

**Product: XgardIQ Sensor Module**

**Subject: Technical Specification**

Document reference: M070080

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<b>Product:</b>	<b>XgardIQ</b>
<b>Sensor Module Part Number:</b>	<b>XIQ-ME (0-14ppm)</b>
<b>Gas Type:</b>	<b>Mercaptan (CH<sub>3</sub>SH)</b> also known as methanethiol and methyl mercaptan
<b>Sensor Technology:</b>	Electrochemical

**Environmental Specification:**

Temperature Range:	-10°C to +40°C
Humidity Range for Operation/Storage:	10 to 95%rh non-condensing.
Recommended Storage Temperature	20°C
Warranty Period:	6 months from sale, if operated within stated environmental limits and not exposed to excessive gas concentrations or contaminants (see Product Notes).
Pressure Range:	Atmospheric +/-10%

**Performance Characteristics:**

Expected Sensor Life:	>12 months in air if operated within stated environmental limits and not exposed to excessive gas concentrations or contaminants (see Product Notes).
Storage Life:	Included in sensor life above.
T90 Response Time:	<110 secs calculated from 4 min. exposure time
Minimum Display Resolution:	0.1ppm
Linearity	<5% of full-scale
Long Term Sensitivity Drift:	<10% per 10 months

**Configuration:**

XgardIQ Display Name:	Mercaptan
Range:	0-14ppm
Maximum User-Selectable Range:	0-14ppm
Minimum Recommended User-Selectable Range:	0-5ppm
Alarm 1 Threshold	5ppm
Alarm 2 Threshold	10ppm
Stabilisation Time	60 seconds

## Product Notes and Calibration Instructions:

Crowcon recommends mercaptan 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 calibration is performed using 14ppm mercaptan (CH<sub>3</sub>SH) in air at a flow-rate of 0.5 - 1 litre per minute. The sensor must be zeroed in clean air before calibration is performed.

**Note:** The sensor is not suitable for use with a dust filter.

## Cross-Sensitivity Data:

Gas	Concentration Used	Reading (mg/m <sup>3</sup> )
Alcohols	1000ppm	0
Carbon Dioxide	1000ppm	0
Carbon Monoxide	290ppm	0
Hydrocarbons	% range	0
Hydrogen	1%	0
Hydrogen Sulphide	20ppm	0 <sup>1</sup>
Isopropanol	200ppm	0
Methane	100%	0
Nitrogen	100%	0
Nitrogen Dioxide	10ppm	-80
Sulphur Dioxide	20ppm	0 <sup>1</sup>

Notes:

1. Due to inboard filter, continuous high level exposure may reduce the efficiency of the filter material.

## Safety Information:

XgardIQ sensor modules are designed to detect gases or vapours in air, and not inert or oxygen deficient atmospheres.

Maintenance and calibration operations must be performed by qualified service personnel.

Electrochemical cells used in toxic and oxygen sensor modules contain small volumes of corrosive electrolyte. Care should be observed when replacing or disposing of cells to ensure that the electrolyte does not come into contact with skin or eyes.

## 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.