Honeywell

Midas® Sensor Cartridge Specifications



Flammable Group (Hydrogen, Methane)
MIDAS-E-LEL, MIDAS-E-LEL

Gas Measured	Hydrogen (H_2)
Cartridge Part Number	MIDAS-S-LEL 1 MIDAS-E-LEL 2
Sensor Technology	Pellistor (catalytic bead)
Measuring Range	H_2 0 – 100%LEL
Minimum Alarm 1 Set Point	4.5%LEL
Lower Detection Limit	3%LEL
Linearity	< ± 10% of measured value
Repeatability	< ± 10% of measured value
Resolution	1%LEL
Response Time $t_{62.5}$	≤ 5 seconds
Sensor Cartridge Life Expectancy	≥ 60 months under typical application conditions
Operating Temperature	0°C to +40°C (32°F to 104°F)
Effect of Temperature	
Zero	< ± 1% fsd
Sensitivity	< ± 3% fsd
Operating Humidity	10 to 90% RH
Effect of Humidity	
Zero	< ± 1% fsd
Sensitivity	< ± 2% fsd
Operating Pressure	90 – 110kPa
Effect of Position	No effect in typical application
Long Term Drift	
Zero	< 3% fsd / year
Sensitivity	< 3% fsd / year
Calibration Gas	Hydrogen (H_2), Methane (CH_4)
Bump Test Gas	Hydrogen (H_2), Methane (CH_4)
Warm Up Time	< 30 minutes
Storage Temperature	+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.

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® transmitter with the designated identification code for each of the following gas types.

Detectable Gas	Chemical Formula	Measuring Range
Methane	CH_4	0 – 100%LEL
Ethylene	C_2H_4	0 – 100%LEL
Propylene	C_3H_8	0 – 100%LEL
Ethylcyclohexane	C_8H_{16}	0 – 9000ppm

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 (%LEL CH4)
Iso Propanol	C_3H_7OH	10000	37.5
Propane	C_3H_8	10000	20.5
Acetylene	C_2H_2	12000	26.5
Ammonia	NH_3	50	0
Carbon Dioxide	CO_2	10000	0
Carbon Monoxide	CO	100	0
Chlorine	Cl_2	10	0
Hydrogen Chloride	HCl	10	0
Hydrogen Sulfide	H_2S	20	0
Nitric Oxide	NO	50	0
Nitrogen Dioxide	NO_2	10	0
Sulfur Dioxide	SO_2	10	0
Silane	SiH_4	10	0
Phosphine	PH_3	0.6	0
Ozone	O_3	0.2	0
Hydrogen Fluoride	HF	6	0
Ethylene Oxide	C_2H_4O	20	0
Hydrogen Cyanide	HCN	10	0

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.

Find out more
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