

VESDA[®]

The World's Leading Brand
of **Aspirating Smoke**
Detection



 **xtralis[®]**

www.xtralis.com/vesda



The Seven Reasons for **VESDA**

1

When business continuity is paramount

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

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

- Telecommunications facilities
- Server rooms
- Financial data centers
- Utilities
- Clean rooms
- 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 grille or in equipment cabinets to detect smoke as it is carried by the air. In large, open spaces, sampling points can be placed where the smoke goes – often some distance below the ceiling level. Suitable for:

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



3

When maintenance access is difficult

Is the area to be protected inaccessible? Does maintenance on traditional fire detection 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
- Prisons and detention facilities
- Elevator shafts
- Ducts
- Production areas

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 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
- Heritage buildings
- Cathedrals
- Prisons and detention centers
- Art galleries and museums
- 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 VESDA systems provide allows the maximum time for evacuation. This is critical for:

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

6 When suppression systems are present

Is suppression release costly and disruptive?

The very early warning provided by VESDA systems allows early intervention to prevent suppression releases. The multiple alarm levels of VESDA systems 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
- Server rooms
- Command stations
- Switch rooms

7 When environmental conditions are difficult

Are high background levels or industrial activities 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
- Water treatment plants
- Manufacturing and processing plants
- Fertilizer plants
- Power generation facilities
- Textile plants
- Timber, pulp and paper plants
- Transportation



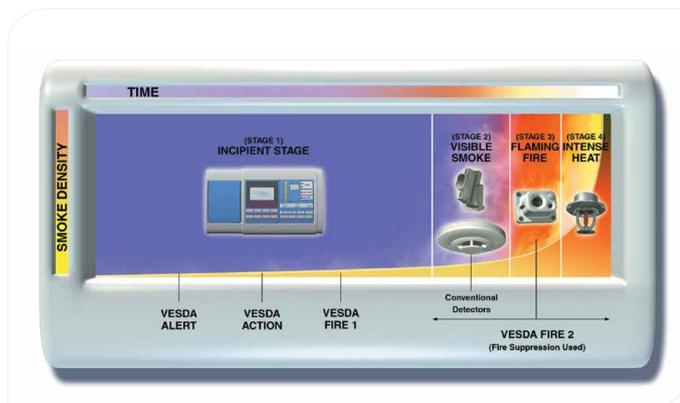


VESDA Aspirating Smoke Detection (ASD)

The world's leading ASD brand

VESDA 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 alarms, even minute levels of smoke can be detected before a fire has time to escalate.

As the world's leading ASD brand specified by fire professionals around the world, VESDA is synonymous with reliable, high-performance fire detection.

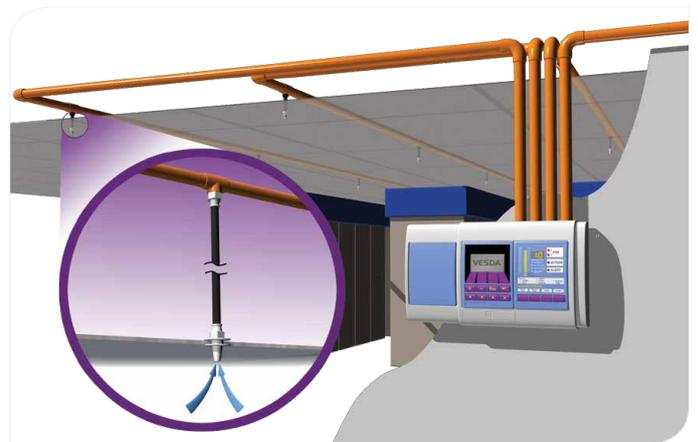


This diagram shows the progression of a fire over time. Note that the incipient stage of a fire provides the widest window of opportunity to detect and control the spread. VESDA detectors can be configured to generate multiple alarms within the incipient stage. They also can be configured to generate an additional alarm (Fire 2) at 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 consistent absolute detection and long detector life as well as minimizing nuisance alarms.

From the filter, the air sample goes through the 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 Product Range

VESDA VLS

The VESDA VLS locates the origin of smoke by identifying the 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 2,000 m² (21,520 sq. ft.).



VESDA VLF

The VESDA VLF delivers advanced and cost-effective very early warning for small environments. The VESDA VLF-250 model protects areas up to 250 m² (2,690 sq. ft.), and the VESDA VLF-500 model covers up to 500 m² (5,380 sq. ft.). In addition to world leading and well-established VESDA features VESDA VLF provides a new range of features and built-in intelligence for quick installation, commissioning and servicing.



VESDA VLP

The VESDA VLP is the flagship in the VESDA product range. Like all VESDA detectors, it detects fire at the earliest possible stage and reliably measures very low to high concentrations of smoke. It has the world's widest sensitivity range of 0.005 to 20% obs/m (0.0016 - 6.25% obs/ft.). VESDA VLP supports four configurable alarm levels (Alert, Action, Fire 1 and Fire 2) and protects areas up to 2,000 m² (21,520 sq. ft.).



VESDA VLI

The VESDA VLI is an industry first early warning aspirating smoke detection system, designed to protect industrial applications including mining, manufacturing, power generation facilities, waste treatment plants and more up to 2,000 m² (21,520 sq. ft.). The VLI detector combines a patented fail-safe Intelligent Filter with Clean Air Zero and clean-air barrier for optics protection complementing absolute detection and providing longer detection chamber life all enclosed in a robust IP66-rated enclosure.



VESDA VLC

VESDA VLC offers protection for small to medium areas that require cost-effective very early warning. It offers the same wide sensitivity range as the VESDA VLP and VESDA VLS – 0.005 to 20% obs/m (0.0016 - 6.25% obs/ft.). 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).



VESDA VLC-EX

The VESDA VLC-EX detector has been specifically designed to provide all the benefits of aspirating smoke detection, including very early warning, for the protection of hazardous applications with Zone 2 classification. It offers the same wide sensitivity range as the VESDA VLP and VESDA VLS – 0.005 to 20% obs/m (0.0016 - 6.25% obs/ft.). The VESDA VLC-EX 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). The VLC-EX incorporates the well-proven VESDA VLP detection technology into an IP54 rated stainless steel enclosure.





VESDA Accessories

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. The menu-driven VESDA Programmer allows the user to conveniently configure, commission and maintain the VESDA system, as well as program each individual detector.



VESDAnet™

VESDAnet is a comprehensive, fault-tolerant, “closed,” two-wire communications loop that links VESDA detectors, displays, programmers and remote relay modules 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 ASD system is the sampling pipe network that actively transports air from the protected area to the detector. VESDA 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 your local Xtralis office prior to ordering.

VESDA Software

Xtralis VSM4™

The VSM software package 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. 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.



Xtralis VSC™

The VSC software package can be used to configure, commission and maintain VESDA detectors. 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 other standard features designed to simplify operation and installation setup.

VESDA ASPIRE™

VESDA ASPIRE 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 parameters, required materials and expected system performance so installation and commissioning engineers receive this information clearly.

