VESDA-E

ASPIRATING SMOKE DETECTION TECHNOLOGY

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 ASD technology, featuring multiple innovative capabilities across the new portfolio that delivers a new level of customer experience:

- VESDA Smoke+, offers increased sensitivity – up to 15 times greater than VESDA VLP, at least three times better dust rejection, up to twice the longevity while maintaining consistent sensitivity over time and up to 8% less power consumption per unit area
- VESDA Flex, future proof expandability for maximum flexibility using, StaX Hardware expansion modules that easily bolt onto the VESDA-E detector to add additional capabilities
- VESDA-E VEA introduces pinpoint addressability to deliver situational awareness to improve response time and efficiency for up to 40 locations
- VESDA Connect, provides extensive connectivity options including Ethernet, USB, VESDAnet and relays, to reduce installation, commissioning, monitoring and maintenance costs
- VESDA TCO, reduces the Total Cost of Ownership (TCO) through Capex value, Opex savings, Plug'n'Play installation, design-less pipe and microbore tube networks, vast monitoring options and backwards compatibility. With VESDA-E you can reduce TCO by up to 15% for non-addressable products and up to 60% for the point addressable products

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

LEARN MORE: XTRALIS.COM/VESDA-E

HOW VESDA-E VEU/VEP 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 a flow sensor and then a sample of the air is drawn into the Flair 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 CMOS imaging, multi-directional light scattering and sophisticated algorithms for smoke detection and particle type characterization. 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 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 display 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.

HOW VESDA-E VES WORKS

VES offers Sector (Pipe) Addressability coupled with the latest FLAIR detection technology that delivers consistent performance over time and absolute calibration.

The VES detector draws air from all sectors in use and if the smoke level reaches the Adaptive Scan Threshold, it initiates a Fast Scan of each sector to identify which sector is carrying smoke.

The first sector to reach the Alert Level is designated as the First Alarm Sector (FAS) and this sector is signaled to the User (and can be connected to FACP as pre-alarm). If two or more sectors reach the Alert level then, the sector with the highest smoke concentration is designated as the First Alarm Sector (FAS). Once FAS is identified, the VES continues to monitor all sectors to track fire growth and ultimately report Sector Fire Alarm to the panel

THE SIX REASONS FOR VESDA-E

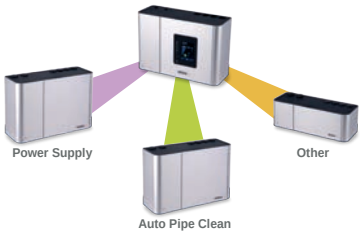
VESDA Smoke+

VESDA Smoke+ capitalizes on the patented Flair Detection Technology centered in the VESDA-E detection chamber used in VEU and VEP. The Flair Detection Technology offers increased sensitivity – up to 15 times greater than VESDA VLP, at least three times better dust rejection, up to twice the longevity while maintaining consistent sensitivity over time.

VESDA Flex

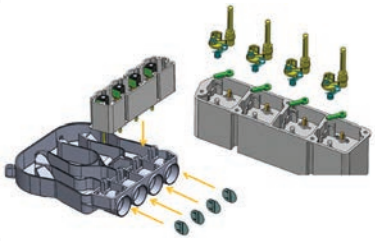
VESDA Flex provides future-proof expandability for maximum flexibility using:

- StaX Hardware expansion modules integrate with the VESDA-E VEU and VEP detectors provide additional capabilities including integrated Power Supply, and Auto Pipe Clean



VESDA Sector Addressability

- Enables a single fire zone to be divided into four separate sectors (areas)
- Allows users to locate the source of smoke more quickly (smaller search area)
- Provides real time detection by Sector to monitor fire growth
- Provides four individually configurable alarm levels (Alert, Action, Fire 1 and Fire 2) for each sector allowing flexible application in different environments
- More cost effective than “4 detector” approach for both installation and maintenance



VESDA Pinpoint Addressability

VESDA-E VEA pinpoint addressability provides situational awareness to improve response time, efficiency and effectiveness for up to 40 locations. VESDA-E VEA provides reliable early warning with minimum nuisance alarms, centralized maintenance with built-in blow back capability, and full system integrity check. Refer to the Xtralis website for full VESDA-E VEA details.

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, USB, VESDAnet and Relays.

