

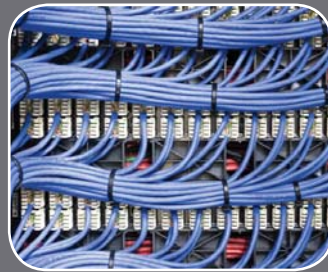
# VESDA® ™

## The Next Generation of VESDA Aspirating Smoke Detection Technology



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The sooner you know®

[www.xtralis.com/vesda-e](http://www.xtralis.com/vesda-e)



## VESDA-E Aspirating Smoke Detection (ASD)

### VESDA-E — The next generation of VESDA aspirating smoke detectors

Since pioneering Aspirating Smoke Detection (ASD) technology nearly 30 years ago, VESDA has been recognized as the best in the world, protecting personnel, irreplaceable assets and mission critical infrastructure in the world's most iconic locations.

**VESDA-E is the next-generation of VESDA, featuring multiple innovative capabilities that dramatically improve the VESDA experience:**

- VESDA Smoke+, offers increased sensitivity – up to 15 times greater than VESDA VLP, improved dust rejection, double the longevity while maintaining sensitivity over its lifetime, up to 8% less power consumption per unit area.
- VESDA Flex, future proof expandability and programming for maximum flexibility using, StaX Hardware expansion modules that easily bolt onto the VESDA-E detector to add additional capabilities, and Xtralis Software Analytics applications (Xapps) that can be purchased, downloaded, configured & managed remotely over the internet.
- VESDA Analytics, allows for additional unique capabilities that enable the system to provide targeted detection and response, Analytics currently available includes DieselTrace™, WireTrace™ and DustTrace™.
- VESDA Verify, provides situational awareness to improve response time, efficiency and effectiveness by providing up to 120 pinpoint addressability and seamless integration with ADPRO SmokeTrace™.
- VESDA Connect, allows for flexible networking and programming options that reduce maintenance and monitoring costs by up to 50% through extensive connectivity options and remote diagnostics tools including Ethernet, Wi-Fi, USB, VESDAnet & Relays.
- VESDA TCO, reduces the Total Cost of Ownership (TCO) through Capex value, Opex savings, Plug'n'Play installation, design-less pipe networks, vast monitoring options and backwards compatibility. With VESDA-E you can reduce TCO by up to 15%!

**VESDA-E is the most advanced, reliable, and flexible ASD system ever produced.**

### How it works

Air is continually drawn from the protected area through the air sampling pipe network and into the detector by a high efficiency aspirator. The air sampling pipe network can contain up to four pipes.

The air from each sampling pipe passes through an airflow sensor and then a sample of the air is drawn into the smoke detection chamber via the sampling module, after first passing through the filter.

An additional filter provides clean air to protect the optical surfaces inside the detection chamber from contamination.

The Flair™ detection chamber uses the equivalent of 330,000 sensors and sophisticated algorithms for smoke detection and particle classification. If the detected smoke is higher than the set alarm thresholds it is reported as an Alert, Action, Fire1 or Fire2 alarm condition. Air is exhausted from the detector and may be vented back into the protected zone. Alarms can be signaled via Relays and VESDAnet. Ethernet and WiFi can be used for configuration and secondary monitoring, and a USB interface is provided for initial setup. A series of LEDs display Alarm, Trouble, Disable and detector power on status. A button allows the user to Reset or Disable the detector. In addition, an optional 3.5" LCD displays shows the detector status, including smoke level and a smoke level bar graph, alarm thresholds, trouble status, % airflow level, normalization status and filter life used.





## The Six Reasons for **VESDA-E**

### 1 **VESDA Smoke+**

VESDA Smoke+ capitalizes on the patented Flair Detection Technology centered in the chamber of the VESDA-E detector. The Flair Detection Technology offers increased sensitivity – up to 15 times greater than VESDA VLP, improved dust rejection, doubling the system's longevity while maintaining sensitivity over time.

