Intelligent VESDA-E VEA Series Aspiration Detectors

General

Intelligent VESDA-E VEA series of detectors provide point-addressable early warning smoke detection with pinpoint addressability. These detectors use microbore air-sampling tubes and patented air sampling points with three alarm sensitivity settings for the sampling points. Intelligent VEA supports 40 sampling points on a single central detector. With a wide range of features the Intelligent VEA provides flexibility, field programmability, enhanced connectivity and reduced total cost of ownership.

The VEA detector features a robust IP40-rated enclosure and is equipped with a powerful pump that provides individual microbore tube lengths up to 330 ft (100 m). It is fully supported by the Xtralis VSC/VSM software which facilitates ease of system commissioning and maintenance. During commissioning, the normalization process establishes the flow performance parameters. Local smoke test ports are used during servicing to verify that the system is fully operational. Field replaceable filter, smoke sensor module, pump and rotary valve components result in less down time and ease of maintenance.

Two models are available, 40-point VEA with LED only (VEA-040-A00-NTF) or LED and LCD display (VEA-040-A10-NTF). They provide standard detection coverage to protect up to 36,000 sq. ft.(3,345 sq. m) subject to system design and local regulatory requirements.

The LCD display provides a range of status information including alarm and fault conditions as well as smoke level. Screens for each type of information are available using a simple navigation system.

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 VEA 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. It also provides individual sampling point events directly on the fire alarm control panel. 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 VEA Series detector into service mode, or reset airflow baselines.

Intelligent VEA Series detectors support three sensitivity settings 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.

HOW IT WORKS

The VEA detector draws a combined air sample from a network of up to 40 microbore flexible tubing from all sampling points in the protected area, then filters and analyzes the sample in laser detection chambers in the smoke sensor module. When smoke particles are detected and the smoke level reaches set alarm thresholds,



Intelligent VESDA-E VEA-040-A10-NTF

the system will raise appropriate alarm conditions. After a Fire Alarm (Fire 1) is raised, the system will sequentially scan the sampling locations via the rotary valve to identify one or more sampling locations with the fire alarm event. To assist in investigation of the source of a fire, if the system is in Pre-Alarm, the user can initiate a smoke scan of all sampling locations.

The VEA pump provides superior detection times for long tube lengths. The system monitors the airflow within the installation, allowing detection of breakages or blockages of individual sampling points and sampling tubes, with faults indicated on the fire alarm control panel. Alarms and fire location are signaled to the fire panel via the SLC loop. Ethernet and WiFi can be used for configuration and secondary monitoring, and a USB interface is provided for field installation and maintenance.

Features

- Pinpoint addressability with end-to-end system integrity monitoring.
- 40 addressable microbore tubes with individual sampling points.
- Interruption-free business operation with centralized testing and maintenance.
- Sampling point and tube blockage detection.
- Automatic tube breakage and sampling point presence detection and sampling point cleaning at set intervals.
- Three sensitivity settings for the sampling points.
- Variable length microbore tubes, up to 330 ft (100 m).
- Laser-based absolute smoke detection.
- Coarse particle filtering and clean air barrier for optics protection.
- Reliable linear pump technology.
- LEDs for alarm and fault signaling.
- 3.5" color touchscreen for status review.
- Seven pre-configured relays.
- Two GPIs (monitored/unmonitored) with fix mapping to detector Reset function.
- Xtralis VSC and VSM PC software support.
- iVESDA application for system monitoring on mobile devices.

- Easy mounting with steel support bracket.
- Field replaceable filter, smoke sensor module, pump and rotary valve.
- Ethernet 100BASE-T.
- WiFi, 802.11 b/g/n.
- Local host-mode USB port.
- Easy cable termination access.
- Event Log (20,000 events).

FLASHSCAN CAPABILITIES

- VEA-040-A00-NTF and VEA-040-A10-NTF connect to the Signaling Line Circuit (SLC) loop of the NFS-320, NFS2-640, and NFS2-3030. For these detectors, panel firmware version 20 or higher is required.
- Uses 45 detector SLC addresses. *Sensitivity settings for all event thresholds are programmed with the VSC or VSM applications.*
- Detector trouble reporting at panel.