VESDA TCO

VESDA-E improves CapEx value through higher sensitivity and longer pipe runs resulting in greater coverage area for VEU, VEP and VES detectors and through flexible microbore tube network for VEA. It also reduces OpEx costs due to accessible and centralized maintenance, field replaceable components and full system integrity monitoring for VEA.

VESDA-E DETECTOR PRODUCT RANGE

VESDA-E VEU

The VESDA-E VEU is the premium detector in the VESDA-E Range. It provides Ultra-wide alarm 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 at least 40% in high airflow environments. VEU also provides 400 m (1,312 ft) and 800 m (2,625 ft) 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 6,500 m^2 (69,965 sq. ft)*. VEU standard features include StaX support together with Ethernet, USB and VESDAnet capabilities.

VEU-A00

VEU-A10

VESDA-E VEA

VESDA-E VEA is the first pinpoint addressable aspirating smoke detector (ASD) for standard addressable detection applications that has a unique centralized test and maintenance function. VEA supports up to 40 sampling point and with end to end tube integrity monitoring ongoing test and maintenance procedures can be conducted at the detector to reduce maintenance time up to 90% while lowering TCO by up to 60%. Centralized test and maintenance is ideal in environments where access to the protected area for ongoing maintenance is restricted or difficult.

VEA-040-A00

VEA-040-A10

VESDA-E VEP

The VESDA-E VEP series of aspirating smoke detectors extend the reach of the VESDA-E platform to a wide range of applications. VEP sensitivity range is from 0.005-20%/m (0.0016-6.25%/ft) and provides up to 40 Class A holes. VEP is equipped with a powerful aspirator that provides a total of 130 m (427 ft) in the one pipe model and 560 m (1,837 ft) in the four pipe model. VEP also provides StaX support together with Ethernet, USB and VESDAnet capabilities.

VEP-A00-P

VEP-A10-P

VEP-A00-1P

VESDA-E VES

The VESDA-E VES is similar to the flagship VESDA-E VEP aspirating smoke detector but also includes a valve mechanism in the inlet manifold and software to control the airflow from the four Sectors (pipes).

This configuration enables a single zone to be divided into four separate sectors, for example, distinguishing between separate aisles within a data room. The VES enables the user to locate the source of smoke by identifying the first sector to reach the Alert level. The detector then continues to sample from all sectors to monitor fire growth and will report separate alarm levels for each sector. The VES provides four individually configurable alarm levels (Alert, Action, Fire 1 and Fire 2) for each sector allowing optimum protection in a wide range of applications.

Built on the Flair detection technology and years of application experience, VES detectors achieve consistent performance over their lifetime via absolute calibration. In addition, the VES delivers a range of revolutionary features that provide user value.

VES-A00-P

VES-A10-P

* System design and regulatory requirements may restrict the monitoring area to a lesser amount

** Please contact your local regional office for availability.

STAX**

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.

CONNECTIVITY

VESDA Ethernet

Enables connectivity with Xtralis VSC and VSM4.

VESDA USB

The USB port allows direct connection to a PC for configuration and maintenance. Being host-mode, it also allows firmware upgrade by inserting a USB key and pushing the relevant button on the detector.

VESDAnet & Relays

Connect up to 200 VESDA-E devices on a single loop.

Each VESDA-E detector provides up to 7 relays.

- VESDAnet provides primary reporting, centralized configuration, control, maintenance and monitoring
- Relays allow connection to Fire Alarm Control Panels (FACP) and Building Management Systems (BMS) and other security systems

VESDA ACCESSORIES

VESDA Pipes and Microbore Tubes

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

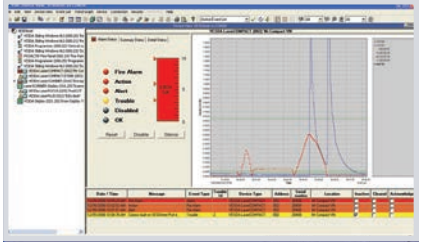
SOFTWARE

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 Ethernet.

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.



ASPIRE

A Windows®-based application that aids the specification and design of pipe networks for VESDA and 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 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.