VESDA®



VESDA Detector Configurations

Features	VLP	VLS	VLC VESDAnet (VN)	VLC Relays Only (RO)	VLF 250/500	Industrial VESDA VLI	VLC-EX
Worldwide Certificates	LPCB, VdS, AFNOR, UL, ULC, UL268A (in-duct application), FM, NY-MEA, CSFM, ActivFire, CCCF, VNIPO, CPR					UL, ULC, FM, ActivFire, LPCB, VdS, CPR	ATEX, IECEx, UL, FM, CPR
Hazardous Area Approval (FM Class 1, Div 2, Groups A, B, C, D)	Yes	No	Yes	Yes	Yes	Yes	Yes
Min Fire 1 Threshold	0.015% obs/m (0.0046% obs/ft)				0.025% obs/m (0.008% obs/ft)	0.15%/m (0.046%/ft)	0.015% obs/m (0.0046% obs/ft)
Detection Range	0.005 - 20% obs/m (0.0016 - 6.25% obs/ft)				0.025 - 20% obs/m (0.008 - 6.25% obs/ft)	0.005 - 20.0% obs/m (0.0016 - 6.25% obs/ft)	0.005 - 20% obs/m (0.0016 - 6.25% obs/ft)
Two Stage Filter	Yes	Yes	Yes	Yes	Yes	Patented Intelligent Filter Secondary Foam Filter Sub-sampling Probe	Yes
Area Coverage (Maximum)	2,000 m ² (21,520 sq. ft)	2,000 m ² (21,520 sq. ft) across 4 sectors	800 m ² (8,610 sq. ft)		250/500 m ² (2,690/5,380 sq. ft)	2,000 m ² (21,520 sq. ft)	800 m ² (8,610 sq. ft)
Pipe Length (Linear)	200 m (656 ft)	200 m (656 ft)	80 m (262 ft)		25/50 m (82/164 ft)	360 m (1,181 ft)	80 m (262 ft)
Pipe Length (Branched)	400 m (1,312 ft)	400 m (1,312 ft)	100 m (328 ft)		30/60 m (98/197 ft)	445 m (1,460 ft)	100 m (328 ft)
Multiple Pipe Addressability	No	Up to 4	No	No	No	No	No
Total Number of Alarm Thresholds	4 (Day/Night)	16 (Day/Night)	3	3	4 (Day/Night)	4 (Day/Night)	3
Relay Outputs	7	7 or 12 relays	3	3	3 (Expandable to 6)	5	3
On-board Memory (Max. Events)	18,000	18,000	12,000	12,000	18,000	18,000	12,000
Flow Sensor Circuit (one per pipe inlet)	4	4	1	1	1	4	1
IP Rating	IP30	IP30	IP30	IP30	IP30	IP66	IP54
AutoLearn™ (Smoke/Flow)	Yes (Smoke)	Yes (Smoke)	Yes (Smoke)	Yes (Smoke)	AutoLearn Smoke™ AutoLearn Flow™	AutoLearn Smoke™ AutoLearn Flow™	Yes (Smoke)
EN54-20 Max. no of Holes (Class A / B / C)	30 / 60 / 100	40 / 40 / 60	30 / 36 / 40	30 / 36 / 40	VLF 250 12 / 12 / 12; VLF 500 30 / 30 / 30	24 / 28 / 60	30 / 36 / 40
Bar Graph/Indicator LED	Local or Remote (20 segment bargraph display)	Local or Remote (20 segment bargraph display)	Local (5 on-board LEDs), Remote (20 segment bargraph display)	Local (5 on-board LEDs)	Local (7 on-board LEDs 10 Segment Circular Display) Remote display when fitted with VESDAnet card	Local (5 on-board LEDs) Remote display for VLI-885	As per VLC (VN) & VLC (RO)
Programming Tools - On-board Programming module - Handheld Programmer - PC Software (VSC, VSM)	Yes	Yes	Yes	Programmed via RS232 direct connection to PC using VSC™	Programmed via RS232 direct connection to PC using VSC™ or Programmer when VN card is fitted	Local USB configuration port Connection to PC using VSC/ VSM4 Programmer for VLI-885	As per VLC (VN) & VLC (RO)
StaX Expandability	No	No	No	No	No	No	No
Analytics	No	No	No	No	No	No	No
VESDAnet™							
Max. No. of devices/detectors per loop	200 / 100	200 / 100	200 / 100	N/A	200 / 100 (with VN Card)	200 / 100 (VLI-885)	200 / 100 (VN version)
Max. Distance between Devices	1,300 m (4,265 ft)	1,300 m (4,265 ft)	1,300 m (4,265 ft)	N/A	1,300 m (4,265 ft) (with VN Card)	1,300 m (4,265 ft) (VLI-885)	1,300 m (4,265 ft) (VN version)
Computer-based Management via VSM	Yes	Yes	Yes	No	Yes	Yes	Yes (VN version)
Remote Relay Modules - 7 relay version - 12 relay version	VRT-500 N/A	VRT-E00 VRT-900	VRT-500 N/A	N/A	VRT-500 N/A	VRT-500 N/A	VRT-500 (VN version)
Compatible Remote Bargraph Displays - Display, 7 relays - Display, 12 relays - Display, no relays	VRT-200 N/A VRT-600	VRT-400 VRT-800 VRT-700	VRT-J00 N/A VRT-K00	N/A	VRT-V00 N/A VRT-W00 (with VN Card)	VRT-Q00 N/A VRT-T00 (VLI-885)	As per VLC (VN) & VLC (RO)

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 leading very early warning aspirating smoke detection (ASD) systems; ICAM™ for flexible ASD; ECO™ – Gas detection & environmental monitoring modules for VESDA & ICAM systems; and, OSID™ – easy to use smoke detection for open areas.

To learn more, please visit us at www.xtralis.com.

Learn more: www.xtralis.com/vesda

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VESDA[®]

Aspirating Smoke Detection for **Small, Business-critical Spaces**



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VESDA®



VESDA Continuing its Leadership... with the VESDA VLF

“Critical areas have become smaller...smaller areas have become more critical”

The continued trend towards smaller and more concentrated critical high-technology business operations has driven the need for more flexible and focussed very early warning smoke detection solutions to protect these high value assets. Understanding and responding to these needs, the VESDA VLF extends the product range by offering VESDA detection performance for smaller critical areas previously overlooked or limited to conventional protection methods.

Bringing Very Early Warning Air-sampling Solutions to Smaller Critical Environments

- Laser Based Absolute Smoke Detection
- Very Early Warning of a Potential Fire Incident
- Wide Sensitivity Range - 0.025 - 20% obs/m (0.008 - 6.25% obs/ft)
- Detection Capabilities for smaller critical areas up to 250 m² (2,690 sq. ft) with VLF-250 or 500 m² (5,380 sq. ft) with the VLF-500.
- Dual Stage Dust Filtration
- Programmable Alarm Thresholds
- Reliable Airflow Monitoring*
- Easy User Interaction
- AutoLearn™ Smoke & Flow
- Pre-engineered Pipe Designs
- Flexible Interfacing Options

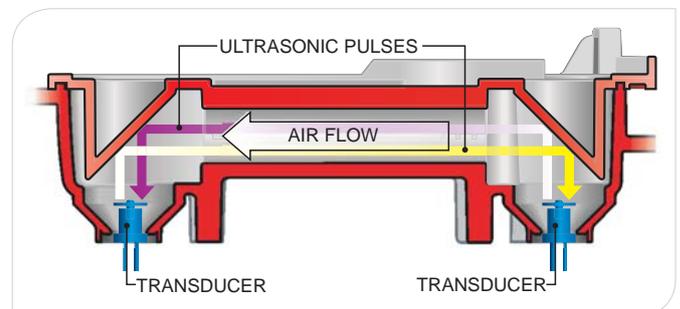
Applying Very Early Warning Risk Management Principles to Smaller Critical Areas

Complementing the current VESDA detector range demonstrating its exceptional application flexibility, the VESDA VLF allows for superior very early warning air-sampling in areas such as:

- Local Telecommunication Exchanges
- Correctional Facilities
- Smaller Server Rooms
- Utility Control Hubs
- Control Rooms
- Railway Signal Hubs
- Switch Rooms
- Cabinets
- Storage Facilities
- Substations
- Air-handling Units

Reliable Airflow Monitoring using Ultrasonic Sensing

With the VESDA Pipe Network being such an integral part of any VESDA Air-sampling System, maintaining its integrity and reliability is critical in ensuring a consistently accurate level of detection performance. The VESDA VLF utilizes Ultrasonic Flow Sensing principles to assist in the measurement & monitoring of airflow. The VESDA VLF detector immediately identifies and communicates any variances in the airflow rate.

