

VESDA by Xtralis

VESDA Sensepoint XCL – Large Bore Alarm Level Setting

Application Note

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VESDA[®]

Preface

This Application Note outlines the technique to set VESDA Sensepoint XCL – Large Bore gas detectors alarm levels.

Related Products

VESDA Sensepoint XCL – Large Bore gas detector.

Introduction

The VESDA Sensepoint XCL – Large Bore gas detector provides multiple hole (multi-point) gas sampling. Setting the appropriate detector alarm level will depend on the following parameters:

- Target gas concentration in the environment – as per regulatory guidelines and risk assessment
- Number of sample holes upstream the gas detector
- The flow contribution for each upstream sample holes – derived by ASPIRE
- Expected gas entry holes
- The detector Lower Alarm Level (LAL)

Determination of Alarm Level – Procedure

1. Ascertain gas concentration in environments required to trigger alarm
2. Determine number of sample holes upstream VESDA Sensepoint XCL – ASPIRE
3. Record flowrate (L/min) through each upstream sample hole – ASPIRE
4. Calculate total pipe flow at VESDA Sensepoint XCL
5. Calculate flow contribution for each upstream sample hole
6. Calculate gas concentration in pipe (for single hole gas entry)
7. Adjust gas concentration downwards (conservative) based on detector accuracy (Table 1)
8. Determine VESDA Sensepoint XCL alarm level based on single or multi hole gas entry
9. Confirm VESDA Sensepoint XCL alarm level is above LAL (Table 1) – if not:
 - Balance sample holes’ flow
 - Reduce number of sample holes
 - Consider additional detector in parallel arrangement

Example:

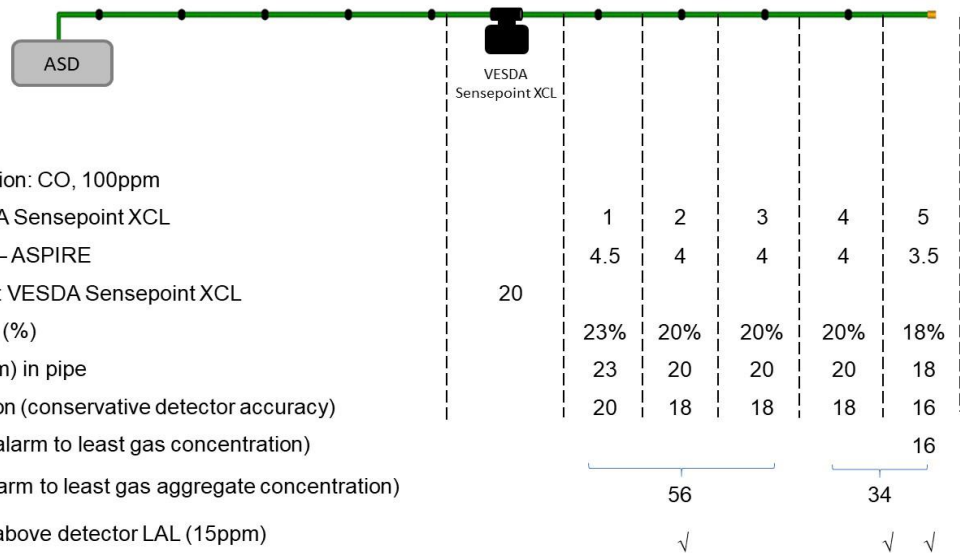


Table 1 – VESDA Sensepoint XCL Parameters.

Gas Version	Accuracy (ppm or % of applied gas which is the greater)	Lower Alarm Level
Carbon Monoxide (ppm)	< ± 2 ppm or $\pm 10\%$	15ppm
Combustible CAT (% LEL)	< $\pm 3\%$ LEL or $\pm 10\%$	10% LEL
Hydrogen (ppm)	< ± 15 ppm or $\pm 20\%$	100ppm
Carbon Dioxide (% v/v)	< $\pm 0.2\%$ v/v or $\pm 20\%$	0.2% v/v
Carbon Dioxide (ppm)	< ± 30 ppm or $\pm 20\%$	500ppm
Hydrogen Sulphide (ppm)	< ± 0.3 ppm or $\pm 10\%$	1ppm
Nitrogen Dioxide (ppm)	< ± 0.2 ppm or $\pm 20\%$	0.6ppm
Ammonia (ppm)	< ± 4 ppm $\pm 20\%$	20ppm
Oxygen (% v/v)	< $\pm 0.5\%$ v/v	5.0% v/v

Further Support

Contact an Xtralis office or distributor for further information

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