PRODUCT COMPARISON

Features	VEU	VEP-1	VEP-4	VES	VEA
Worldwide Approvals	CSFM, FM, VdS, NF, CE, UKCA, ActivFire, CCC, EN 54-20	CSFM, FM, VdS, NF, CE, UKCA, ActivFire, CCC, EN 54-20		CSFM, FM, VdS, NF, CE, UKCA, ActivFire, EN 54-20	CSFM, FM, VdS, CE, UKCA, ActivFire, EN 54-20
Hazardous Area Approval FM Class 1, Div 2, Groups A, B, C, D)	No	Yes	Yes	No	N/A
Min Fire 1 Threshold	0.001% obs/m (0.0003% obs/ft)	0.01% obs/m (0.0030% obs/ft)	0.01% obs/m (0.0030% obs/ft)	0.01% obs/m (0.0030% obs/ft)	Sampling hole sensitivity 1.6% obs/m (0.5% obs/ft)
Detection Range	0.001-20.0% obs/m (0.0003-6.575% obs/ft)	0.005-20% obs/m (0.0015%-6.575% obs/ft)	0.005-20% obs/m (0.0015%-6.575% obs/ft)	0.005-20% obs/m (0.0015%-6.575% obs/ft)	0.020-16% obs/m (0.006-5.17% obs/ft)
No. of Inlets	4 pipes	1 pipe	4 pipes	4 pipes	40 micro-bore tubes
Two Stage Filtration	Yes	Yes	Yes	Yes	Yes
Area Coverage	6,500 m^2 (69,965 sq. ft)*	1,000 m^2 (10,760 sq. ft)	2,000 m^2 (21,520 sq. ft)	2,000 m^2 (21,520 sq. ft)	3,345 m^2 (36,005 sq. ft) across 40 sampling holes*
Pipe Length (Linear)	400 m (1,312 ft)	100 m (328 ft)	280 m (919 ft)	280 m (919 ft)	40 x 100 m (40 x 328 ft)
Pipe Length (Branched)	800 m (2,625 ft)	130 m (427 ft)	560 m (1,837 ft)	560 m (1,837 ft)	N/A
Addressability	No	No	No	Up to 4	Up to 40 sampling points
Total Number of Alarm Thresholds	8 (Day/Night)	8 (Day/Night)	8 (Day/Night)	32 (Day/Night)	8 (Day/Night)
Relay Outputs	7	7	7	12	7 (expandable up to 127)
On-board Memory (Max. Events)	20,000	20,000	20,000	20,000	20,000
Flow Sensing Per Inlet	Yes	Yes	Yes	Yes	Yes
IP Rating	IP40	IP40	IP40	IP40	IP40
AutoLearn™ (Smoke/Flow)	AutoLearn Smoke™ AutoLearn Flow™	AutoLearn Smoke™ AutoLearn Flow™	AutoLearn Smoke™ AutoLearn Flow™	AutoLearn Smoke™ AutoLearn Flow™	N/A
EN54-20 Max. no of Holes (Class A / B / C)	80 / 80 / 100	30 / 40 / 45	40 / 80 / 100	40 / 80 / 100****	40 - 40 ***
Bar Graph/Indicator LED	LEDs or 3.5” Color Touch Screen	LEDs	LEDs or 3.5” Color Touch Screen	LEDs or 3.5” Color Touch Screen	LEDs or 3.5” Color Touch Screen
Programming Tools **- On-board Programming module** **- Handheld Programmer** **- PC Software (VSC, VSM)**	USB/Ethernet connection to PC using VSC/VSM4	USB/Ethernet connection to PC using VSC/VSM4	USB/Ethernet connection to PC using VSC/VSM4	USB/Ethernet connection to PC using VSC/VSM4	USB/Ethernet connection to PC using VSC/VSM4
StaX Expandability**	StaX PSU StaX	PSU StaX	StaX PSU StaX	StaX PSU StaX	VEA 40-Relay Local StaX

* System design and regulatory requirements may restrict the monitoring area to a lesser amount.
** Please contact your local regional office for availability
*** Check local codes for the required transport times determined by the tube lengths
**** Subject to agency Testing

ABOUT XTRALIS

Xtralis is a leading global provider of powerful solutions for the very-early and reliable detection of smoke, fire, and gas threats. Our technologies prevent disasters by giving users time to respond before life, critical infrastructure or business continuity is compromised.

We protect highly valuable assets and infrastructure belonging to the world's top governments and businesses.

To learn more, please visit us at www.xtralis.com/vesda-e