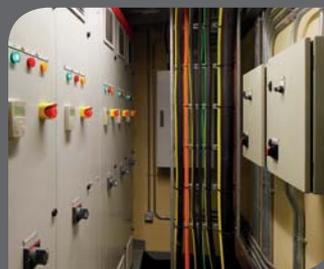


In this application, the ultrasonic flow sensing technology was adapted to monitor air rather than fluids. Two transducers (Blue) are used to continually send signals to each other. One signal travels with the flow (Violet), the other against (Yellow). The time difference between the two signals is used to calculate the rate of airflow within the pipe.

Unprecedented Event Identification with the Revolutionary Instant Recognition Display

The VESDA VLF has been equipped with a clear, intuitive, circular 'smoke dial' display that allows for immediate risk assessment and preventative action. When illuminated, the well positioned LEDs and related icons allow for instant identification of smoke growth and alarm conditions, even from a distance.

VESDA®



Immediate Analysis and Diagnostics with the Instant Fault Finder™

To ensure ongoing system integrity, immediate assessment of the detector's condition is critical. By opening the field service access door, the operator can activate the Instant Fault Finder feature – a smart diagnostic feature that converts the 'smoke dial' into a fault indicator. It provides instant and meaningful information of the detector's status without the need for additional programming and evaluation tools. Now fire service and maintenance staff can be better informed before arriving onsite, reducing the time onsite, and saving on maintenance costs.

Supporting Efficient System Setup – AutoLearn™

Simplifying the setup, installation and commissioning of high sensitivity air-sampling technology was one of the key drivers behind the design of the VESDA VLF. VESDA's AutoLearn feature supports this process by assessing environmental conditions, automatically setting acceptable smoke alarm and flow fault thresholds.

Simplifying Pipe Network Design

To simplify the application of air-sampling detection the VESDA VLF is supplied with pre-engineered pipe network designs. Designers can simply apply these proven designs to typical installations and have confidence that they will work.

Intelligent Software Support VSC™ and ASPIRE™

VESDA VLF is supported by the next generation of VESDA intelligent software packages. The VESDA System Configurator Software (VSC) offers a high-level of programming flexibility through its on-line and off-line configuration capabilities. Rapid diagnostic abilities, concurrent configuration views, and multi device smoke trending are additional features designed to simplify system design.

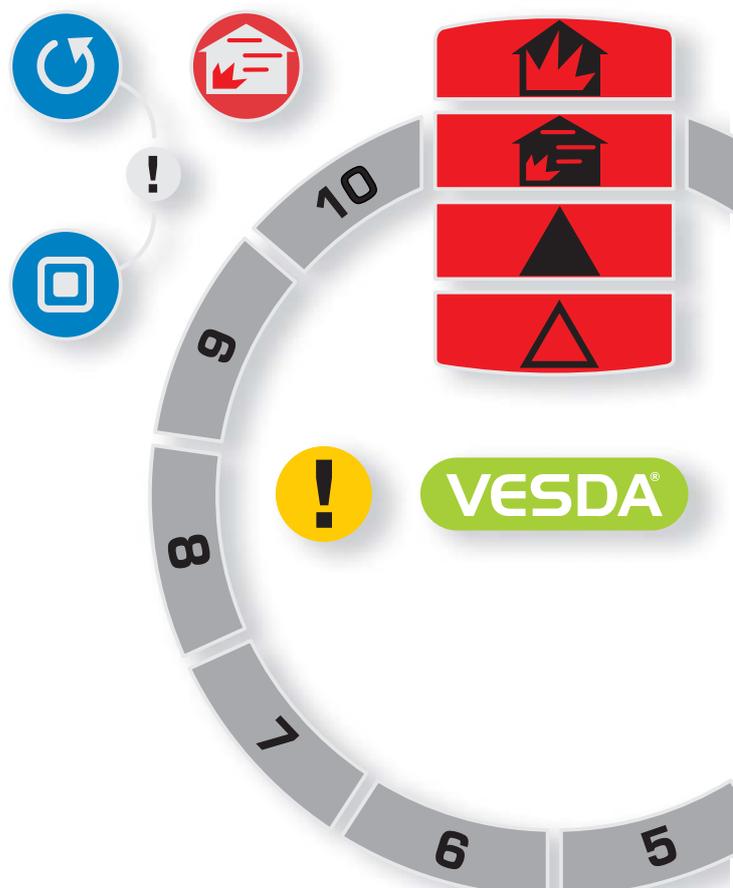
Complementing VSC, ASPIRE speeds up and simplifies the design of new and more complex pipe network layouts.

Key features such as design wizards, isometric views, an automated design verification process, and improved AutoBalance capabilities ensure that a tailored pipe layout is easy to achieve.

Both VSC and ASPIRE are backwards compatible with the VESDA Laser-based detector family.

A Solid Foundation Upon Which To Build

Incorporating detection methodology derived from its VESDA predecessors – the VESDA VLP, VLS and VLC – the VESDA VLF multiple point air-sampling technology works by utilizing a highly efficient aspirator that continually draws air into its laser detection chamber via a pipe network. Accurate assessment of the air sample using calibrated detection and long detector life expectancy, are assured with a patented dual stage filtration process that both eliminates background 'noise' and preserves the optical integrity of the laser technology with its clean air bleed. The result of which is an unchallenged detection process able to provide reliable and consistent very early warning smoke detection performance across a diverse range of applications.



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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, video analytics and enterprise security; HeiTel™ – digital video remote monitoring; and, ASIM® – intelligent traffic detection. To learn more, please visit us at www.xtralis.com.



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VESDA®

The Next Generation of VESDA Aspirating Smoke Detection Technology



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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, 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 Point Addressability, provides situational awareness to improve response time, efficiency and effectiveness through pin-point addressability for up to 40 locations
- VESDA Connect, provides extensive connectivity options including Ethernet, WiFi, 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.

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 the equivalent of 330,000 sensors and sophisticated algorithms for smoke detection and particle type characterisation. 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 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.





The Six Reasons for **VESDA-E**

1 **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.



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

1. **Detection Performance**

- Vastly better sensitivity
- Faster response time

2. **Detection Reliability**

- Operating temperature stability
- Minimizing nuisance alarms

3. **Consistent Performance Over Time**

- During long term exposure to dust

4. **Efficiency of Operation**

- Power Consumption per unit area

2 **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





3 VESDA Point Addressability

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



4 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.



