VESDA®
by xtralis™

The World's No. 1 Brand
of Air-sampling Smoke Detector

7 Reasons for VESDA

1 When business continuity is paramount

Is uptime a key business goal? Is service provision critical?

VESDA by Xtralis very early warning smoke detectors provide the earliest warning of a potential fire that buys time to investigate, intervene and potentially avoid business disruption in addition to the damage, downtime and cost of a suppression release. Such early warning is critical for:

- Telecommunications facilities
- Financial data centers
- Clean rooms
- Server rooms
- Utilities
- Power generation facilities

2 When smoke is difficult to detect

Is high airflow diluting smoke, preventing it from reaching the ceiling so it can be detected? Is the smoke being trapped in ducts, pockets or voids? Is smoke stratifying into a mushroom cloud below a high ceiling, making it difficult to detect?

VESDA sampling points can be placed at the return air grill or in equipment cabinets to detect smoke as it is carried by the air. In large, open spaces, sampling points for VESDA detectors can be placed where smoke goes — often some distance below ceiling level. Suitable for:

- Server rooms
- Telecommunications facilities
- Atriums
- Theaters
- Clean rooms
- Warehouses
- Indoor stadiums
- Convention centers

3 When maintenance access is difficult

Is the area to be protected inaccessible? Does maintenance on current fire protection systems cause disruptions and inconvenience your business?

VESDA detectors can be mounted in accessible locations to enable easy maintenance. Only the sampling pipe network is placed in the inaccessible area. Ideal for:

- Ceiling voids and sub-floor spaces
- Elevator shafts
- Production areas
- Prisons and detention facilities
- Ducts

4 When unobtrusive detection is required

Is it important to preserve the internal design/decoration of the building? Is vandalism a problem with the current smoke detection system?

A VESDA system can be installed with tiny capillary sampling tubes, which are barely discernible to the human eye. The detectors can be placed in a cupboard or utility area. Great for:

- Modern offices
- Cathedrals
- Art galleries and museums
- Heritage buildings
- Prisons and detention centers
- Prestigious residences

5 When evacuation is a challenge

Will the building be open to the general public? Will it house people who need extra help during an evacuation? Is evacuation difficult due to crowds or limited exits? What is the business impact of an evacuation?

The very early warning that a VESDA system provides allows the maximum time for evacuation. This is critical for:

- Shopping centers
- Stadiums
- Heritage buildings
- Hospitals
- Underground tunnels
- Facilities for children and the elderly

6 When environmental conditions are difficult

Is poor air quality, extreme temperatures or industrial activity present in the area to be protected?

VESDA VLI detector, with its ruggedized enclosure and patented long-life, fail-safe intelligent filter technology, is specifically designed for industrial applications with harsh and difficult environments. The VLI detectors can be installed within the sampling area or remote from the detection area with only the sampling pipes located in the protected area. The sampled air can be filtered, warmed or cooled before reaching the detector. Ideal for:

- Mines
- Manufacturing and processing plants
- Power generation facilities
- Timber, pulp and paper plants
- Water treatment plants
- Fertilizer plants
- Textile plants
- Transportation

7 When suppression systems are present

Is suppression release costly and disruptive?

The very early warning provided by a VESDA system allows early intervention to prevent suppression releases. The multiple warning levels of a VESDA system can be used to trigger different responses at different stages of a fire — from controlling air conditioning to initiating a suppression release. Applicable for:

- Communications hubs
- Command stations
- Server rooms
- Switch rooms

VESDA by Xtralis Air-sampling Smoke Detection (ASD)

The world's no. 1 ASD brand

VESDA by Xtralis very early warning smoke detection solutions provide the earliest possible warning of an impending fire hazard. VESDA buys time to investigate an alarm and initiate an appropriate response to prevent injury, property damage or business disruption. And because VESDA has the industry's widest sensitivity range and multi-level warnings, even minute levels of smoke can be detected before a fire has time to escalate.