The Smoke+ capability focuses on improving key aspects related to smoke detection including:

#### 1. Detection Performance

- a. Vastly better sensitivity
- b. Faster response time

#### 2. Detection Reliability

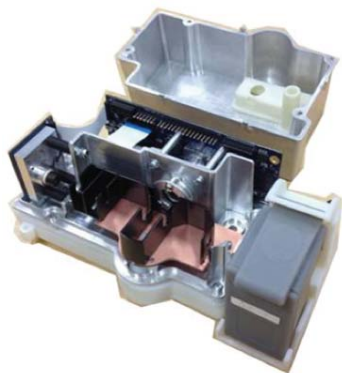
- a. Operating temperature stability
- b. Minimizing nuisance alarms

#### 3. Consistent Performance Over Time

- a. During long term exposure to smoke
- b. During long term exposure to dust

#### 4. Efficiency of Operation

- a. Power Consumption per unit area



### 2 **VESDA Flex**

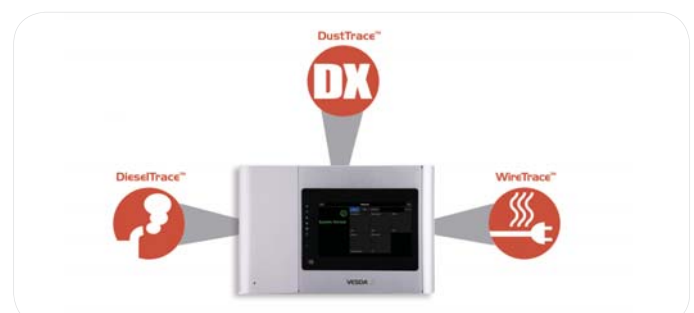
VESDA Flex provides future-proof expandability and programming for maximum flexibility using:

- StaX Hardware expansion modules that easily bolt onto the VESDA-E detector to add additional capabilities
- Xtralis Software Analytics applications (Xapps) that can be purchased, downloaded, configured & managed remotely over the internet



### 3 **VESDA Analytics**

VESDA Analytics further improve the effectiveness of very early warning by providing supplementary probabilistic information for an informed targeted response. Analytics notification is integrated into the VESDA-E VSM4, iVESDA platforms for local response as well as Xtralis ADPRO FastTrace2E, Video Central Platinum and iTrace platforms for remote response. VESDA-E Analytics examples are DieselTrace™, WireTrace™ and DustTrace™.





## 4 VESDA Verify

VESDA Verify uses VESDA-E pinpoint addressability and seamless integration with ADPRO SmokeTrace to provide unprecedented situational awareness that drastically reduces verification time and delivers more efficient and effective response while significantly reducing nuisance alarms.



## 5 VESDA Connect

VESDA Connect provides flexible networking and programming capabilities that reduce installation, commissioning, monitoring and maintenance costs through extensive connectivity options and remote diagnostics tools including Ethernet, WiFi, USB, VESDAnet and Relays.



## 6 VESDA TCO

VESDA TCO provides a lifetime of value, reliability and protection.

VESDA-E improves CapEx value through higher sensitivity and longer pipe runs resulting in greater coverage area. It also reduces OpEx costs due to accessible maintenance, field replaceable components and the Auto pipe cleaning StaX. Plug and play features improve the installation experience and reduce its cost via:

- Auto commissioning capability
- Hand-held configuration tools
- Configuration upload using only a USB key
- Instant monitoring via Wi-Fi
- Mounting template
- Ample wiring space
- Design-less pipe networks eliminating design for simple networks

VESDA-E can also provide vast monitoring options including:

- VSM 4
- Web Server
- E-mail Alerts
- Remotes
- VESDA
- iTrace
- VCP

For current VESDA users, VESDA-E offers full backward compatibility with the VESDA product line – with VESDA-E you can reduce Total Cost of Ownership by up to 15%!





## VESDA-E Product Range

### Detectors

#### VESDA-E VEU

The VESDA-E VEU is the premium detector in the VESDA-E Range. It provides ultra-wide sensitivity range from 0.001% - 20.0% obs/m (0.0003 to 6.25% obs/ft) and up to 80 Class A holes; extending detector coverage by up to 40% in high airflow environments. VEU also provides 400m (1,300ft) and 800m (2,600ft) of linear and branched pipe networks respectively, increasing coverage by up to 80% in high ceiling applications while allowing for convenient detector mounting for ease of access and maintenance. VEU has area coverage of up to 2,000m<sup>2</sup> (21,500ft<sup>2</sup>). VEU standard features include StaX and Analytics support together with Ethernet, WiFi, USB and Webserver capabilities.



