

# Intelligent VESDA-E VEU Series Aspiration Detectors

## General

The VEU Series of aspirating smoke detectors are the premium detector of the VESDA-E range. An Ultra-wide sensitivity range; 15 times greater than VESDA VLP, and provision for more sampling holes provide an increased coverage in high airflow applications by at least 40%. Considerably longer linear pipe runs and extended branched pipe network configurations cater perfectly to applications with higher ceilings providing an increased coverage by up to 80% whilst allowing convenient detector mounting for ease of service and maintenance. A range of revolutionary new features provide unsurpassed detection performance, flexibility, field programmability, connectivity and reduced total cost of ownership.

### FLAIR DETECTION TECHNOLOGY

Flair is the revolutionary new detection chamber that forms the core of the Intelligent VESDA-E VEU Series, providing better detection, fewer nuisance alarms, higher stability, increased longevity and particle characterization. Direct imaging of the sampled particles using a CMOS imager combined with multiple photo-diodes allow vastly more data about the observed particles. The Intelligent VESDA-E VEU Series features a robust IP40-rated enclosure and is equipped with a powerful aspirator that provides a total pipe length of 800 m (2,624 ft).

Two models are available, a VEU-A00-NTF Intelligent aspiration smoke detector with LEDs and a VEU-A10-NTF Intelligent aspiration smoke detector with a LED and LCD display. They provide standard detection coverage to protect up to 69,965 sq.ft (6,500 sq.m) subject to system design and local regulatory requirements.

These detectors are compatibly listed for use with the NFS-320, NFS2-640, and NFS2-3030 fire alarm control panels and operate in FlashScan® mode only.

An Intelligent VESDA-E VEU Series detector connects to the SLC loop of compatible intelligent fire alarm control panels using FlashScan® protocol to communicate up to five levels of events for display and use in control-by-event system programming. Using the SLC connection, the system operator can also review real-time status information such as alarms and faults. The system operator can also put an Intelligent VEU Series detector into service mode, or reset airflow baselines.

Intelligent VEU Series detectors support multiple sensitivity modes with four alarm levels. Day/Night/Weekend mode enables technicians to configure alarm thresholds based on routine changes in the environment.

### CONNECTIVITY AND CONFIGURATION

VESDA-E detectors offer Ethernet and WiFi connectivity as standard features. The detector can be added to a corporate network, allowing WiFi enabled mobile devices and PC's installed with Xtralis configuration and monitoring applications (VSC/VSM/iVESDA) to connect wirelessly to the detector via the network. VSC is used for configuration and VSM is used for both configuration and monitoring. iVESDA is used for remote monitoring on mobile devices. Xtralis pipe network design tool Aspire is intuitive application to create a pipe network tailored to meet site specific requirements.

### BACKWARD COMPATIBILITY

The Intelligent VESDA-E VEU Series is compatible with existing VESDA installations. The detector occupies the same mounting footprint, pipe, conduit and electrical connector positioning as VESDA VLP.



Intelligent VESDA-E VEU-A10-NTF

## Features

- 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 alarm levels and an ultra-wide sensitivity range deliver optimum protection for the widest range of applications.
- Intuitive LCD icon display provides instant status information.
- Flow fault thresholds 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 for reliable and rapid commissioning.
- Referencing to accommodate external environmental conditions to minimize nuisance alarms.
- Backward compatible with VLP.
- Remote monitoring with iVESDA for system review and proactive maintenance.
- Ethernet for connectivity with Xtralis software for configuration, secondary monitoring and maintenance.
- Industry first. Aspirating detector secondary monitoring and maintenance via WiFi.
- USB for PC configuration, and firmware upgrade using a memory stick.
- Two GPIs (monitored/unmonitored) with fix mapping to detector Reset function
- Field replaceable sub-assemblies enable faster service and maximum uptime.

### FLASHSCAN CAPABILITIES

- VEU-A00-NTF and VEU-A10-NTF connect to the Signaling Line Circuit (SLC) loop of NFS-320, NFS2-640, and NFS2-3030. For these detectors, panel firmware version 20 or higher is required.
- Uses 5 detector SLC addresses. *Sensitivity for all event thresholds are programmed with the VSC or VSM applications.*

- Detector trouble reporting at panel.
- Supports setting one device as an Aspiration Reference for other Intelligent VESDA-E VEP or VEU Series detectors on the same SLC loop.