As the No. 1 ASD brand specified by fire professionals around the world, VESDA is synonymous with reliable, high-performance fire detection.
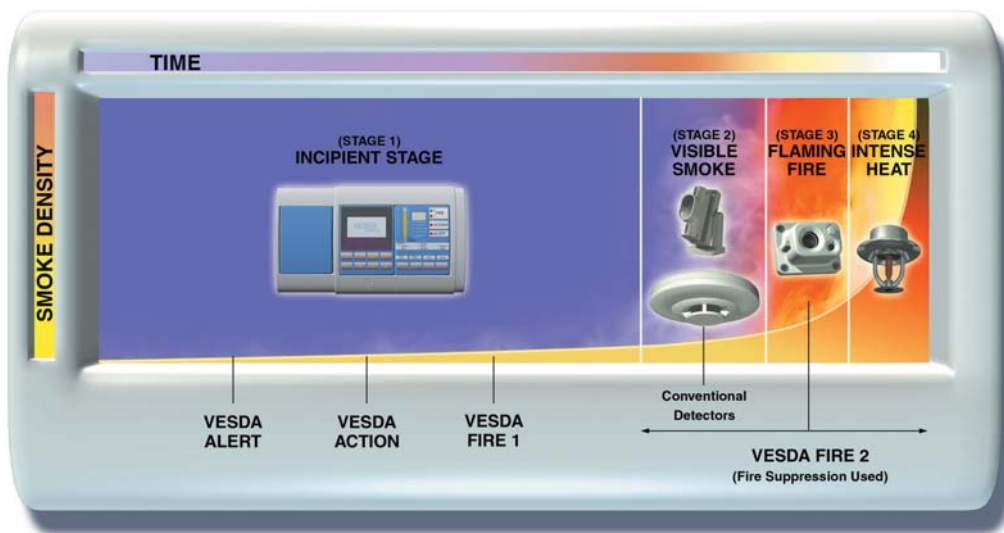
This diagram shows the progression of a fire over time. Note that the incipient stage of a fire provides the widest window of opportunity to detect and control the spread. VESDA detectors can be configured to generate multiple alarms within the incipient stage. They also can be configured to generate an additional alarm (Fire 2) in the advanced stages of a fire. This feature is unique to VESDA and takes advantage of its wide sensitivity range that enables one detector to monitor the entire progression of a fire.

How VESDA works

VESDA works by continuously drawing air into a distributed pipe network via a high-efficiency aspirator. The air sample then passes through a dual-stage filter. The first stage removes dust and dirt from the air sample before it enters the laser detection chamber. The second, ultra-fine stage provides an additional clean-air supply to keep the detector's optical surfaces free from contamination, ensuring stable calibration and long detector life as well as minimizing nuisance alarms.

From the filter, the air sample goes through the calibrated detection chamber where it is exposed to a laser light source. When smoke is present, light is scattered within the detection chamber and is instantly identified by the highly sensitive receiver system. The signal is then processed and presented via a bar-graph display, alarm threshold indicators and/or graphic display. VESDA detectors are able to communicate this information to a fire alarm control panel, a software management system, or a building management system via relays or a High Level Interface (HLI).

VESDA by Xtralis
Product Range

VLI

VESDA VLI

The VESDA VLI is an industrial-strength detector that boasts a ruggedized enclosure providing protection against dust and water spray. The detector incorporates an industry-first, patented, fail-safe, "intelligent filtration" technology designed to reduce contamination that might enter a detector, improving detector longevity and reducing service and maintenance. Nuisance alarms due to dust particles are significantly reduced via the implementation of mechanical and algorithmic "particle separation" technologies without compromising smoke detection performance.

VFT

VESDA VFT

The VESDA VFT is a unique and versatile high-sensitivity ASD that is able to pinpoint the source of incipient smoke to speed response, enhance investigation, and minimize business disruption and downtime. This advanced detector provides intelligent addressability to identify up to 15 protected areas via microbore air-sampling tubes.

