The VESDA VLI by Xtralis is an industry first early warning aspirating smoke detection (ASD) system, designed to protect industrial applications and harsh environments of up to 2000 m² (21,520 sq. ft.).

**Long life, intelligent, fail-safe technology**

The VLI detector combines a fail-safe Intelligent Filter (patent pending) with an advanced clean-air barrier for optics protection allowing the use of absolute detection and a long detection chamber life without the need for recalibration.

The Intelligent Filter:

- reduces the level of pollution in the air sample before it enters the detection chamber, which dramatically extends the operational life of the detector in harsh and polluted environments.
- is fully monitored, providing consistent sensitivity over the entire operational life of the detector.

**Installation, Commissioning and Operation**

The VLI detector features a robust IP66-rated enclosure which provides complete protection against dust ingress and strong water jets from all directions. In the majority of industrial applications, specifically in very harsh environments, this eliminates the need to use expensive external IP enclosures, thus simplifying and reducing the cost of installation.

The VLI detector is equipped with a powerful aspirator that provides a total pipe length of 360 m (1181 ft). It is fully supported by the Xtralis ASPIRE, VSC and VSM4 software applications which facilitate ease of pipe network design, system commissioning and maintenance together with compatibility with existing VESDA installations.

The AutoLearn™ commissioning assistant reduces setup time and ensures optimum alarm and flow thresholds in a range of environments.

The VLI detector is inherently less prone to nuisance alarms due to the intelligent filter, lint trap, sub-sampling probe and secondary filter. Coupled with its modular design, VLI offers a lower total cost of ownership over the life of the product.

**Features**

- Suitable for Class 1 Division 2 applications - Groups A,B,C & D
- Up to 2000 m² (21,520 sq. ft.) coverage
- Up to 4 inlet pipes
- Total pipe length up to 360 m (1181 ft)
- Five (5) high intensity status LEDs for greater visibility
- Robust absolute smoke detection
- Intelligent Filter (patent pending)
- Lint Trap to capture fibrous particulates
- Sub-sampling Probe (inertial separator)
- Secondary Filter
- Clean air barrier for optics protection
- Referencing
- AutoLearn™ Smoke and Flow
- Clean Air Zero™
- Air-path monitoring
- Five (5) relays (Fire, Fault and 3 configurable)
- Relays configurable as latching or non-latching
- Expandable GPI and relays
- Ultrasonic flow sensing
- Xtralis VSC, Xtralis VSM4 and ASPIRE software support
- IP66 Enclosure
- Easy mounting with steel support bracket
- Modular field replaceable parts for ease of servicing
- Local USB configuration port
- Easy cable termination access
- Imperial and metric pipe ports
- Rubberized finish to external housing

**Listings / Approvals**

- UL
- ULC
- FM
- ActivFire
- CE
- LPCB
- NF
- SIL 2 as per IEC 61508
- EN 54-20
  - Class A (24 holes / Alert = 0.06% obs/m)
  - Class B (28 holes / Fire-1 = 0.15% obs/m)
  - Class C (60 holes / Fire-1 = 0.15% obs/m)

Classification of any configuration is determined using ASPIRE.

Regional approvals listings and regulatory compliance vary between VESDA product models. Refer to www.xtralis.com for the latest product approvals matrix.
How it works

Air is continually drawn through the pipe network and into the VLI detector by a high efficiency aspirator. The air sample passes four (4) sets of ultrasonic flow sensors before being passed through the Intelligent Filter. The Intelligent Filter incorporates an innovative flow splitting arrangement where a smaller unfiltered portion is passed through another set of ultrasonic flow sensors and a larger portion of the sample passes through a HEPA filtration medium. This arrangement dramatically reduces the amount of contaminants entering the aspirator and the detection chamber, thus extending detector life.

