These installation instructions provide essential information for installing VESDA-E VEU Aspirating Smoke Detectors in accordance with the system design. Additional installation and product documentation is listed below in the Reference Documents section.

**System Components**

The detector is shipped with the following components:

- 1 aspirating smoke detector
- 1 mounting bracket
- 1 mounting template for directly mounting the detector to the mounting surface
- 1 End of Line Resistor for the monitored GPI
- 1 installation instruction sheet

**Prerequisites**

- A completed system design.
- A 24V DC Power Supply, compliant with local codes and standards.
- Screws and inserts that are appropriate for the mounting surface.
- Type A to Type B USB Interface Lead for initial configuration of the detector.
- Labels as specified in the system design, e.g. Sampling Point labels
- Cable glands that are compliant with the IP rating of the detector.
- Conduit, as specified in the system design.
- 0.2 mm² to 2.5 mm² (24 - 14 AWG) wiring for relays.
- A PC or laptop installed with Xtralis VSC for initial configuration.
- Standard connection instructions for where the detectors are to be added to a corporate network.

**Environmental Requirements**

**UL and ULC**

For open area, open area high velocity and duct protection the fire alarm threshold (setting) that initiates an evacuation signal must be set such that the sensitivity of each sampling hole is more sensitive than 10% obsc/m (3.2 %/ft) as determined by the ASPIRE software.

**European Installations**

**EN 54-20**

The product is compliant with EN 54-20 sensitivity requirements provided the following conditions are met:

- For a Class A detector, hole sensitivity must be better than 1.5% obsc/m and transport time less than 70 seconds
- For a Class B detector, hole sensitivity must be better than 3% obsc/m and transport time less than 90 seconds
- For a Class C detector, hole sensitivity must be better than 10% obsc/m and transport time less than 110 seconds

These limits should be verified using ASPIRE during the design of the sampling pipe network.

The product is compliant with EN 54-20 flow monitoring requirements provided the following conditions are met:

- The minor low and minor high flow thresholds should be set at 85% and 115% respectively.
- The flow through the detector predicted by ASPIRE must be greater than 20 L/m.

**Power Consumption (18 - 30 VDC Supply)**

<table>
<thead>
<tr>
<th>Aspirator Speed</th>
<th>In Quiescent</th>
<th>In Alarm</th>
</tr>
</thead>
<tbody>
<tr>
<td>VEU-A00</td>
<td>7.0 W</td>
<td>14.7 W</td>
</tr>
<tr>
<td>VEU-A10</td>
<td>8.2 W</td>
<td>15.8 W</td>
</tr>
</tbody>
</table>

**Notes**

- 1 installation instruction sheet
- 1 End of Line Resistor for the monitored GPI
- 1 mounting template for directly mounting the detector to the mounting surface
- 1 aspirating smoke detector

**Attach the detector to the wall using the mounting bracket**

**Secure the mounting bracket to the mounting surface**

**Position the detector on the mounting bracket**

**Secure the detector to the mounting bracket**

**Attach the detector directly to the mounting surface**

Use the provided mounting template. Refer to the Product Guide for further information.

**Note:** Do not remove the mounting studs from the rear of the detector as they are also used to hold internal components in place.

**Inverted Mounting**

Some system designs require that the detector be inverted. Directions for correcting the orientation of the fascia for an inverted detector are available in the Product Guide.

**Reference Documents**

Additional installation and product information is contained in the following documents, which are available for download in the Xtralis partner extranet at www.xtralis.com.

- 22061 - VESDA-E VEU-A00 Product Guide
- 22077 - VESDA-E VEU-A10 Product Guide
Prepare Detector: Wiring, Pipe Inlet and Exhaust Ports
Remove the appropriate plugs for electrical cable installation (B), air sampling pipe inlet ports (A), and exhaust port (C).
- Where the system design requires less than four air sampling pipe inlet ports, use ports 2 and 3 before using ports 1 and 4.
- Do not remove the plugs from inlet ports that will not be used.
- Ensure that pipes are clean and their ends are smooth and sharp.

- Insert the inlet and exhaust pipes (if used) into the correct inlet ports (A) and exhaust port.
- Ensure that wires should be as short as possible.
- Feed the electrical wiring connections through the cable entry ports.
- Use the correct cable gland size to fit into the 26 mm (1") cable entry port. Use correctly rated cable glands to maintain the required IP rating.

Warning: Always switch detector power OFF before plugging/unplugging electrical, relay or network connections. Failure to do so may cause data corruption and/or component failure.