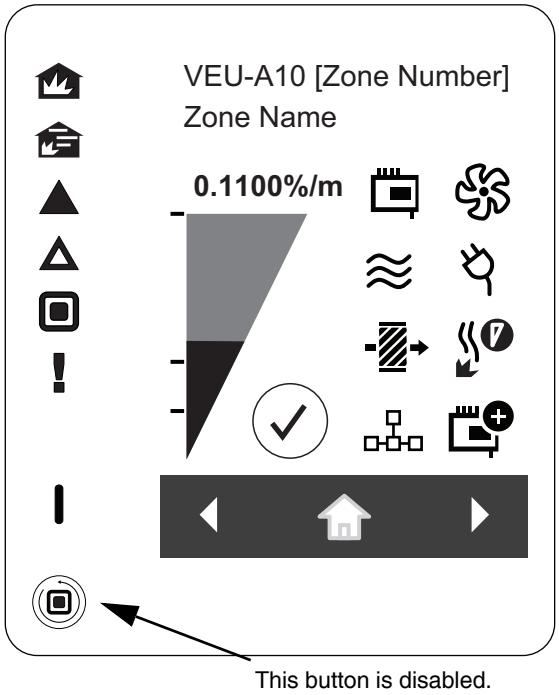
NFS2-3030/NCA-2 CAPABILITIES

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

Specifications for all Intelligent VESDA-E VEA Series Detectors

Supply voltage	18-30 VDC (24 V Nominal)	
Device current consumption @ 24VDC	**VEA-040-A00-NTF**	**VEA-040-A10-NTF**
Normal operation	1.12A	1.12A
In alarm	1.12A	1.12A
Peak current (scan mode)	3.5A	3.5A
SLC current consumption		
Normal operation	8mA	8mA
In alarm	30mA	30mA
Aspirator	Linear Vacuum Pump	
Dimensions (WHD)	13.9 in x 13.2 in x 5.33 in (352 mm x 336 mm x 135.5 mm)	
Weight	21.8 lbs (9.9 kg)	22.2 lbs (10 kg)
Operating Conditions	Ambient: 32°F to 102°F (0°C to 39°C) Sampled Air: 32°F to 122°F (0°C to 50°C) Humidity: 5% to 95% RH, non-condensing	
Microbore Tube Size	Normal Diameter: OD 6 mm, ID 4 mm Reduced Diameter: OD 4 mm, ID 2.5 mm	
Microbore Tube Length	Normal Diameter: Up to 330 ft (100 m) per tube Reduced Diameter: Up to 49ft (15 m) per tube	
Flow Monitoring	Single sampling point and single tube blockage and breakage detection with scanning at set intervals	
Relays	7 pre-configured relays. Contacts rated 2 A @ 30 VDC (Resistive)	
IP Rating	IP40	
Cable Access	4 x 25 mm (1”) cable entries	
Cable Termination	Screw Terminal blocks 0.2–2.5 sq mm (24 - 14 AWG)	
Pre-alarms	Alert and Action - two pre alarm levels	
Fire-1 Alarm Thresholds at the Sampling Point	High: 0.5%/ft (1.6%/m) Enhanced: 1.3%/ft (4.0%/m) Standard: 2.5%/ft (8.0%/m)	
Communication Interfaces	USB 2.0, Ethernet (RJ45), WiFi (802.11 b/g/n)	
Software Features	Event log: Up to 20,000 events.Smoke level, user actions, alarms and faults with time and date stamp	

User Interface display



Agency Listings and Approvals

The listings and approvals below apply to Intelligent VESDA-E VEA 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

VEA-A40-A00-NTF: Intelligent aspiration with LED display, 40 point-addressable detection points. Covers 36,000 square feet FlashScan.

VEA-A40-A10-NTF: Intelligent aspiration with LED and LCD display, 40 point-addressable detection points. Covers 36,000 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

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