# VESDA-E VEU
## VEU-A00, VEU-A10



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 detection chamber that forms the core of the VESDA-E VEU, 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.

## Installation, Commissioning and Operation

VESDA-E VEU features a robust IP40-rated enclosure and is equipped with a powerful aspirator that provides a total pipe length of 800 m (2,625 ft). 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. VEU is fully supported by the ASPIRE and Xtralis VSC software applications which facilitate ease of pipe network design, system commissioning and maintenance.

## VESDAnet™

VESDA devices communicate on VESDAnet which provides a robust bi-directional 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 VEU is fully compatible with existing VESDA installations. The detector occupies the same mounting footprint, pipe, conduit and electrical connector positioning as VESDA VLP. VEU is also compatible with existing VESDAnet installations allowing monitoring of both VESDA-E and legacy detectors via the latest iVESDA application.

## Features

- Flair detection technology delivers reliable very early warning in a wide range of environments with minimal nuisance alarms
- Short wavelength laser-based detection:
  - High sensitivity from small particle light scattering
  - No drift compensation required since focused light directed at target gives low backgrounds
  - High stability with temperature and time
- 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 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
- Referencing to accommodate external environmental conditions to minimise nuisance alarms
- Backward compatible with VLP and VESDAnet
- Remote monitoring with iVESDA for system review and proactive maintenance
- 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
- ULC
- CSFM
- FM
- VdS
- NF-SSI (www.marque-nf.com)
- CE
- UKCA
- ActivFire
- CCC
- EN 54-20, ISO 7240-20
  - Class A (80 holes / Fire 1 = 0.015% obs/m )
  - Class B (80 holes / Fire 1 = 0.026% obs/m)
  - Class C (100 holes / Fire 1 = 0.062% obs/m)
  *Classification of any configuration is determined using ASPIRE.*

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

# VESDA-E VEU
# TECHNICAL SPECIFICATIONS

◆ xtralis®

## Specifications

| Supply Voltage | 18-30 VDC (24 V Nominal) | | | | | |
|---|---|---|---|---|---|---|
| Power Consumption @ 24VDC | VEU-A00 | | | VEU-A10 | | |
| Aspirator Setting | 1 | 5 | 10 | 1 | 5 | 10 |
| Power (Quiescent) | 7.0 W | 9.0W | 14.7 W | 8.0 W | 10.0 W | 15.5 W |
| Power (In Alarm) | 7.8 W | 9.8 W | 15.5 W | 8.8 W | 10.8 W | 16.3 W |
| Dimensions (WHD) | 350 mm x 225 mm x 135 mm (13.8 in x 8.9 in x 5.3 in) | | | | | |
| Weight | 5.3 kg (11.7 lbs) | | | 5.3 kg (11.7 lbs) | | |
| Operating Conditions | Ambient: 0°C to 38°C (32°F to 100°F)<br>Sampled Air: -20°C to 60°C (-4°F to 140°F) *<br>Tested to: (EN54-20) -10°C to 55°C (14°F to 131°F)<br>Humidity: 5% to 95% RH, non-condensing | | | | | |
| Maximum area of coverage | 6,500 m² (69,965 sq.ft)** | | | | | |
| Minimum airflow per pipe | 15 l/m | | | | | |

| Pipe lengths depending on number of pipes in use | 1 Pipe | 2 Pipes | 3 Pipes | 4 Pipes |
|---|---|---|---|---|
| | 160 m (524 ft) | 150 m (492 ft) | 130 m (426 ft) | 100 m (328 ft) |

| Maximum pipe lengths | Total Pipe Length (with branches): 800 m (2625 ft) |
|---|---|
| StaX | PSU, Auto Pipe Clean |
| 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)<br>Exhaust: External diameter 25mm or 1.05 in (3/4 in IPS) via adaptor |
| Relays | 7 programmable relays (latch or non-latch states)<br>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) |
| Measurement Range | 0.0000% to 32% obs/m (0.0000 to 10% obs/ft) |
| Sensitivity Range | 0.001% - 20.0% obs/m (0.0003 to 6.25% obs/ft) |
| Threshold setting range | Alert: 0.001%-2.0% obs/m (0.0003%-0.625% obs/ft)<br>Action: 0.001%-2.0% obs/m (0.0003%-0.625% obs/ft)<br>Fire1: 0.001%-2.0% obs/m (0.0003%-0.625% obs/ft)<br>Fire2: 0.001%-20.0% obs/m (0.0003%-6.25% obs/ft) |
| Software features | Event log: Up to 20,000 events<br>Smoke level, user actions, alarms and faults with time and date stamp<br>AutoLearn: Detector learns Alarm Thresholds and Flow Fault thresholds by monitoring the environment. |

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

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

## Spare Parts

| | | | |
|---|---|---|---|
| VSP-956 | VESDA-E Flow Sensor Manifold | VSP-963 | VESDA-E Aspirator |
| VSP-960 | VESDA-E Mounting Bracket | VSP-964-03 | VESDA-E Smoke Detection Chamber – MK3 |
| VSP-961 | VESDA-E Exhaust adaptor US | VSP-965 | VESDA-E Sampling Module |
| VSP-962 | VESDA-E Filter | VSP-966 | VESDA-E VEU-A00 Front Cover - Aluminum - LEDs |
| VSP-962-20 | VESDA-E Filter - 20 Pieces | VSP-967 | VESDA-E VEU-A10 Front Cover - Aluminum - LCD - 3.5" Display |

## 3.5" Display
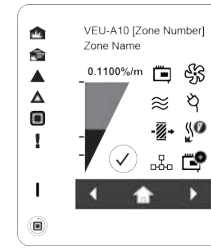


| LED | Description |
|---|---|
| 🏭 | Fire 2 |
| 🏭 | Fire 1 |
| ▲ | Action |
| △ | Alert |
| ▣ | Disabled |
| ! | Fault |
| I | Power |

### Home Page

| Icon on Display | Description |
|---|---|
| ◣ | 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 |

## Ordering Information

| Ordering Code | Description |
|---|---|
| VEU-A00 | VESDA-E VEU with LED's, Aluminium Enclosure |
| VEU-A10 | VESDA-E VEU with 3.5" Display, Aluminium Enclosure |

## Approvals Compliance

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

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