### NFS2-3030/NCA-2 CAPABILITES

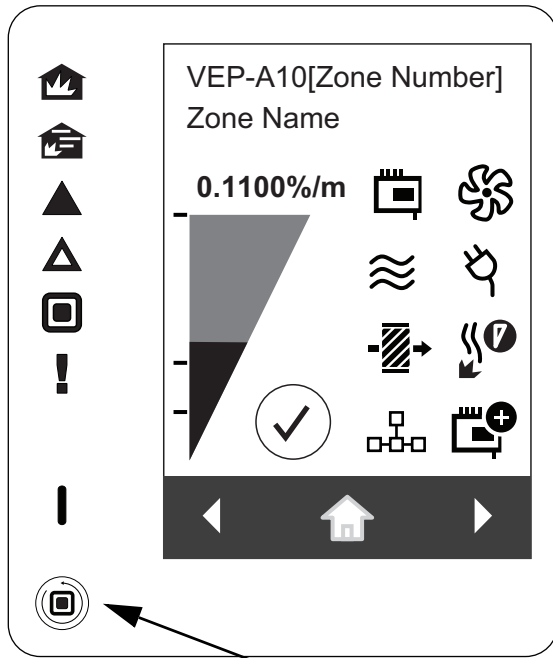
- Displays the real-time read status of percent of alarm.
- Put Intelligent VESDA-E VEU Series detectors into Service Mode, shutting the device down for maintenance.
- Reset airflow baselines for an Intelligent VESDA-E VEU Series detector.

## Specifications for all Intelligent VESDA-E VEU Series Detectors

Supply voltage	18-30 VDC (24 V Nominal)					
Detector current consumption @ 24 VDC	VEU-A00-NTF			VEU-A10-P-NTF		
Aspirator setting	1	5	10	1	5	10
Normal operation <sup>1</sup>	290mA	370mA	590mA	330mA	410mA	630mA
In alarm <sup>1</sup>	320mA	400mA	620mA	360mA	440mA	660mA
SLC current consumption						
Normal operation	8mA	8mA	8mA	8mA	8mA	8mA
In alarm	8mA	8mA	8mA	8mA	8mA	8mA
Dimensions (WHD):	13.8 in x 8.9 in x 5.3 in (350 mm x 225 mm x 135 mm)					
Weight	8.8 lb (4.0 kg)			10.8 lb (4.9 kg)		
Operating conditions	Ambient: 32°F to 102°F (0°C to 39°C) Sampled Air: -4°F to 140°F (-20°C to 60°C) Humidity: 5% to 95% RH, non-condensing					
Area coverage	69,965 square feet (6,500 m <sup>2</sup> )					
Min. airflow per pipe	15 l/m					
Pipe lengths (depending on number of pipes in use)	1 Pipe	2 Pipes		3 Pipes	4 Pipes	
	524 ft (160 m)	492 ft (150 m)		426 ft (130 m)	328 ft (100 m)	
Maximum pipe lengths	Total Pipe Length (with branches): 2624 ft (800 m)					
No. of holes (A/B/C)	80/80/100					
Computer design tool	ASPIRE					
Pipe	Inlet: External diameter 25 mm or 1.05 in (3/4 in IPS) Exhaust: External diameter 1.05 in or 25 mm (3/4 in IPS) via adapter					
Relays	7 pre-configured relays Contacts rated 2 A @ 30 VDC (Resistive)					
IP rating	IP40					
Cable access	1.02 in (4 x 26 mm) cable entries					
Cable termination	Screw Terminal blocks 0.2–2.5 sq mm (24–14 AWG)					
Dynamic Range	0.00006% obs/ft (0.0002%/m) to 6.25% obs/ft (20% obs/m)					
Sensitivity Range	0.0003% to 6.25% obs/ft (0.001% to 20% obs/m)					
Threshold setting range	Alert: 0.0003% to 0.625% obs/ft (0.001% to 2.0% obs/m) Action: 0.0003% to 0.625% obs/ft (0.001% to 2.0% obs/m) Fire1: 0.0003% to 0.625% obs/ft (0.001% to 2.0% obs/m) Fire2: 0.0003% to 6.25% obs/ft (0.001% to 20.0% obs/m)					
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.					

<sup>1</sup>If Ethernet port is in use add additional 10mA. If WiFi port is in use add additional 20mA.

## User Interface display



Acknowledge to stop the buzzer.

## Agency Listings and Approvals

The listings and approvals below apply to Intelligent VESDA-E VEU components. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

UL/ULC Listed: S5198 Vol 20.

CSFM: 7259-1728:0502.

## Product Line Information

**VEU-A00-NTF:** Intelligent aspiration smoke detector with LED display, 4 pipes, covers up to 69,965 square feet. FlashScan.

**VEU-A10-NTF:** Intelligent aspiration smoke detector with LED and LCD display, 4 pipes, covers up to 69,965 square feet. FlashScan.

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
	Communication Fault
	StaX Module Fault



This document is not intended to be used for installation purposes.  
We try to keep our product information up-to-date and accurate.  
We cannot cover all specific applications or anticipate all requirements.  
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