VEU-A00

VEU-A10

VEU-A20\*

#### VESDA-E VEA\*

The VESDA-E VEA series of detectors combine VESDA reliability and early warning smoke detection with pinpoint addressability and a variety of annunciation options that truly surpass traditional spot detectors. They use patented multi-channel microbore air-sampling with an alarm sensitivity range from 0.1% to 20% obscuration/m (0.03% to 6.10% obscuration/ft). As a multichannel addressable system, the VEA detector is able to divide a protected space into sampling locations, enabling the localization of a fire for faster incident response. VEA is suitable for the protection of areas where pinpoint location of fire events is essential, thus providing ideal fire detection solutions for offices, hospitals, schools, prisons, multi-story dwellings, cabinets in data centres and warehouse racks. A wide range of features provide flexibility, field programmability, enhanced connectivity and reduced total cost of ownership



VEA-L40-A00



VEA-L40-A10

### StaX\*

#### ECO Gas Detection

ECO StaX provides integrated gas detection using the same ASD pipe network which is also used for smoke detection.

The ECO StaX contains four standard ECO detectors with the necessary manifolds to hold them in place. Up to three ECO StaX can be used with one 4-pipe VESDA-E detector.

The wiring terminal blocks are external to the ECO detectors providing easy field wiring. The ECO StaX is powered by an external 24V power supply and current consumption can be found in VESDA ECO literature.



#### Automated Pipe Cleaning

The Automated Pipe Cleaning StaX improves performance and minimizes maintenance costs in dusty environments. During pipe cleaning, it forces an air pressure wave to travel out along the pipe network. This changes the pressure within the pipe to be above atmospheric pressure so that air flows out of the pipe carrying built-up dust and lint with it.



#### Power Supply Unit (PSU)

The PSU StaX is an integrated power supply providing operating power including battery backup for VESDA-E detectors. It provides 24 volt operating power as well as a battery charger function that supervises and maintains the standby batteries.



\*Please contact your local regional office for availability.



## Analytics



### DieselTrace<sup>™</sup> Analytics

DieselTrace<sup>™</sup> provides targeted detection of diesel engine exhaust particles that are abnormally present.

Detection of such particles allows for actionable response to prevent contamination in **food storage facilities** or **clean manufacturing facilities** when diesel particles are detected. It also can be used to activate ventilation in **loading bays, warehouses, parking garages, bus depots** and **road tunnels** when diesel particle threshold is exceeded.



### WireTrace<sup>™</sup> Analytics

WireTrace<sup>™</sup> provides targeted detection of particles from slowly overheating PVC insulated wires.

Detection of such particles directs investigation to primary source (i.e. electrical wires and/or cables) resulting in a faster response for asset protection and business continuity. It also can be used to monitor high density cable areas as **cable trays, electrical ducts** and **cable tunnels**.



### DustTrace<sup>™</sup> Analytics

DustTrace<sup>™</sup> provides targeted detection of dust which is present in the sampled air.

Detection of dust would trigger actionable response to prevent contamination in **food manufacturing** and **storage facilities**. It also can be used to activate or shutdown fresh air make-up to save energy and prevent contamination in **telco and data center** facilities

## Connectivity

### VESDA Ethernet

Enables connectivity with Xtralis VSC, VSM4, Xtralis EMS as well as providing an embedded webserver and E-mail alerts.



### VESDA Wi-Fi

Enables connectivity with hand-held iOS and Android devices for unprecedented ease of configuration, maintenance and monitoring.



### VESDA USB

The USB port allows direct connection to a PC for configuration and maintenance. Being host-mode, it also allows firmware upgrade, upload of configuration and extracting event logs using a USB key only.

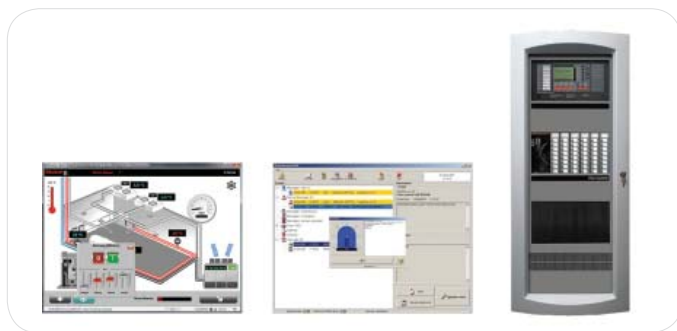




## VESDAnet & Relays

Connect up to 200 VESDA-E devices on a single loop. Each VESDA-E contains up to 7 relays.