VLP

VESDA VLP (LaserPLUS™)

The VESDA VLP is the most popular detector in the VESDA by Xtralis product range. Like all VESDA ASDs, it detects fire at the earliest possible stage and reliably measures very low to extremely high concentrations of smoke. It has the world's widest sensitivity range of 0.0015 to 6% obs/ft. (0.005 to 20% obs/m). VESDA VLP supports four configurable alarms (Alert, Action, Fire 1 and Fire 2) and protects areas up to 20,000 sq. ft. (2,000 m^2).

VLS

VESDA VLS (LaserSCANNER™)

The VESDA VLS locates the origin of smoke by identifying the first sector (pipe) with the highest level of smoke and then continues to sample air from all sectors to monitor fire growth. The VESDA VLS also provides four alarm levels for each individual pipe (Alert, Action, Fire 1 and Fire 2) and provides individual pipe addressability and settings. It protects areas up to 20,000 sq. ft. (2,000 m^2).

VLC

VESDA VLC (LaserCOMPACT™)

The VESDA VLC offers cost-effective protection of single environments and small areas. It offers the same wide sensitivity range as the VESDA VLP and VESDA VLS — 0.0015 to 6% obs/ft. (0.005 to 20% obs/m). The VESDA VLC supports three configurable alarm levels (Alert, Pre-Alarm and Fire) and comes in two versions. One version interfaces via relays only (RO) and the other across either relays or VESDAnet (VN). In addition, an explosion-proof version of the VN VLC is available for the protection of hazardous areas.

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VESDA VLF (LaserFOCUS™)

The VESDA VLF delivers the most advanced and cost-effective air-sampling smoke detection technology for small environments. The VESDA VLF-250 model protects areas up to 2,500 sq. ft. (250 m^2), and the VESDA VLF-500 model covers up to 5,000 sq. ft. (500 m^2). In addition to the features found in all Xtralis Laser products, VESDA VLF provides a new range of features and built-in intelligence for quick installation, commissioning and servicing.

VLF

Remote Displays and Programmers

The VESDA display module monitors and reports the status of a detector, providing visual representation of smoke levels along with all alarm and fault conditions. For monitoring convenience, multiple displays can be associated with a single detector. The menu-driven VESDA Programmer allows the user to conveniently configure, commission and maintain the VESDA system, as well as program each individual detector. Only one programmer is needed to support the entire network. Display and programmer modules can be mounted in a detector unit separately (connected via VESDAnet), in a single remote mounting box, or in a 19-inch sub rack.
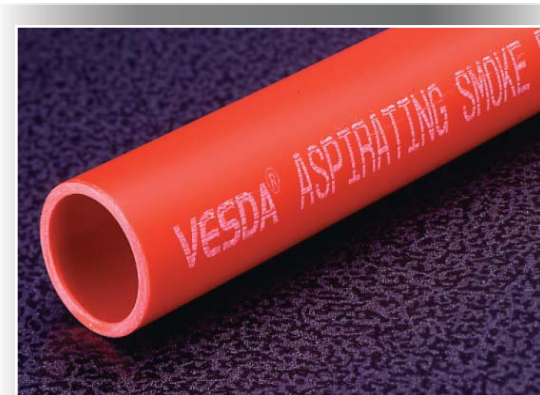
VESDA by Xtralis
Product Range

VESDAnet™

VESDAnet is a comprehensive, fault-tolerant, "closed," two-wire communications loop that links VESDA detectors, displays, programmers and remote units on a daisy-chained loop. VESDAnet enables a number of units to be programmed together from one or more locations and automatically detects communication failures.

It also easily interfaces with systems external to the network, such as intelligent fire alarm panels and building management systems.

VESDA Pipe

A key element in the performance of a VESDA by Xtralis 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, ensuring a quality system is installed every time.

Some pipes and fittings are not available in certain countries. Please check with an Xtralis office before you order.

VSM4, VSC and ASPIRE2 are compatible with all detectors in the VESDA product line

Software

VSM™

The VSM software package allows the user to monitor, configure and control a VESDA by Xtralis system from a central location via a VESDAnet communication loop or directly to VESDA detectors. Real-time and historical events for a single detector or multiple networks of detectors can be collected over a local- or wide-area network. The data then can be processed and presented in either report or graphical format — even graphically on site floor plans.