5 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 for VEU and VEP detectors and through flexible microbore tube network for VEA. It also reduces OpEx costs due to accessible and centralised maintenance, field replaceable components and full system integrity monitoring for VEA. Plug and play features improve the installation experience and reduce its cost via:

- AutoConfig capability
- Firmware upgrade using only a USB key
- Instant monitoring via Wi-Fi
- Mounting template
- Mounting bracket
- Ample wiring space
- Design-less pipe networks for simple designs for VEU and VEP
- Flexible VEA installation with pre-engineered microbore tubes and push-fit connections

VESDA-E can also provide vast monitoring options including:

- VSM4
- Remotes
- VESDAnet
- iVESDA

For current VESDA users, VESDA-E offers backward compatibility with the relevant VESDA product line – with VESDA-E you can reduce Total Cost of Ownership by up to 15% for VEU and VEP and up to 60% for VEA





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 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 m² (69,965 sq. ft)*. VEU standard features include StaX support together with Ethernet, WiFi, USB and VESDAnet capabilities.



VESDA-E VEA

VESDA-E VEA is the first addressable aspirating smoke detector (ASD) for standard addressable detection applications with non-intrusive servicing and interruption free operation and significantly lower maintenance time. VEA provides pinpoint addressability by using a network of microbore tubes connected to sampling points located in the protected area. VEA provides superior detection with inbuilt filters and self cleaning, allowing assured detection with minimum false alarms.



The VEA detector supports up to 40 sampling points. True supervision of tube network and sampling points allows centralized automated test and maintenance to provide end to end system integrity monitoring, reducing maintenance time by up to 90% while lowering TCO by up to 60%. Refer to the Xtralis website for full VESDA-E VEA details.

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, WiFi, USB and VESDAnet capabilities.



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.



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.



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

** Please contact your local regional office for availability.



Connectivity

VESDA Ethernet

Enables connectivity with Xtralis VSC and VSM4.



VESDA Wi-Fi

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



VESDA USB

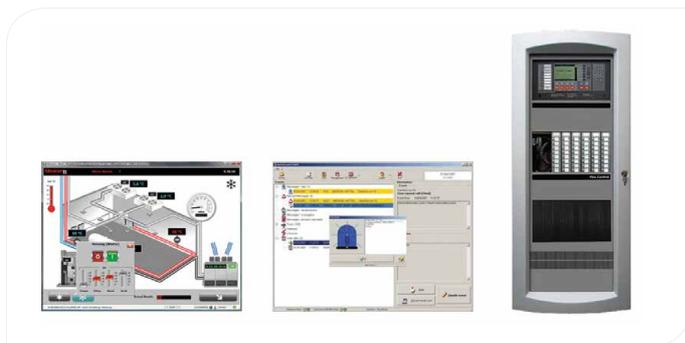
The USB port allows direct connection to a PC for configuration and maintenance. Being host-mode, it also allows firmware upgrade by inserting a USB key and pushing the relevant button on the detector.



VESDAnet & Relays

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

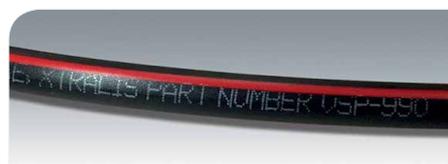
- VESDAnet provides primary reporting, centralized configuration, control, maintenance and monitoring
- Relays allow connection to Fire Alarm Control Panels (FACP) and Building Management Systems (BMS) and other security systems



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.

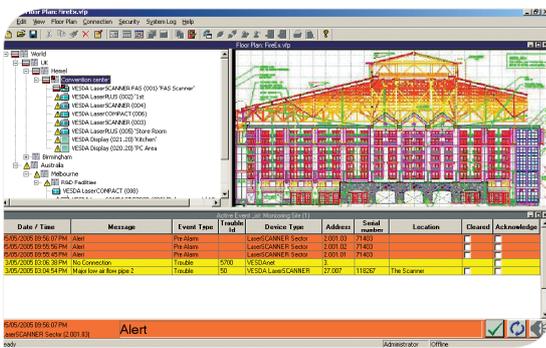




VESDA-E Software

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, Ethernet or WiFi.



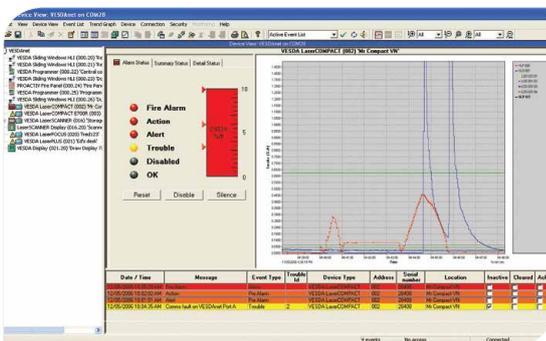
ASPIRE

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.



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.



Features	VEU	VEP-1	VEP-4	VEA
Worldwide Approvals	UL, ULC, FM, ActiveFire, VdS, CE, EN, CPR	UL, ULC, FM, ActiveFire, VdS, CE, EN, CPR	UL, ULC, FM, ActiveFire, VdS, CE, EN, CPR	UL, ULC, CSFM ActiveFire, VdS, CE, EN, CPR
Hazardous Area Approval FM Class 1, Div 2, Groups A, B, C, D)	No	Pending	Pending	N/A
Min Fire 1 Threshold	0.001% obs/m (0.0003% obs/ft)	0.01% obs/m (0.0031% obs/ft)	0.01% obs/m (0.0031% obs/ft)	Sampling hole sensitivity 1.6% obs/m (0.5% obs/ft)
Detection Range	0.001 - 20.0% obs/m (0.0003 - 6.25% obs/ft)	0.005 - 20% obs/m (0.0016% - 6.25% obs/ft)	0.005 - 20% obs/m (0.0016% - 6.25% obs/ft)	0.020 - 16% obs/m (0.0063 - 5.0% obs/ft)
No. of Inlets	4 pipes	1 pipe	4 pipes	40 micro-bore tubes
Two Stage Filtration	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)	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)	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)	N/A
Addressability	No	No	No	Up to 40 sampling points
Total Number of Alarm Thresholds	4 (Day/Night)	4 (Day/Night)	4 (Day/Night)	4 (Day/Night)
Relay Outputs	7	7	7	7 (expandable up to 47)
On-board Memory (Max. Events)	20,000	20,000	20,000	20,000
Flow Sensing Per Inlet	Yes	Yes	Yes	Yes
IP Rating	IP40	IP40	IP40	IP40
AutoLearn™ (Smoke/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
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
Programming Tools - On-board Programming module - Handheld Programmer - PC Software (VSC, VSM)	USB/Ethernet/WiFi connection to PC using VSC/VSM4			
StaX Expandability**	Auto Pipe Clean StaX PSU StaX	PSU StaX	Auto Pipe Clean 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

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; and, OSID™ – easy to use smoke detection for open areas.

www.xtralis.com

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www.xtralis.com/vesda-e

Advanced Detection Global Services

Consulting, Design, and Training



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LIFE SAFETY SOLUTIONS BY ADVANCED DETECTION GLOBAL SERVICES

Product Brand	xtralis						SYSTEM SENSOR		KAC		
	VESDA-E	VESDA	ICAM	VESDA Sensepoint	OSID-DE (Imaging)	OSID-R (Imaging)	BEAM	FAAST LT	Agile Wireless	Agile MCP	Agile AV
Aspirating Smoke Detection											
Aspirating Gas Detection											
Open Area Beam Smoke Detection											
Wireless Spot Detectors											
Wireless M Call Points / Audio Visual											

ABOUT ADVANCED DETECTION GLOBAL SERVICES

The Global Services design center was established by Xtralis in 2010 in Amman, Jordan. Its mission is to provide value-added training, consultation, design, and technical support for advanced technologies like VESDA-E, VESDA, OSID, and ICAM solutions. The design center offers application-specific expertise and knowledge accumulated over 30+ years of success delivering high quality project designs that provide better system efficiency. In 2018 the global services design center added KAC and System Sensor solutions to its portfolio. Now customers can get the same expertise for any life safety application from aspirating smoke detection to open area and wireless smoke detection.

