

## Midas<sup>®</sup> SENSOR CARTRIDGE SPECIFICATIONS

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



| Gas Measured                               | Hydrogen Cyanide (HCN)                                                                                                       |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| <b>Cartridge Part Number</b>               | MIDAS-S-HCN 1 year standard warranty<br>MIDAS-E-HCN 2 year extended warranty                                                 |
| <b>Sensor Technology</b>                   | 3 electrode electrochemical cell                                                                                             |
| <b>Measuring Range (ppm)</b>               | HCN 0 – 20ppm                                                                                                                |
| <b>Minimum Alarm 1 Set Point</b>           | 2.4ppm                                                                                                                       |
| <b>Lower Detectable Limit (LDL)</b>        | 1.8ppm                                                                                                                       |
| <b>Repeatability</b>                       | < ± 2% of measured value                                                                                                     |
| <b>Linearity</b>                           | < ± 4% of measured value                                                                                                     |
| <b>Response Time <math>t_{92.5}</math></b> | < 15 seconds                                                                                                                 |
| <b>Sensor Cartridge Life Expectancy</b>    | ≥ 24 months under typical application conditions                                                                             |
| <b>Operating Temperature</b>               | 0°C to +40°C (32°F to 104°F)                                                                                                 |
| <b>Effect of Temperature</b>               | < ± 0.008ppm / °C (0°C to 20°C)<br>Zero<br>< ± 0.03ppm / °C (20°C to 40°C)<br>Sensitivity<br>< ± 2.5% of measured value / °C |
| <b>Operating Humidity (continuous)</b>     | 15 – 90% rH                                                                                                                  |
| <b>Effect of Humidity</b>                  | Zero<br>TBA<br>Sensitivity<br>< ± 1% of measured value / % rH                                                                |
| <b>Operating Pressure</b>                  | 90 – 110kPa                                                                                                                  |
| <b>Effect of Position</b>                  | No effect in typical application                                                                                             |
| <b>Long Term Drift</b>                     | Zero<br>No effect<br>Sensitivity<br>< ± 2% of measured value / month                                                         |
| <b>Calibration Gas</b>                     | Hydrogen Cyanide (HCN)                                                                                                       |
| <b>Challenge Gas (Bump Test)</b>           | Sulphur Dioxide (SO <sub>2</sub> )                                                                                           |
| <b>Warm Up Time</b>                        | < 10 minutes                                                                                                                 |
| <b>Storage Temperature</b>                 | +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<sup>®</sup> 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 <sub>2</sub> S              | 15                          | 90                |
| Ethylene          | C <sub>2</sub> H <sub>4</sub> | 100                         | < 25              |
| Nitrogen Dioxide  | NO <sub>2</sub>               | 5                           | -20 to <-10       |
| Nitric Oxide      | NO                            | 35                          | -17.5 to 0        |
| Sulphur Dioxide   | SO <sub>2</sub>               | 20                          | 40 to 75          |

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

[www.honeywellanalytics.com](http://www.honeywellanalytics.com)

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