VESDA-E VES (UL 268 7th Ed.)

VES-A00-P-UL, VES-A10-P-UL

The VESDA-E VES can identify and monitor smoke density by individual sampling pipe (sector) which allows a single zone to be divided into four separate sectors; for example, distinguishing between separate aisles within a data room. Sector addressability enables the user to respond to a potential fire event quickly by reducing the search area. The VESDA-E VES has four programable alarm thresholds (Alert, Action, Fire 1 and Fire 2) per pipe that allows flexible field application. After the detector identifies the first sector to reach the Alert threshold it continues to sample from all sectors to report real time status per sector via the intuitive touch screen display. Built on the Flair detection technology and years of application experience the VESDA-E VES detector delivers very early warning with the best in class dust rejection throughout its lifetime.



How it Works

The VES draws air from all sectors in use. If the smoke level reaches the Adaptive Scan Threshold, the VES quickly scans 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 signalled to the user. 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 Fast Scan is completed and the FAS identified, the VES continues to closely monitor all four sectors to track fire growth and maintain full protection of the area.

Flair Detection Technology

Flair is the revolutionary detection chamber that forms the core of the VESDA-E VES, providing higher stability and increased longevity. Direct imaging of the sampled particles using a CMOS imager combined with multiple photo-diodes allows better detection and fewer nuisance alarms.

The VES Display

The VES display Home page has a bar graph to indicate the smoke level and adaptive scan threshold. Fault icons are also included to indicate various fault conditions. When the adaptive scan threshold is exceeded the VES display automatically transitions to the Sector status page to indicate the smoke level and alarm level per sector. If alarms are configured as latched then alarm indication per sector will be retained until Reset is applied. The VES display can only return to the Home page under user control.

Installation, Commissioning and Operation

VESDA-E VES is equipped with a powerful aspirator that enables the use of 1,706 ft (520 m) of total pipe length. Out of box operation is made possible with AutoConfig which allows airflow normalisation and AutoLearn Smoke and Flow to be initiated from within the detector. VES is fully supported by Xtralis VSC and ASPIRE software applications which facilitate ease of pipe network design, system commissioning and maintenance.

VESDAnet™

VESDA devices communicate on VESDAnet which provides a robust bidirectional communication network allowing continued redundant operation even during single point wiring failures. VESDAnet enables primary reporting, centralized configuration, control, maintenance and monitoring.

Ethernet Connectivity

VESDA-E detectors offer connectivity to corporate networks via Ethernet, allowing for devices installed with Xtralis monitoring and configuration software to connect to the detector.

Backward Compatibility

VESDA-E VES is compatible with existing VESDA installations. The detector occupies the same mounting footprint, pipe, conduit and electrical connector positioning as VESDA VLS. VES is also compatible with existing VESDAnet installations allowing monitoring of both VESDA-E and legacy detectors via the latest VSC and VSM4 applications.

Features

- Sector addressability for up to four sectors
- Adaptive scan threshold
- Flair detection technology delivers reliable very early warning in a wide range of environments with minimal nuisance alarms
- Multi stage filtration and optical protection with clean air barriers ensures lifetime detection performance
- Four configurable alarm levels per sector and a wide sensitivity range deliver optimum protection for the widest range of applications
- Intuitive LCD display provides instant status information for immediate response
- Flow fault thresholds per port accommodate varying airflow conditions
- Smart on-board filter retains dust count and remaining filter life for predictable maintenance
- Extensive event log (20,000 events) for event analysis and system diagnostics
- AutoLearn™ smoke and flow for reliable and rapid commissioning
- Backward compatible with VLS and VESDAnet
- Ethernet for connectivity with Xtralis software for configuration, secondary monitoring and maintenance
- USB for PC configuration, and firmware upgrade using a memory stick
- Two programmable GPIs (1 monitored) for flexible remote control
- Field replaceable sub-assemblies enable faster service and maximum uptime