ADVANCED DETECTION TECHNOLOGIES

ASPIRATING SMOKE DETECTION	<p>VESDA-E - THE NEXT GENERATION OF ASPIRATING SMOKE DETECTION</p> <p>VESDA-E is the next generation of aspirating smoke detection (ASD) from Xtralis. VESDA-E offers ultra-sensitive ASD with up to 15 times higher sensitivity than current VESDA models, improved dust rejection, and up to 8% less power consumption per unit area. VESDA-E brings precision addressability to ASD with flexible tubing and up to 40 individual sampling points per system. Other VESDA-E advanced features include StaX expansion modules with capabilities like auto pipe clean and integrated power supply, connectivity from WiFi to the Ethernet and mobile devices. VESDA-E is the most advanced, reliable, and flexible ASD system ever.</p> <p>VERY EARLY WARNING ASPIRATING SMOKE DETECTION</p> <p>Xtralis and System Sensor ASD provides highly reliable smoke detection at the earliest presence of fire while discriminating against false alarms. Traditional smoke detectors do not offer comparable protection as smoke can begin to spread, and fire damage can occur before a warning is issued. In contrast, Xtralis VESDA, ICAM, and System Sensor FFAST ASD systems continuously sample the air for the smallest traces of smoke to provide valuable time to understand a threat and deploy an intelligent response. Xtralis and System Sensor life safety solutions provide reliable smoke detection in zero-tolerance environments, adhering to the highest safety standards and mitigating risks to facilities, assets, and personnel.</p> <p>GAS DETECTION AND ENVIRONMENTAL MONITORING</p> <p>Xtralis ASD systems can be extended to include gas detection and environmental monitoring. Xtralis has partnered with Honeywell Analytics to develop VESDA Sensepoint XCL gas detector to provide early warning of gas threats. This combination of smoke and gas detection in one system offers occupant protection and system monitoring while ensuring against fire threats.</p>
OPEN-AREA (BEAM) SMOKE DETECTION	<p>OSID OPEN AREA SMOKE DETECTION</p> <p>OSID is a robust, standard sensitivity detection system which is based on the patented use of digital imaging and smart algorithms.</p> <p>Installation and commissioning is simplified because of the use of CMOS imagers, representing 100 of thousands of traditional photo receivers. Aligning and installing these beams is reduced to a matter of minutes. This technology also solves the number one problem with beams, building movement.</p> <p>The novel use of CMOS imagers enables OSID to discriminate between smoke and other objects, thus dramatically reducing false alarms. The use of this technology allows these beams to no longer alarm when saturated by heavy light, but at the most signal a fault.</p> <p>The OSID range features both reflective and end-to-end systems.</p> <p>End-to-end systems come with a dual IR/UV wavelength and are even more resistant to false alarms in challenging environments.</p> <p>End-to-end systems feature a 7 Emitters for 1 Imager solution, offering a true 3D detection.</p>
WIRELESS FIRE DETECTION	<p>AGILE WIRELESS</p> <p>The new System Sensor Agile wireless fire detection system offers unmatched levels of communication reliability and installation flexibility due to patented mesh network technology. It provides a robust and efficient method of delivering an integrated smoke detection solution across a wider variety of applications, with greater simplicity and scalability.</p>

ADVANCED DETECTION GLOBAL SERVICES OFFERINGS

ADGS offers unparalleled applications, design, consulting and technical services for Xtralis, System Sensor, and KAC solutions. Our designers, engineers, and trainers provide world-class expertise in smoke, fire, and gas detection applications, so that your project is efficiently designed, managed, and deployed for maximum protection.

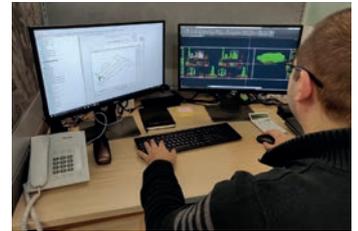
DESIGN AND CONSULTING SERVICES

Our team will consult, guide, and manage your project design with:

- Analysis and review of project; design documents;
- Initial design solution based on customer needs; and...
- Detailed and comprehensive design package for all systems – engineering layout, design calculations, and final project bill of materials (BOM).

In addition, we can optionally provide expert, value-added capabilities, including:

- Advanced design package including Building information modeling (BIM) and computational fluid dynamics (CFD) output files
- Consultation with authorities having jurisdiction (AHJ), insurers, consultants, architects; engineers to propose new solutions to improve current industry standards and provide expert assessment of existing fire codes worldwide



APPLICATIONS ENGINEERING AND PERFORMANCE-BASED DESIGN

ADGS Applications Engineers provide consultancy services that deliver cost-effective, code compliant, and innovative fire protection solutions, including:

- Fire detection systems design
- Advice on regulation and code compliance and support during the regulatory authorities' approvals process.
- Fire simulation and modelling to evaluate and optimize fire detection system performance
- Fire risk assessments
- Guidance in designing solutions that address maintenance requirements and reliability challenges in harsh environments
- Advice on integrating detection and gaseous suppression systems for the protection of critical equipment
- Developing risk-informed, performance-based designs to:
 - Address restrictive codes and standards and non-compliance issues,
 - Incorporate flexible design features for effective emergency response planning,
 - Optimize the use of available commercial building space, while meeting life safety objectives,
 - Help achieve elegant architectural design.



TRAINING SERVICES

ADGS offers flexible, instructor-led, expert training services in several formats:

- 1, 2, or 3-day training
- At your facility or ADGS regional facilities
- Customized or standard training
- For any ADGS-supported solution

ADGS training will ensure you staff is proficient at the design, commissioning, management, and testing of any of our life-safety solutions. As training experts with decades of training experience, we have trained tens of thousands of fire professionals to an expert-level proficiency with advanced detection technologies.



ADVANCED DETECTION GLOBAL SERVICES OFFERINGS (CONT'D)

Contact your regional Xtralis, System Sensor, KAC, or Honeywell Sales person for a quote. When referencing Design Services or Training, please refer to Order Numbers below. For specific questions about any of these services please contact DesignCenter@xtralis.com.

