VESDA-E VES

The VES enables the user to locate the source of smoke by identifying the first sector to reach the Alert level.

The VESDA-E VES is similar to the flagship VESDA-E VEP aspirating smoke detector but also includes a valve mechanism in the inlet manifold and software to control the airflow from the four Sectors (pipes). This configuration enables a single zone to be divided into four separate sectors, for example, distinguishing between separate aisles within a data room. The VES enables the user to locate the source of smoke by identifying the first sector to reach the Alert level. The detector then continues to sample from all sectors to monitor fire growth and will report separate alarm levels for each sector. The VES provides four individually configurable alarm levels (Alert, Action, Fire 1 and Fire 2) for each sector allowing optimum protection in a wide range of applications. Built on the Flair detection technology and years of application experience, VES detectors achieve consistent performance over their lifetime via absolute calibration. In addition, the VES delivers a range of revolutionary features that provide user value.

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 560 m (1,837 ft) 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.

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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 AND WIFI CONNECTIVITY

VESDA-E detectors offer Ethernet and WiFi connectivity as standard features. The detector can be added to a corporate network, allowing WiFi enabled tablet devices and PC's installed with Xtralis monitoring and configuration software to connect wirelessly to the detector via the network.

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 iVESDA application.

FEATURES AND BENEFITS

- 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
- Intuitive LCD display provides instant status information for immediate response
- 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
- 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
- Secondary monitoring and maintenance via WiFi
- 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

VESDA-E VES Technical Specification

SPECIFICATION						
Supply Voltage	18 - 30 VDC (24 V Nominal)					
Power Consumption @ 24 VDC	VES-A00-P			VES-A10-P		
Aspirator Setting	1	5	10	1	5	10
Power (Quiescent)	7.9 W	9.7 W	14.8 W	8.6 W	10.5 W	15.4 W
Power (in alarm)	8.5 W	9.9 W	14.5 W	9.4 W	10.8 W	15.2 W
Dimensions	350 mm x 225 mm x 135 mm (13.8 in x 8.9 in x 5.3 in)					
Weight	4.3 Kg (9.5 lb)			4.4 Kg (9.7 lb)		
Operating Conditions	Ambient: 0°C to 39°C (32°F to 102°F) * Tested to (EN54-20): -10°C to 55°C (14°F to 131°F) Sampled Air: -20°C to 60°C (-4°F to 140°F) ** Humidity: 5% to 95% RH, non-condensing					
Area Coverage	2,000 m^2 (21,520 sq. ft)					
Min Airflow Per Pipe	20 l/m					
Pipe Length (Linear)	280 m (919 ft) ***					
Pipe Length (Branched)	560 m (1,837 ft) ***					
Pipe Lengths Depending On Number Of Pipes In Use	2 pipes 100 m (328 ft)	3 pipes 80 m (262 ft)	4 pipes 70 m (230 ft)			
No. Of Holes (A/B/C)	40/80/100 ***					
Computer Design Tool	ASPIRE					
Pipe	Inlet: External diameter 25 mm or 1.05 in (3/4 in IPS) Exhaust: External diameter 25 mm or 1.05 in (3/4 in IPS) 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 26 mm (1.02 in) cable entries					
Cable Termination	Screw Terminal blocks 0.2–2.5 sq mm (24–14 AWG)					
Dynamic Range	0.001% to 32% obs/m (0.0003% to 10% obs/ft)					
Sensitivity Range	0.005 to 20% obs/m (0.0016% to 6.25% obs/ft)					
Threshold Setting Range	Alert: 0.005% to 2.0% obs/m (0.0016% to 0.625% obs/ft) Action: 0.005% to 2.0% obs/m (0.0016% to 0.625% obs/ft) Fire1: 0.010% to 2.0% obs/m (0.0031% to 0.625% obs/ft) Fire2: 0.020% to 20.0% obs/m (0.0063% to 6.25% obs/ft)					
Software Features	Event log: Up to 20,000 events Smoke level, user actions, alarms and faults with time and date stamp AutoLearn: Detector learns Alarm Thresholds and Flow Fault thresholds by monitoring the environment.					

* Product UL listed for use from 0°C to 38°C (32°F to 100°F).
** 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.

3.5" DISPLAY

Home page

Sector status page

SYMBOL	LED
	Fire 2
	Fire 1
	Action
	Alert
	Disabled
	Fault
	Power
	Smoke and Alarm Threshold Levels
	Detector OK
	Detector Fault
	Aspirator Fault
	Airflow Fault
	Power Fault
	Filter Fault
	Smoke Chamber Fault
	VESDAnet Fault
	StaX Module Fault

SECTOR STATUS PAGE

Display Elements	Descriptions
	Sector Alarm Level
	Sector Smoke level bargraph including alarm threshold indication
Sector 1 name	User - Configured Sector Name

PART NUMBERS	
DESCRIPTION	**ORDER CODE**
VESDA-E VES with LEDs, Plastic Enclosure	VES-A00-P
VESDA-E VES with 3.5" Display, Plastic Enclosure	VES-A10-P
VESDA-E VES Demo Kit	VKT-855
SPARE PARTS	
VESDA-E VES Scanner Manifold Spare	VSP-955
VESDA-E Mounting Bracket	VSP-960
VESDA-E Exhaust adaptor US	VSP-961
VESDA-E Filter	VSP-962
VESDA-E Filter - 20 Pieces	VSP-962-20
VESDA-E Aspirator	VSP-963
VESDA-E Smoke Detection Chamber - MK3	VSP-964-03
VESDA-E Sampling Module	VSP-965
VESDA-E VES-A00-P Front Cover Plastic (LEDs)	VSP-968
VESDA-E VES-A10-P Front Cover Plastic (3.5" Display)	VSP-969-S

LISTINGS / APPROVALS ****
UL
ULC
CSFM
ActiveFire
VdS
EN 54-20, ISO 7240-20

HOLE CLASSIFICATION
Class A (40 holes / Fire 1 = 0.067% obs/m)
Class B (80 holes / Fire 1 = 0.085% obs/m)
Class C (100 holes / Fire 1 = 0.251% obs/m)
(Classification of any configuration is determined using ASPIRE.)

****** These Listings/Approvals are owned by Xtralis, a Honeywell company. They are for the products covered in this document.**

APPROVAL COMPLIANCE

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

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

For more information
Contact your Business Manager

Honeywell
140 Waterside Road
Hamilton Industrial Park
Leicester, LE5 1TN
Tel: +44 (0) 203 409 1779

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