- VESDAnet provides primary reporting, centralized configuration, control, maintenance and monitoring
- Relays allow connection to fire panels, Building management systems (BMS), and security systems



## ASPIRE-E

A Windows<sup>®</sup>-based application that aids the specification and design of pipe networks for VESDA-E air sampling smoke detectors. It provides the designer with tools to speed the design process and ensure optimum network performance and installation quality. ASPIRE-E also makes implementation of the design easy. With automatic generation of lists of all the components required for the project and an Installation Data Pack, the installer will have all the information they need at their fingertips.



## VESDA-E Software

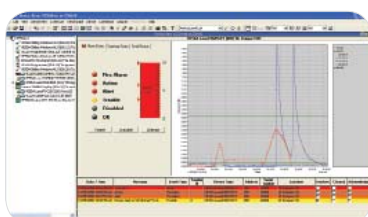
### VSM

A software package that allows the user to monitor, configure and control a VESDA system from a central location via a VESDAnet communication loop or directly to VESDA detectors.



### VSC

A software package that can be used to configure, install, commission and maintain the entire range of VESDA ASDs. The software provides high-level programming flexibility through its on-line and off-line configuration capabilities.



## iVESDA

iVESDA is a downloadable application that can be installed on Android and iOS handheld devices to monitor and maintain VESDA-E systems with unprecedented ease. iVESDA is also compatible with existing VESDA detectors residing on the same VESDAnet as VESDA-E. iVESDA provides detailed alarm, fault and other status information such as smoke trends, airflow, filter life, as well as viewing of important configuration parameters such as pipes in use and smoke alarm thresholds.




## VESDA-E Accessories

### VESDA-E Pipe

A key element in the performance of a VESDA ASD system is the network of sampling pipes that actively transports air from a protected area to the detector. Xtralis offers an extensive range of pipe and fittings to suit all application needs.



# VESDA-E Product Comparison

Parameter	VESDA-E VEU	VESDA-E VEA
Fire 1 Lowest Threshold	0.001%/m (0.0003%/ft)	0.1%/m (0.03%/ft)
Dynamic Range	0.0002-20%/m (0.00006-6.25%/ft)	0.025-20%/m (0.008-6.25%/ft)
Area Coverage	up to 2,000m <sup>2</sup> (21,500ft <sup>2</sup> )	up to 2,000m <sup>2</sup> (21,500ft <sup>2</sup> )
No. Holes	80 Class A	40 Class B
Number of pipes	Up to 4	Up to 40
Linear Pipe Length	4 x 100m (4 x 328ft)	40 x 100m (40 x 328ft)
Branched Pipe Length	800m (2,600ft)	N/A
Flow Sensing	Ultrasonics	Differential Pressure Transducer
Per Pipe Flow Thresholds	✓	N/A
StaX Support	✓	✓
Analytics		N/A
Addressability	N/A	✓
VESDAnet	✓	✓
iVESDA Support	✓	✓
Relays	7 programmable relays	7 programmable relays
IP Rating	IP 40	IP 40
Fully Field Replaceable Components	✓	✓
WiFi, Ethernet, USB	✓	✓

## About Xtralis

Xtralis® is the leading global provider of converged solutions for the early detection and remote visual verification of fire, gas and perimeter threats.

Our technologies prevent disasters by giving users time to respond before life, critical infrastructure or business continuity is compromised. We protect high-value and irreplaceable assets belonging to the world's top governments and businesses. Our brands include the VESDA-E – the next generation of aspirating smoke detection technology; VESDA® – the world's No.1 very early warning aspirating smoke detection (ASD) systems; ICAM™ for flexible ASD; ECO™ – Gas detection & environmental monitoring modules for VESDA & ICAM systems; OSID™ – easy to use smoke detection for open areas; ADPRO® –passive infrared sensors, perimeter, multisite, and enterprise security; HeiTel™ – digital video remote monitoring; and, ASIM® – intelligent traffic detection. To learn more, please visit us at [www.xtralis.com](http://www.xtralis.com).

Learn more: [www.xtralis.com/vesda-e](http://www.xtralis.com/vesda-e)

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