sensor in the same Midas[®]-M unit.

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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:

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 SO ₂)
Acetylene	C ₂ H ₂	10	<30
Ammonia	NH ₃	20	0
Carbon Monoxide	CO	300	<1
Chlorine	Cl ₂	5	<-2
Ethene	C ₂ H ₄	50	<45
Hydrogen	H ₂	400	<1
Hydrogen Cyanide	HCN	10	<5
Hydrogen Sulphide	H ₂ S	25	<0.1
Iso Propanol	C ₃ H ₇ OH	3500	1.65
Nitric Oxide	NO	50	0 - 5
Nitrogen Dioxide	NO ₂	6	<-10
Phosphine	PH ₃	0.6	1.5
Silane	SiH ₄	10	8 (Overrange)

HONEYWELL SAFETY PRODUCTS

Americas

Honeywell Analytics
405 Barclay Boulevard
Lincolnshire, IL 60069
Tel: +1 847 955 8200
Toll free: +1 800 538 0363
Fax: +1 847 955 8208
detectgas@honeywell.com

Europe, Middle East, and Africa

Life Safety Distribution AG (LSD)
Javastrasse 2
8604 Hegnau
Switzerland
Tel: +41 (0)44 943 4300
Fax: +41 (0)44 943 4398
gasdetection@honeywell.com

Asia Pacific, India

Honeywell Analytics Asia Pacific, Co., Ltd.
7F SangAm IT Tower
434 Worldcup Buk-ro, Mapo-gu
Seoul 03922
South Korea
Tel: +82 (0)2 6909 0300
Fax: +82 (0)2 2025 0388
India Tel: +91 124 4752700
analytics.ap@honeywell.com

Mainland China

Honeywell Industrial Safety Gas Detectors
Building#1, 555 Huanke Road Zhang Jiang
Hi-Tech Park Pudong New Area Shanghai
201203, China
Tel: 021-80386800
Fax: 021-60246070
gaschina@honeywell.com

Taiwan

Honeywell Taiwan Ltd
6F-2, No.8, ZiQiang S. Road, Jubei City,
30264 Taiwan
Tel: +886-3-5169284
Fax: +886-3-5169339
analytics.tw@honeywell.com

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



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