Filter loading is constantly monitored which enables the detector to "intelligently" maintain the sensitivity, hence ensuring consistent and reliable operation over time. This is achieved by comparing the readings from the four (4) sets of ultrasonic flow sensors at the detector air inlets to the readings from that in the unfiltered path and measuring the split of the airflow ratio as the filter load changes.

The filtered and unfiltered portions are recomposed as they exit the Intelligent Filter. A portion of the recomposed air sample is then passed through the sub-sampling probe (inertial separator) and secondary filter. This ensures that larger dust particles are less likely to pass through the probe and filter arrangement, hence they are exhausted out of the detector. This configuration minimizes nuisance alarms caused by larger dust particles and extends detection chamber life. A third filter within the detection chamber assembly delivers a clean air barrier which protect the optical surfaces from contamination, further extending detector life and ensuring absolute calibration.

The detection chamber uses a stable, highly efficient laser light source and unique sensor configuration to achieve optimum response to a wide range of smoke types. The presence of smoke in the detection chamber creates light scattering which is detected by the very sensitive sensor circuitry and then converted to an alarm signal.

The status of the detector, all alarms, service and fault events, are monitored and logged with time and date stamps. Status reporting can be transmitted via relay outputs and across VESDAnet (VN version only).

Clean Air Zero

Clean Air Zero is a user-initiated VLI feature which compliments consistent absolute detection over time and also safeguards against nuisance alarms. This is achieved by introducing clean air into the detection chamber and taking a reference reading of the chamber background. This reading is then offset against the actual environmental background to maintain consistent absolute smoke detection.

Ordering Information

<table>
<thead>
<tr>
<th>VESDA VLI</th>
<th>VLI-880</th>
</tr>
</thead>
<tbody>
<tr>
<td>VESDA VLI with VESDAnet®</td>
<td>VLI-885</td>
</tr>
<tr>
<td>VESDA VLI Remote Display 7 Relays</td>
<td>VRT-Q00</td>
</tr>
<tr>
<td>VESDA VLI Remote Display No Relays</td>
<td>VRT-T00</td>
</tr>
</tbody>
</table>

Spare Parts

| VLI Intelligent Filter | VSP-030 |
| VLI Secondary Foam Filter | VSP-031 |
| VLI Aspirator | VSP-032 |
| VLI Chamber Assembly | VSP-033 |
| VLI VESDAnet Card | VSP-034 |
| VLI Remote Display Module Spare | VSP-035 |
| VLI Ultrasonic Flow Manifold Spare | VSP-036 |

Notes:

1. Please contact your nearest Xtralis office for availability.

www.xtralis.com
UK and Europe +44 1442 242 330  D-A-CH +49 431 23284 1  The Americas +1 781 740 2223
Middle East +962 6 588 5622  Asia +86 21 5240 0077  Australia and New Zealand +61 3 9936 7000

The contents of this document are provided on an “as is” basis. No representation or warranty (either express or implied) is made as to the completeness, accuracy or reliability of the contents of this document. The manufacturer reserves the right to change designs or specifications without obligation or notice. Furthermore, any printed or typed errors or omissions, including without limitation any implied warranties of merchantability and fitness for a particular purpose are expressly excluded.

Xtralis, the Xtralis logo, The Sooner You Know, VESDA-E, VESDA, ICAM, Eco, S3, HeiTel, ADPRO, IntrusionTrace, LoiterTrace, ClientTrace, SmokeTrace, XOA, XCR, (Trace), Command, Response, Commission, IP, and FMSS are trademarks and/or registered trademarks of Xtralis and/or its subsidiaries in the United States and/or other countries. Other brand names mentioned herein are for identification purposes only and may be trademarks of their respective holder(s). Your use of this document does not constitute or create a licence or any other right to use the name and/or trademark end or label.

This document is subject to copyright owned by Xtralis. You agree not to copy, communicate to the public, adapt, distribute, transfer, sell, modify or publish any contents of this document without the express prior written consent of Xtralis.

Doc. no. 17115_19 Part: 294/14