Avertissement: Éteignez toujours détecteur avant de brancher/débrancher les relais électriques, ou de connexions réseau. Au cas contraire vous pourrez entraîner la défaillance corrupion et/ou élément de données.

Wiring: Power, Relays, GPI, Loop Module, VESDAnet, Standalone Detector
- Connect 24 VDC power to the Power In terminals (2). Close front door.
- Let the detector run for approximately 2 minutes and confirm that the pipe raw flow rates (%) should be close to 100%.
- The WiFi module allows connection of laptops installed with Xtralis VSC to the detector.
- Ethernet: The Ethernet port (M) is used for permanent network connection to the detector, and provides a gateway to any other devices on the VESDAnet network. An Ethernet lead can be routed through the cable entry ports and plugged into the Ethernet port. Use a standard Ethernet lead when connecting the detector to a network switch, router or directly to a PC or laptop. Ethernet connection must be configured using a USB connection prior to use. Set the detector access password using Xtralis VSC.
- WiFi: The WiFi module allows connection of laptops as installed with Xtralis VSC to the detector, and provides a gateway to any other devices on the VESDAnet network. WiFi must be enabled and configured using a USB connection prior to use. Set the detector access password using Xtralis VSC.

Communications
- USB: The USB port (L) is used for initial configuration and local maintenance or servicing of the detector using a PC or laptop installed with Xtralis VSC software. Install Xtralis VSC prior to connecting the detector to the computer. This ensures that the required USB drivers are present.
- Ethernet: The Ethernet port (M) is used for permanent network connection to the detector, and provides a gateway to any other devices on the VESDAnet network. An Ethernet lead can be routed through the cable entry ports and plugged into the Ethernet port. Use a standard Ethernet lead when connecting the detector to a network switch, router or directly to a PC or laptop. Ethernet connection must be configured using a USB connection prior to use. Set the detector access password using Xtralis VSC.
- WiFi: The WiFi module allows connection of laptops as installed with Xtralis VSC to the detector, and provides a gateway to any other devices on the VESDAnet network. WiFi must be enabled and configured using a USB connection prior to use. Set the detector access password using Xtralis VSC.

Sampling Pipe Network
- Completes the pipe network installation in accordance with the system design. Refer to the detector Product Guide and the VESDAnet Pipe Network Installation Guide for general information regarding pipe network installation.
- Ensure that the exhaust is open, the pipes are clear and all sampling holes have been drilled.

Power Up
- Connect 24 VDC power to the Power In terminals (2). Close front door.

Connection to Addressable Loop Module for Reporting Alarms and Faults

Connection to VESDAnet

Wiring Example: Power, Relays, GPI, Loop Module, VESDAnet, Standalone Detector

Standalone Detector

The diagram below shows the factory default wiring for VESDAnet sockets (C and D) prior to connecting the detector to the VESDAnet network. It is recommended that 120 Ohm twisted pair cables (e.g. Belden 9841) be used for the devices in the network, with a maximum length between devices of 1.2 km. The polarity of the data wires must be maintained throughout the network.

Power and Relay Wiring
Power: There are two sets of power terminals on the main board. Connect a 24 VDC power supply to the PWR IN socket (B). If required, connect to another detector via the PWR OUT socket (A).

Relays: The relays interface to the Fire Alarm Control Panel (FACP) to communicate faults, alarms and disabled states. Relay contacts are rated 2 A @ 30 VDC, resistive. Connect as required by the system design. Use electrical wire sizes from 0.2 mm² to 2.5 mm² (24 - 14 AWG). Refer to the Addressable Loop Module example.

Warning: Ensure that all wiring complies with manufacturer’s instructions and local and national fire detection code requirements. Refer to Codes and Standards Information for Air Sampling Smoke Detection section of the detector product guide for further information on wiring compliance.

Avertissement : Vérifiez que toutes les câbles ont passé au nombres d'instructions du fabricant et locaux et au national fire safety code requirements. Refer to Codes and Standards Information for Air Sampling Smoke Detection section of the detector product guide for further information on wiring compliance.

Caution: Do NOT LOOP WIRE UNDER TERMINALS WHEN WIRING DETECTORS. BREAK WIRE RUNS TO PROVIDE SYSTEM SUPERVISION OF CONNECTIVITY.

Attention: NE PAS RAILER LES CABLES TERMINAUX PENDANT LES CABLEAGES DES Fils: POUR TOUTES LES CONNECTIONS A RELAIS, INTERROMPRE LES FILS POUR PERMETTER LA SUPERVISION DU CABLEAGE.

Note: For information on wiring for other types of devices that may be required by the system design, refer to the detector Product Guide and documentation accompanying the device.