Listings / Approvals

- UL 268 7th edition
- ULC
- CSFM
- FDA
- FCC
- RCM

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

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TECHNICAL SPECIFICATIONS

Specifications

Supply Voltage	18-30 VDC (24 V Nominal)					
Current Consumption @ 24VDC	**VES-A00-P-UL**			**VES-A10-P-UL**		
Aspirator Setting	1	5	10	1	5	10
Power (Quiescent)	0.31A	0.41A	0.64A	0.33A	0.43A	0.68A
Power (In Alarm)	0.35A	0.45A	0.66A	0.38A	0.47A	0.72A
Dimensions (WHD)	13.8 in x 8.9 in x 5.3 in (350 mm x 225 mm x 135 mm)					
Weight	10.4 lbs (4.7 kg)			10.6 lb (4.8 kg)		
Operating Conditions	Ambient: 32°F to 100°F (0°C to 38°C) Sampled Air: -4°F to 140°F (-20°C to 60°C) * Humidity: 5% to 95% RH, non-condensing					
Area Coverage	21,520 sq. ft (2,000 m²)					
Min. airflow per pipe	20 l/m					
Pipe Length (Linear)	919 ft (280 m)**					
Pipe Length (Branched)	1,706 ft (520 m)**					
Pipe lengths depending on number of pipes in use	2 Pipes	3 Pipes	4 pipes			
	328 ft (100 m)	262 ft (80 m)	230 ft (70 m)			
Maximum No. of holes	98**					
Computer design tool	ASPIRE					
Pipe	Inlet: External diameter 1.05 in (3/4 in IPS) or 25 mm Exhaust: External diameter 1.05 in (3/4 in IPS) or 25 mm via adaptor					
Relays	12 programmable relays (latching or non-latching states) Contacts rated 2 A @ 30 VDC (Resistive)					
IP rating	IP40					
Cable access	4 x 1.02 in (26 mm) cable entries					
Cable termination	Screw Terminal blocks 0.2–2.5 sq mm (24–14 AWG)					
Measurement Range	0.0000 to 11.09% obs/ft (0.000 to 32% obs/m)					
Sensitivity Range	0.0015 to 6.575% obs/ft (0.005 to 20% obs/m)					
Threshold setting range	Alert: 0.0015% to 0.614% obs/ft (0.005% to 2.0% obs/m) Action: 0.0015% to 0.614% obs/ft (0.005% to 2.0% obs/m) Fire1: 0.0030% to 0.614% obs/ft (0.010% to 2.0% obs/m) Fire2: 0.0061% to 6.575% obs/ft (0.020% to 20.0% obs/m)					
Software features	Event log: Up to 20,000 events Smoke level and alarm threshold levels, user actions, alarms and faults with time and date stamp AutoLearn: Detector learns Alarm Thresholds and Flow Fault thresholds by monitoring the environment.					

** Sampled Air temperature shall reach Detector Ambient temperature upon entry into Detector. Refer to Xtralis Design Guides & Application Notes for sampled air pre-conditioning.*
*** Subject to agency confirmation.*

Ordering Information

Ordering Code	Description
VES-A00-P-UL	VESDA-E VES with LEDs, Plastic Enclosure - UL
VES-A10-P-UL	VESDA-E VES with 3.5” Display, Plastic Enclosure - UL

Spare Parts

VSP-955-04	VESDA-E VES Scanner Manifold	**VSP-963**	VESDA-E Aspirator
VSP-960	VESDA-E Mounting Bracket	**VSP-964-04**	VESDA-E Smoke Detection Chamber - MK4
VSP-961	VESDA-E Exhaust Adaptor US	**VSP-965**	VESDA-E Sampling Module
VSP-962	VESDA-E Filter	**VSP-968**	VESDA-E VES-A00-P Front Cover - Plastic - LEDs
VSP-962-20	VESDA-E Filter - 20 Pieces	**VSP-969-04-S**	VESDA-E VES-A10-P-UL Front Cover - Plastic - LCD - 3.5" Display

3.5" Display



Home Page



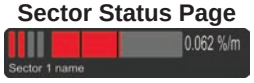
Sector Status Page

LED	Description
	Fire 2
	Fire 1
	Action
	Alert
	Disabled
	Fault
	Power

Home Page

Icon on Display	Description
	Smoke Level and Adaptive Scan Threshold
	Detector OK
	Detector Fault
	Aspirator Fault
	Airflow Fault
	Power Fault
	Filter Fault
	Smoke Chamber Fault
	VESDAnet Fault
	StaX Module Fault

Sector Status Page



Display Element	Description
	Sector Alarm Level
	Sector Smoke Level bargraph including alarm threshold indicators
	User-configured Sector Name

Approvals Compliance

Please refer to the Product Guide for details regarding compliant design, installation and commissioning.

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