VSC™

The VSC software package can be used to configure, install, commission and maintain the standard range of VESDA ASDs. The software provides high-level programming flexibility through its on-line and off-line configuration capabilities. Rapid diagnostic abilities, concurrent configuration views, compare/merge functionality, and simultaneous smoke-trend graphing of multiple detectors are additional features designed to simplify operation and installation setup.

VESDA ASPIRE2™

VESDA ASPIRE2 is the latest version of VESDA sampling pipe network design and modeling software. It aids in the design and evaluation process for basic to very complex pipe-network layouts. Key features, such as design wizards, 3-D isometric views, an automated design verification process, and a new AutoBalance capability, ensure that a tailored pipe layout is easily achieved. The Installation Data Pack (IDP) generates a series of reports with the parameters, required materials and expected system performance so installation and commissioning engineers receive this information clearly.

Detector Configurations

Features

	VLI	VFT-15	VLS	VLP	VLC VESDAnet (VN)	VLC Relays Only (RO)	VLF 250/500
Worldwide Approvals	** UL/ULC	Vds, UL, FM, CSFM	LPC, VdS, AFNOR, UL, ULC, UL268A (in-duct application), FM, NY-MEA, CSFM, ActivFire, CFE.				
Hazardous Area Approval (FM Class 1, Div 2, Groups A, B, C, D)	Pending	No	No	Yes	Yes	Yes	Yes
Sensitivity Range	0.0015% - 6.4% obs/ft. (0.005% - 20.0% obs/m)	0.0003 to 6.0% obs/ft. (0.001 to 20% obs/m)	0.0015 to 6% obs/ft. (0.005 to 20% obs/m)				0.008 to 6.4% obs/ft. (0.025 to 20% obs/m)
Filtration	Intelligent Filter Lint Trap Sub-sampling Probe Secondary Filter	Dual Stage	Dual Stage	Dual Stage	Dual Stage	Dual Stage	Dual Stage
Area Coverage (Maximum)	20,000 sq. ft. (2000 m²)	15,000 sq. ft. (1,500 m²) (across 15 sectors)	20,000 sq. ft. (2,000 m²) (across 4 sectors)	20,000 sq. ft. (2,000 m²)	8,000 sq. ft. (800 m²)	8,000 sq. ft. (800 m²)	2,500 / 5,000 sq. ft. (250 / 500 m²)
Maximum Pipe Length	Aggregate pipe length: 1,200 ft. (360 m), Maximum Single Length: 350 ft. (120 m)	164 ft. (50 m) Tubes	Aggregate pipe length: 650 ft. (200 m), Maximum Single Length: 325 ft. (100 m)	Aggregate pipe length: 650 ft. (200 m), Maximum Single Length: 325 ft. (100 m)	1 x 262 ft. (80 m) 2 x 164 ft. (50 m)	1 x 262 ft. (80 m) 2 x 164 ft. (50 m)	VLF-250: 1 x 80 ft. (25 m) 2 x 50 ft. (15 m) VLF-500: 1 x 150 ft. (50 m) 2 x 90 ft. (30 m)
Multiple Pipe Addressability	No	Up to 15	Up to 4	No	No	No	No
Total Number of Alarm Thresholds	8 (Day/Night)	120 (Day/Night)	32 (Day/Night)	8 (Day/Night)	3	3	8 (Day/Night)
Relay Outputs	5	5 (Expands to 21)	7 or 12 relays	7	3	3	3 (Expands to 6)
On-board Memory (Max. Events)	Up to 18,000	Up to 20,000	Up to 18,000	Up to 18,000	Up to 12,000	Up to 12,000	Up to 18,000
Flow Sensor Circuit (one per pipe inlet)	4 1 in Intelligent Filter 1 in Chamber	1 + 1 in chamber	4	4	1	1	1
AutoLearn™ (automatically adjusts system to environment)	AutoLearn Smoke™ AutoLearn Flow™	No	Yes	Yes	Yes	Yes	AutoLearn Smoke™ AutoLearn Flow™
Supported by ASPIRE2™ Pipe Network Design Software	Yes	Yes (transport times only) Predefined networks	Yes	Yes	Yes	Yes	Yes
Maximum No. of Holes	48	15	60	100	40	40	12/24
Bar Graph/Indicator LED	Local (5 on-board LEDs)	Yes	Local or Remote (20-segment bargraph display)	Local or Remote (20-segment bargraph display)	Local (5 on-board LEDS, remote 20-segment bar-graph display)	Local (5 on-board LEDs)	Local (7 on-board LEDs, 10-segment circular display)
Programming Tools - On-board Programming Module - Portable Programmer - PC Software (VSC, VSM) via VESDAnet (when the detectors are connected on the VESDA network)	Programmed via USB/Ethernet connection to PC using VSC	On-board programmer and PC software (VSC/VSM4)	Yes	Yes	Yes	Programmed via RS232 direct connection to PC using VSC	Programmed via RS232 direct connection to PC using VSC
General Purpose Input	External Reset, Mains OK, Standby, Disable, Use Night-time Threshold, Reset + Disable, Inverted Reset	Reset, Isolate	External Reset, Mains OK, Standby, Isolate, Use Night-time Threshold, Reset + Isolate, Inverted Reset	External Reset, Mains OK, Standby, Isolate, Use Night-time Threshold, Reset + Isolate, Inverted Reset	Mains OK, Standby Mode, Reset + Isolate	Mains OK, Standby Mode, Reset + Isolate	None, Reset, Disable, Standby, Alarm set 1, Alarm set 2, External

