

Product: XgardIQ Sensor Module

Subject: Technical Specification

Document reference: M070081

Issue 1 May 2017



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| Product: | XgardIQ |
| Sensor Module Part Number: | XIQ-AP (0-1ppm) |
| Gas Type: | Ozone (O₃) |
| Sensor Technology: | Electrochemical |

Environmental Specification:

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|---------------------------------------|---|
| Temperature Range: | -20°C to +40°C |
| Humidity Range for Operation/Storage: | 15 to 90%rh non-condensing. |
| Recommended Storage Temperature | 20°C |
| Warranty Period: | 12 months if operated within stated environmental limits and not exposed to excessive gas concentrations or contaminants (see Product Notes). |
| Pressure Range: | Atmospheric +/-10% |

Performance Characteristics:

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|------------------------------|---|
| Expected Operating Life: | >18 months in air if operated within stated environmental limits and not exposed to excessive gas concentrations or contaminants (see Product Notes). |
| Storage Life: | 3 months from date of manufacture. |
| T90 Response Time: | <60 seconds (calculated from 3 min. exposure time at flow rate of 0.5 litres/min) |
| Minimum Display Resolution: | 0.01ppm |
| Linearity | <10% of full-scale |
| Long Term Sensitivity Drift: | <10% per 6 months |

Configuration:

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| XgardIQ Display Name: | O3 |
| Range: | 0-1 ppm |
| Maximum User-Selectable Range: | 0-1 ppm |
| Minimum Recommended User-Selectable Range: | 0-1 ppm |
| Alarm 1 Threshold | 0.1 ppm |
| Alarm 2 Threshold | 0.2 ppm |
| Stabilisation Time | 60 seconds |

Product Notes and Calibration Instructions:

Crowcon recommends ozone sensors are initially calibrated on commissioning and re-calibrated every 6 months minimum.

Please refer to the XgardIQ installation, operating and maintenance instructions for information on performing sensor zero and calibration.

Crowcon recommends that calibration is only performed using an ozone generator with non-absorbing tubing, e.g. PTFE. The gas concentration generated should be at least half of full scale, i.e. greater than 0.5ppm. The flow-rate from the ozone generator should be in the range 0.3 to 0.5 litres per minute. The sensor must be zeroed in clean air before calibration is performed. To perform an accurate calibration, run the ozone generator (with tubing connected) for 20 minutes to get constant output, then apply the ozone to the sensor for 3 minutes before calibrating.

Additional note: If the detector is expected to operate at a very low temperature (i.e. close to -20°C), calibration at this temperature is recommended.

Cross-Sensitivity Data:

| Gas | Concentration Used | Reading |
|-------------------|--------------------|--------------------|
| Bromine, Iodine | | Yes; n/d |
| Carbon Dioxide | 5000 ppm | 0 |
| Carbon Monoxide | 100 ppm | 0 |
| Chlorine | 1 ppm | 1.2 |
| Chlorine Dioxide | 1 ppm | 1.5 |
| Hydrazine | 3 ppm | -3 |
| Hydrogen | 3000 ppm | 0 |
| Hydrogen Sulphide | 20 ppm | -1.6 ¹⁾ |
| Nitrogen | 100% | 0 |
| Nitrogen Dioxide | 10 ppm | 6 |

1) Continuous exposure at ppm level over more than 30 mins might blind the sensor.

Disclaimer:

The data contained on this document is provided for guidance purposes only and is correct at the time of issue. Performance data is typical as measured at Crowcon; no guarantees can be made on the performance of individual products. Environmental specifications are specific to the sensor listed, and may differ from those shown on the gas detector datasheet.