MIDAS®-M AMMONIA (NH_3)

Smart Sensor Specifications

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

GAS MEASURED	AMMONIA (NH_3)
Cartridge Part Number	MMS-A2
Sensor Technology	3 electrode electrochemical cell
Measuring Range	NH_3 0 ppm to 100 ppm
Default Alarm 1	12.5 ppm (rising)
Default Alarm 2	25 ppm (rising)
Accuracy	<±5% of measured value Exposure to NH_3 50 ppm for 5 minutes
Response Time ($t_{62.5}$)	Typical 15 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	 <±0.1 ppm/°C <±0.6% of measured value/°C
Operating Humidity (continuous)	15% RH to 90% RH
Effect of Humidity Zero Sensitivity	 <±0.02 ppm/% RH <±0.1% 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 <5% of measured value/6 months
Calibration Gas	Ammonia (25 ppm to 75 ppm, default 50 ppm)
Challenge Gas (Bump Test)	Ammonia (50 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 NH_3 sensor should not be used with HCl, Cl_2 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:

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 NH_3)
Arsine	AsH_3	0.2	0.07
Carbon Dioxide	CO_2	5000	0
Carbon Monoxide	CO	100	0
Chlorine	Cl_2	1	0
Ethanol	C_2H_5OH	1000	0
Hydrogen	H_2	10000	0
Hydrogen Chloride	HCl	10	-4
Hydrogen Sulphide	H_2S	20	2
Iso Propanol	C_3H_7OH	1000	0
Methanol	CH_3OH	1000	0
Nitrogen Dioxide	NO_2	10	-0.5
Phosphine	PH_3	300	0
Sulphur Dioxide	SO_2	20	-40

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

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