DESIGN & CONSULTING SERVICES

Description	Type	Solutions	Order Number
Performance-Based Design for ASD	Per Package, Per Day, Based upon Project Scope	VESDA-E, VESDA, FFAST, ICAM	SR-PBD
Application Engineer Onsite Visit	Onsite Visit, Per Solution, Per Day	VESDA-E, VESDA, FFAST, ICAM, OSID, Agile, XCL	SR-FSV

DESIGN & CONSULTING SERVICES

Description	Type	Solutions	Order Number
Customized Design Package: • Includes Standard Package + BIM (Revit)	1-Port ASD (per Unit)	VESDA-E, VESDA, FFAST, ICAM	SR-CDP-1PASD
	2-Port ASD (per Unit)	VESDA-E, ICAM	SR-CDP-2PASD
	4-Port ASD (per Unit)	VESDA-E, VESDA	SR-CDP-4PASD
	Multi-Port ASD (per Unit)	VESDA-E VEA	SR-CDP-MPASD
Standard Design Package: • Includes CAD, Calculations, BOM	1-Port ASD (per Unit)	VESDA-E, VESDA, FFAST, ICAM	SR-SDP-1PASD
	2-Port ASD (per Unit)	VESDA-E, ICAM	SR-SDP-2PASD
	4-Port ASD (per Unit)	VESDA-E, VESDA	SR-SDP-4PASD
	Multi-Port ASD (per Unit)	VESDA-E VEA	SR-SDP-MPASD
Customized Design Package: • Includes Standard Package + BIM (Revit)	Gas Detection (per Unit)	VESDA XCL	SR-CDP-AGD
Standard Design Package: • Includes CAD, Calculations, BOM	Gas Detection (per Unit)	VESDA XCL	SR-SDP-AGD
Customized Design Package: • Includes Standard Package + BIM (Revit)	Open Area Detection (Beam), Per Transmitter	OSID-DE, OSID-R	SR-CDP-OAD
Standard Design Package: • Includes CAD, Calculations, BOM	Open Area Detection (Beam), Per Transmitter	OSID-DE, OSID-R	SR-SDP-OAD
Standard Design Package: • Includes CAD and BOM	Per gateway, includes only detection part of project	Agile Wireless	SR-SDP-WSD
Design Change Request	Any design change request after 3 weeks of release, per work hour		SR-DCH-AT

ADVANCED DETECTION GLOBAL SERVICES OFFERINGS (CONT'D)

Contact your regional Xtralis, System Sensor, KAC, or Honeywell Sales person for a quote. When referencing Design Services or Training, please refer to Order Numbers below. For specific questions about any of these services please contact DesignCenter@xtralis.com.

TRAINING SERVICES

Note: We will continue to use the current regional Training scheduling, registration, and payment process until a new structure is established. A centralized Training registration process will be available soon, and the table below lists the Training SKUs. Please continue to use the current process and current Training SKUs until further notice.

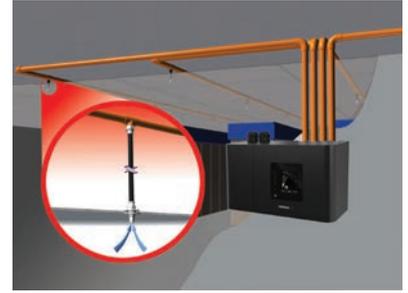
Description	Location	Requirements	Solutions	Order Number
1-Day Training, Standard Course (including refresher)	ADGS Regional Facility	<ul style="list-style-type: none"> 10 attendees minimum Cost quoted per attendee 	VESDA-E, VESDA, FAAST, ICAM, OSID, Agile, XCL	SR-1DT-SCA
2-Day Training, Standard Course			VESDA-E, VESDA, FAAST, ICAM, OSID	SR-2DT-SCA
3-Day Training, Standard Course			VESDA-E, VESDA, FAAST, ICAM	SR-3DT-SCA
1-Day Training, Private Course	Customer Facility	<ul style="list-style-type: none"> 20 attendees maximum Cost quoted per group Trainer cost billed separately (see below) 	VESDA-E, VESDA, FAAST, ICAM, OSID, Agile, XCL	SR-1DT-PCG
2-Day Training, Private Course			VESDA-E, VESDA, FAAST, ICAM, OSID	SR-2DT-PCG
3-Day Training, Private Course			VESDA-E, VESDA, FAAST, ICAM	SR-3DT-PCG
Trainer Travel	Trainer or FAE International or Domestic travel cost			SR-TR-EXP
VESDA Champion Subscription Program	Price per Year			SR-SUB-1YR

LIFE SAFETY DETECTION TECHNOLOGIES

ASPIRATING SMOKE DETECTION - THE SOONER YOUR KNOW®

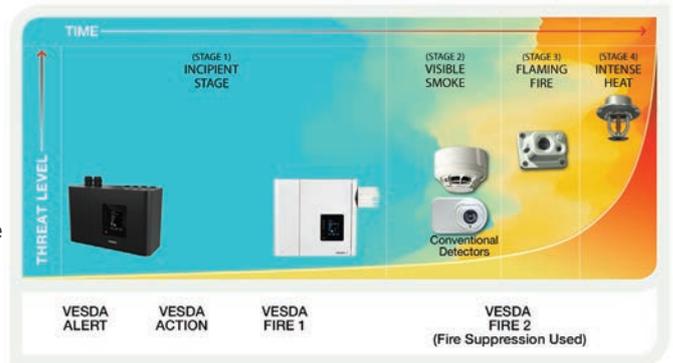
How ASD works?

ASD works by continuously drawing air into a distributed pipe network via a high-efficiency aspirator. The air sample then passes through a filtration process. This to remove dust and dirt from the air sample before it enters the laser detection chamber. Also, 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. ASD systems can communicate this information to a fire alarm control panel, a software management system, or a building management system.



Why use ASD?

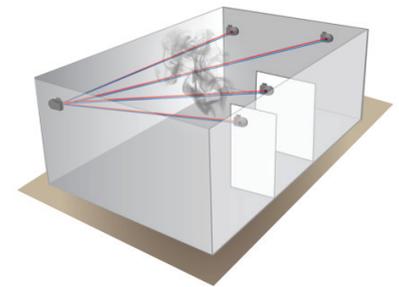
VESDA & FAAST aspirating smoke detection solutions with continuous air sampling provide the earliest possible warning of an impending fire hazard. VESDA aspirating smoke detectors buy the critical time needed to investigate an alarm and initiate an appropriate response to prevent injury, property damage or business disruption. These detectors have multi-level warnings and a wide range of sensitivity that does not degrade or change over time, so even minute levels of smoke can be detected before a fire has time to escalate.



OSID - OPEN AREA SMOKE IMAGING DETECTION

OSID is a robust, standard sensitivity detection system which is based on the patented use of digital imaging, dual-frequency beams, and smart algorithms. The novel use of dual light frequencies in an open-path device enables OSID to discriminate between real smoke and other objects, thus dramatically reduce false alarms.

Installation and commissioning is simplified because exact alignment between the imager and emitter is not required. An imager can locate and lock in an emitter that is only roughly aligned thanks to the imager's wide field of view. And because OSID uses a wide-angle imaging sensor, its sophisticated algorithms compensate for vibrations and building movement. The option of a battery-powered emitter means that cabling and installation costs also are reduced significantly.



WIRELESS FIRE DETECTION

The new System Sensor Agile wireless fire detection system offers unmatched levels of communication reliability and installation flexibility due to patented mesh network technology. The new wireless platform is powered by robust mesh network technology providing up to two communication paths to each wireless device. This makes the network highly reliable, protecting against broken communication links.

The Agile Wireless Fire Detection System is an extension of the Series 200 product range. It features the same class leading device design, detection performance, false alarm immunity and system functionality. Wireless devices can be seamlessly integrated into existing panels supporting Series 200 protocols, giving the fire system the flexibility to be easily extended.