VESDAnet

	VLI	VFT-15	VLS	VLP	VLC VESDAnet (VN)	VLC Relays Only (RO)	VLF 250/500
Max. No. of Devices/Detectors per Loop	N/A *	N/A	200/100	200/100	200/100	N/A	200/100 (with VN Card)
Max. Distance between Devices	N/A *	N/A	4,000 ft. (1,300 m)	4,000 ft. (1,300 m)	4,000 ft. (1,300 m)	N/A	4,000 ft. (1,300 m) (with VN Card)
Computer-based Management via VSM	Yes	Yes	Yes	Yes	Yes	No	Yes (with VN Card)
Remote Relay Modules - 7-relay version - 12-relay version	N/A *	N/A	(Part No.) VRT-501 VRT-900	VRT-500 N/A	VRT-500 N/A	N/A	VRT-500 N/A
Compatible Remote Bar-graph Displays - Display, 7-relays - Display, 12-relays - Display, no relays	N/A *	N/A	(Part No.) VRT-400 VRT-800 VRT-700	VRT-200 N/A VRT-600	VRT-J00 N/A VRT-K00	N/A N/A N/A	VRT-V00 N/A VRT-W00

* VESDAnet capable model will be released later, please check with your local Xtralis representative office for availability.
** Other major approvals pending

About Us

Xtralis is a leading global provider of powerful, early warning fire detection and security solutions that prevent disasters by giving users time to respond before life, critical infrastructure or business continuity is compromised. We protect more than 40,000 customer sites in 100 countries, including billions in assets belonging to the world's top governments and businesses. Our solutions include VESDA® by Xtralis – very early warning fire detection, ICAM® by Xtralis – flexible fire and environmental monitoring, ADPRO® by Xtralis – outdoor and enterprise security, and ASIM® by Xtralis – traffic detection.

Xtralis is the leader in very early warning fire detection and invented the VESDA air-sampling smoke detector (ASD), the world's No. 1 ASD brand. Customers worldwide rely on VESDA by Xtralis when business continuity is imperative, environments are challenging, and time is required to ensure safe and orderly evacuation.

VESDA detectors are available in a variety of models to accommodate a broad range of environments and applications. From small to very large, open spaces and from the cleanest to the dirtiest of environments, VESDA provides reliable, high-sensitivity, very early smoke detection.

VESDA® by ◆ **xtralis**™

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