# Midas® SENSOR CARTRIDGE SPECIFICATIONS

## Hydrogen Cyanide (HCN)
## MIDAS-S-HCN, MIDAS-E-HCN

| Gas Measured | Hydrogen Cyanide (HCN) |
|---|---|
| Cartridge Part Number | MIDAS-S-HCN 1 year standard warranty<br>MIDAS-E-HCN 2 year extended warranty |
| Sensor Technology | 3 electrode electrochemical cell |
| Measuring Range (ppm) | HCN 0 – 20ppm |
| Minimum Alarm 1 Set Point | 2.4ppm |
| Repeatability | < ± 2% of measured value |
| Linearity | < ± 4% of measured value |
| Response Time $t_{62.5}$ | < 15 seconds |
| Sensor Cartridge Life Expectancy | ≥ 24 months under typical application conditions |
| Operating Temperature<br>Effect of Temperature<br>  Zero<br>  Sensitivity | 0°C to +40°C (32°F to 104°F)<br>< ± 0.008ppm / °C (0°C to 20°C)<br>< ± 0.03ppm / °C (20°C to 40°C)<br>< ± 2.5% of measured value / °C |
| Operating Humidity (continuous)<br>Effect of Humidity<br>  Zero<br>  Sensitivity | 15 – 90% rH<br><br>TBA<br>< ± 1% of measured value / % rH |
| Operating Pressure | 90 – 110kPa |
| Effect of Position | No effect in typical application |
| Long Term Drift<br>  Zero<br>  Sensitivity | <br>No effect<br>< ± 2% of measured value / month |
| Calibration Gas | Hydrogen Cyanide (HCN) |
| Challenge Gas (Bump Test) | Sulphur Dioxide (SO₂) |
| Warm Up Time | < 10 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

## 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 HCN) |
|---|---|---|---|
| Carbon Monoxide | $CO$ | 300 | < 15 |
| Hydrogen Sulphide | $H_2S$ | 15 | 90 |
| Ethylene | $C_2H_4$ | 100 | < 25 |
| Nitrogen Dioxide | $NO_2$ | 5 | -20 to <-10 |
| Nitric Oxide | $NO$ | 35 | -17.5 to 0 |
| Sulphur Dioxide | $SO_2$ | 20 | 40 to 75 |

calibrate with cross sensitivity factors. The target gas should be used for calibration.