VESDA-E ASPIRATING SMOKE DETECTORS (VEU, VEP, VES)



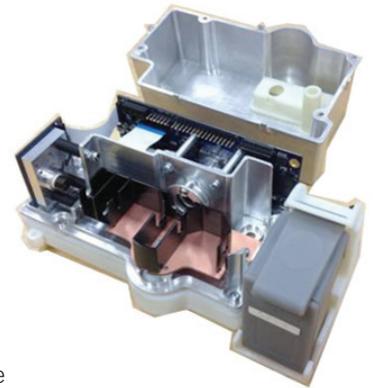
INNOVATIVE CAPABILITIES

VESDA-E is the next-generation of VESDA, featuring multiple innovative capabilities that dramatically improve the VESDA experience: VESDA Smoke+, offers increased sensitivity versus VESDA VLP and improved dust rejection, while maintaining sensitivity over its lifetime and up to 8% less power consumption per unit area.

Key capabilities include:

- **VESDA Smoke+** capitalizes on the patented Flair™ Detection Technology centered in the VESDA-E detection chamber used in VEU, VEP, and VES. 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** future proof expandability for maximum flexibility using, StaX Hardware expansion modules that easily bolt onto the VESDA-E detector to add additional capabilities.
- **VESDA Sector Addressability** coupled with the Flair technology provides the best in VEW and more cost-effective than the standard “4 detector” approach.
- **VESDA Connect** allows for flexible networking and programming options that reduce maintenance and monitoring costs through extensive connectivity options and remote diagnostics tools including Ethernet, Wi-Fi, USB, VESDAnet and 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%.

Flair Chamber



VESDA-E SOLUTIONS

- VESDA-E VEU (VESDA-E Ultimate)
- VESDA-E VEP (VESDA-E Plus)
- VESDA-E VES (VESDA-E Scanner)

VESDA-E APPLICATIONS

- Accommodation (Apartments, Hotels, Shops and Offices)
- Correctional Facilities
- Clean Rooms
- Cold Storage
- Cultural/Heritage
- Data and Telecom
- Hospitals and Healthcare
- Insurance
- Marine
- Nuclear Facilities
- Oil and Gas
- Portable Switch Rooms
- Power Generation
- Records Storage
- Transportation
- Wind Power Generation
- Warehousing

For further information, please visit: www.xtralis.com/p.cfm?s=22&p=538

VESDA-E VEA ASPIRATING SMOKE DETECTORS



A NEW APPROACH FOR POINT ADDRESSABLE SMOKE DETECTION

VESDA-E VEA introduces a new approach for addressable aspirating smoke detection. VEA provides pinpoint addressability by using a network of microbore tubes connected to sampling points located in the protected area. VEA actively draws air through sampling points and analyses for presence of smoke particles in a centrally located smoke sensor module. VEA provides assured detection through active sampling and end to end system integrity monitoring. VEA also provides flexible and fast installation utilizing easy to install flexible microbore tubes and push-fit connectors, which reduce installation time and cost. VEA detector supports 40 sampling points, all managed from a central location. Its fully supervised microbore tubes and sampling points ensure total system availability. Centralized Test and maintenance in readily accessible location reduces service time by up to 90% allowing servicing of up to 500 addresses a day lowering total cost of ownership by up to 60%. VEA remote maintenance is ideally suited in applications where interruption free business operation and restricted access are of paramount importance. With best in class connectivity including WAN and Wireless iVESDA application provides real time and remote access for efficient and effective response.

VESDA-E VEA delivers better value where...

- Spot detectors are difficult to reach
- Access to the protected area is restricted
- Disruption of occupants is undesirable
- Installation and maintenance costs are high
- Electrical codes are stringent, and conduits are mandatory
- False alarms are extremely costly
- There is high density of spot detectors

VESDA-E APPLICATIONS

- Offices
- Hospitals
- Schools
- Prisons
- Multi-story dwellings
- Data Centers
- Warehouses

For further information, please visit: www.xtralis.com/product_view.cfm?product_id=108

VESDA LASER ASPIRATING SMOKE DETECTORS



THE WORLD'S LEADING ASPIRATION SMOKE DETECTOR (ASD) BRAND

Xtralis invented VESDA very early warning aspirating smoke detection (ASD), the world's leading ASD brand. Customers worldwide rely on VESDA when business continuity is imperative, environments are challenging, and time is required to ensure safe and orderly evacuation. VESDA 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.

VESDA LASER SOLUTIONS

- VESDA VLP (LaserPlus)
- VESDA VLI (Industrial)
- VESDA VLF (LaserFocus)
- VESDA VLC & VLC-EX (LaserCompact & Hazardous Zone 2 apps)
- VESDA VLS (LaserScanner)

VESDA APPLICATIONS

- Accommodation (Apartments, Hotels, Shops and Offices)
- Correctional Facilities
- Clean Rooms
- Cold Storage
- Cultural/Heritage
- Data and Telecom
- Hospitals and Healthcare
- Insurance
- Marine
- Nuclear Facilities
- Oil and Gas
- Portable Switch Rooms
- Power Generation
- Records Storage
- Transportation
- Wind Power Generation
- Warehousing

For further information, please visit: www.xtralis.com/p.cfm?s=22&p=244

FAAST LT ASPIRATING SMOKE DETECTOR



FIRE ALARM ASPIRATION SENSING TECHNOLOGY®

The FAAST LT-200 Aspirating Smoke Detector is designed with the installer and end user in mind. It serves the wide variety of Class C applications where maintenance is difficult, where traditional smoke detection methods are inappropriate or prone to fail due to harsh environments or areas where aesthetics matter. It is also suitable for smaller mission critical applications where very early warning - Class A or B detection is required. FAAST LT-200 combines proven aspirating detection technologies to deliver reliable smoke detection and efficient installation and maintenance.

The device comprises innovative and intelligent internal design features designed to protect vulnerable components. These include a high sensitivity LED detection chamber (featuring a high-power output IR LED and high gain IR receiver amplifier), along with ultrasonic flow sensors.

EASY TO INSTALL - EASY TO COMMISSION

The device is fast to install and easy to commission thanks to Pipe-IQ pipe design and configuration software, which is included as standard. FAAST LT-200 stand-alone devices are available as single channel and dual channel devices, offering flexibility for different detection strategies. A range of customizable settings are geared towards maximizing device performance and meeting different application needs. The device also includes pre-alarm functionality for graduated alarm thresholds. The FAAST LT-200 provides alarm and fault relays with auxiliary events relay as an option. These can be set as latched or non-latched. To accommodate local installation standards or environments, flow and general fault delays can also be set.

FAAST APPLICATIONS

- Historic buildings and high-end architecture
- Museums and galleries
- Shopping and Leisure Centers
- Residential
- Ducts, voids and lift shafts
- Custodial facilities
- High buildings
- High roof storage Areas
- Warehouses

For further information, please visit: www.SystemSensorEurope.com/English/2_Products/2_3_2_3_FAAST_LT.html

ICAM ASPIRATING SMOKE DETECTORS



FLEXIBLE SPECIALTY ASPIRATION SMOKE DETECTORS

ICAM IFT-P aspirating smoke detectors provide early warning, decreasing the likelihood of catastrophic loss and ensuring business continuity. IFT-P provides two pipe inlets with long pipe runs allowing increased flexibility in application.

EXTENDING THE CAPABILITY OF TRADITIONAL SMOKE DETECTORS

ICAM IAS detectors transform traditional point detectors into powerful aspirating systems for use in dusty and inaccessible spaces. These detectors can house virtually any manufacturer's conventional or analog addressable point (spot) detectors. Compared to the standard smoke sensitivity of a traditional smoke sensor, the ICAM ILS detector has higher sensitivity and delivers increased area coverage.

