

Midas[®] SENSOR CARTRIDGE SPECIFICATIONS

Phosphine (PH₃)

MIDAS-E-PHX



Gas Measured	Phosphines (PH ₃)
Cartridge Part Number	MIDAS-E-PHX 2 year extended warranty
Sensor Technology	3 electrode electrochemical cell
Measuring Range (ppm)	PH ₃ 0 – 1.2ppm
Minimum Alarm 1 Set Point	0.15ppm
Lower Detectable Limit (LDL)	0.11ppm
Repeatability	< ± 5% of measured value
Linearity	< ± 20% of measured value
Response Time t _{92.5}	≤5 seconds
Sensor Cartridge Life Expectancy	≥24 months under typical application conditions
Operating Temperature	0°C to + 40°C (32°C to 104°F)
Effect of Temperature Zero	< ± 0.02 ppm (0°C to 40°C)
Operating Humidity (continuous)	10 – 90% rH
Effect of Humidity Zero Sensitivity	< ± 0.0005 ppm / %rH < ± 0.1 % of measured value / %rH
Operating Pressure	90 – 110kPa
Effect of Position	No effect in typical application
Long Term Drift	< ± 5% of measured value / 6 month
Calibration Gas	Phosphine (PH ₃)
Challenge Gas (Bump Test)	Phosphine (PH ₃)
Warm Up Time	< 20 minutes
Storage Temperature	+5°C to +25°C (+41°F to +77°F)

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 / Vapor	Chemical Formula	Concentration Applied (ppm)	Reading (ppm PH ₃)
Ammonia	NH ₃	108	<0.1
Arsine	AsH ₃	0.15	0.12
Carbon Dioxide	CO ₂	5000	0
Carbon Monoxide	CO	85	0
Chlorine	Cl ₂	0.85	<-0.05
Diborane	B ₂ H ₆	0.2	0.01
Hydrocarbons	CH ₄	18000	0.0
Hydrogen	H ₂	3100	<0.05
Hydrogen Chloride	HCl	7.9	0
Hydrogen Cyanide	HCN	12.6	0.3
Hydrogen Fluoride	HF	7.2	0
Hydrogen Selenide	SeH ₂	0.85	0
Hydrogen Sulfide	H ₂ S	18.2	0
Nitrogen Dioxide	NO ₂	10.1	-1.6
Propan-2-ol	C ₃ H ₇ OH	20000	<0.05
Silane	SiH ₄	3.5	0.4
Sulfur Dioxide	SO ₂	17.8	0

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

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