ICAM SOLUTIONS

- ICAM ILS
- ICAM IAS (Point-in-a-Box)
- ICAM IFT-P (Pico)

ICAM APPLICATIONS

- Ducts
- Elevators and Escalators
- Cold Storage
- Switch Gear
- Transportation
- Unmanned Sites
- Utilities
- Wind Turbines

For further information, please visit: www.xtralis.com/p.cfm?s=22&p=338

VESDA XCL ASPIRATING GAS DETECTOR



INTEGRATED GAS DETECTION FOR VESDA-E MICRO-BORE ASD SYSTEM

The VESDA Sensepoint XCL – Microbore ASD System is a jointly developed Xtralis / Honeywell Analytics aspirated gas detector that connects to VESDA-E VEA smoke detectors. The combined solution offers reliable detection of gases and smoke for occupant safety, asset protection and for maintaining business continuity.

Through its embedded Bluetooth interface, VESDA Sensepoint XCL enables customers to pair the gas detector with their smart device applications to perform installation, commissioning and maintenance. It integrates with other building systems, including fire alarm control panels, PLCs, HVAC and building management systems, and provides real-time situational awareness for intelligent emergency response using relays, 4-20mA or Modbus outputs.

HOW VESDA SENSEPOINT XCL WORKS

VESDA Sensepoint XCL can be easily added to existing or new VESDA-E VEA tube networks without major construction or electrical cabling or conduit. It is capable of remote sampling up to 100m (328ft) which means the detector is not required to be physically present in the detection area. As opposed to point gas detectors, VESDA Sensepoint XCL can be installed in a central location allowing easy and non-intrusive inspection, service and maintenance where access is difficult/restricted, where interruption free business operation or safety of personnel is important.

Further cost savings are realised through easy access to diagnostic information for servicing and the ability to replace gas sensors in the field through simple steps.

VESDA XCL APPLICATIONS

- Boiler plant rooms
- Commercial premises
- Parking Garages
- Utility / service tunnels
- Bus and Train Locomotive Depots
- Universities and schools
- Hotels
- Hospitals
- Residential
- Laboratories, biotechnology labs, pharmaceutical

For further information, please visit: www.xtralis.com/product_view.cfm?product_id=195

OSID - OPEN AREA SMOKE IMAGING DETECTORS



SMOKE IMAGING TECHNOLOGY

OSID stands for Open-area Smoke Imaging Detector. OSID provides reliable, cost-effective smoke detection for open spaces where fire detection presents unique challenges and where very early warning is not always the priority.

The part that makes OSID unique is the use of a CMOS imager versus the use of a single photo receiver found in all traditional beams detectors. A CMOS imager is equivalent to hundreds of thousand photoreceivers and is the core of the high resistance to false alarms and faults from building movement, object intrusion and sunlight saturation.

Furthermore, the CMOS imager is instrumental for the fast and simple alignment and set-up of the imaging beams.

OSID offers two different solutions.

- **OSID-DE**

OSID-DE combines dual frequency (IR and UV) beams with a CMOS Imager detector to gain excellent resistance to dust, reflections and object intrusion. This besides that one type Imager (receiver) can have up to seven emitters, providing easy 3D coverage for atria, domes etc. and another type can detect up to 150m (490ft.)

To support Service, OSID-DE has an on-board log memory and comes with a software that can run on a standard laptop for diagnostic purposes.

OSID-DE is typically deployed in challenging environments and areas with little free field of view.

- **OSID-R**

OSID-R, is a single wavelength (IR) reflective beam with a CMOS Imager detector.

The unit features a unique intuitive mechanism for extremely fast alignment and set-up as well as automatic sensitivity setting. The electronic simulated smoke test from ground level allows fast and reliable smoke and communication path integrity testing.

This range comes with a conventional and intelligent range of detectors.

OSID-R is typically deployed in structurally challenging but clean environments.

PHOTOCELL TECHNOLOGY

This range of detectors is single wavelength (IR) reflective beams with a photocell receiver.

The detectors, in addition to the four standard sensitivity selections, have two Acclimate settings. When either of these settings is chosen, the detector will automatically adjust its sensitivity using advanced software algorithms to select the optimum sensitivity for the environment.

This range is typically deployed for short(er) distances in benign and clean environments.

BEAM APPLICATIONS

- Shopping Malls
- Long Corridors
- Heritage Buildings
- Hotel and Office-tower Atriums
- Exhibition and Convention Centers
- Indoor Stadiums and Arenas
- Airport Terminals and Train Stations
- Suspended Ceilings
- Churches and Cathedrals
- Industrial and Manufacturing Facilities

For further information, please visit:

www.xtralis.com/p.cfm?s=22&p=459

<https://www.systemsensoreurope.com/>

AGILE™ STAY CONNECTED, STAY PROTECTED



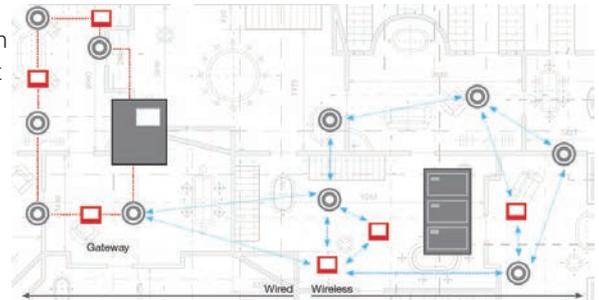
AGILE™ STAY CONNECTED, STAY PROTECTED

The new Agile Wireless Fire Detection system offers unmatched levels of communication reliability and installation flexibility. Agile provides a robust and efficient method of delivering an integrated smoke detection solution across a wider variety of applications, with greater simplicity and scalability.

HOW AGILE WORKS

The platform is built on a powerful mesh technology, with multiple communication paths to minimize interference and maximize system robustness. An Agile Wireless fire detection system offers the highest levels of communication reliability due to patented mesh network technology.

Mesh technology provides multiple connection paths between each transmitter and receiver allowing continuous, bidirectional communication. If a connection path is broken, the mesh network automatically re-routes the signal, providing a secure and uninterrupted network.



The ability to switch between as many as 18 radio channels and two antennas per device along with an extended communication range provides greater tolerance to interference, improving overall system robustness

KEY REASONS TO CHOOSE AGILE WIRELESS FIRE DETECTION WITH MESH TECHNOLOGY

- 1. Mesh Network:** Multiple communication paths guarantees uninterrupted communications.
- 2. Wireless Monitoring:** Visual network representation for easier troubleshooting.
- 3. Installation Flexibility:** Enables easy installation of system extensions or temporary systems.
- 4. Smart Battery Monitoring:** Accurate service life prediction.
- 5. Communication Range:** Provides more margin against interference.

AGILE SOLUTIONS

- Agile Optical Detector
- Photo + Thermal + IR detector
- Thermal detectors
- Waterproof IP67 call point
- Sounder
- Remote indicator
- Gateway
- Repeater

WIRELESS FIRE DETECTION APPLICATIONS

- Hard-to-Wire Buildings
- Refurbishments & Retrofits
- Re-layout Office Buildings
- Temporary Fire Protection
- Time Pressured Projects
- Listed Buildings
- Suspended Ceilings
- Challenging Logistics

For further information, please visit:

<https://www.systemsensoreurope.com/>

<http://www.kac.co.uk/index.html>



FOR ADDITIONAL INFORMATION

- E-mail: DesignCenter@xtralis.com
- Submit request web form via www.xtralis.com/adgs

Doc. 35074_02

