VESDA-E VEU-GW-VN Installation Instructions

These installation instructions provide essential information for installing Intelligent VESDA-E SLC 2nd Generation 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

- Completed system design.
- 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.
- 24AWG - 14AWG wiring for SLC connection.
- 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.

Standards Compliance

UL / ULC

Please refer to the *Regional Regulatory Requirements* and Notices section in the respective VESDA-E Gamewell-FCI product guide mentioned in the *Reference Documents* section below.

Power Consumption

Supply Voltage Range	18 - 30 VDC					
	VEU-A00-GW-VN			VEU-A10-GW-VN		
Max Power Quiescent*	0.84 A					
Max Power Alarm*	0.88 A					
Supply Voltage	24 VDC					
	Quiescent			In Alarm		
	Aspirator Setting					
	1	5	10	1	5	10
VEU-A00-GW-VN	0.29 A	0.38 A	0.61 A	0.32 A	0.41 A	0.64 A
VEU-A10-GW-VN	0.32 A	0.41 A	0.64 A	0.35 A	0.44 A	0.67 A

* Maximum current measured is from the supply voltage that generates the highest current.

SLC Current Consumption

Current drawn from the SLC loop: 0.005 A.

Environmental Requirements

- **Detector Ambient** 32°F to 100°F (0°C to 38°C)
- **Sampled Air** -4°F to 140°F (-20°C to 60°C)*
- **Humidity** 5% to 95% RH, non-condensing

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

Note: Please consult your Gamewell-FCI representative for information on operation outside these parameters or where sampled air is continually above 0.015% obs/ft (0.05% obs/m) under normal operating conditions.

Reference Documents

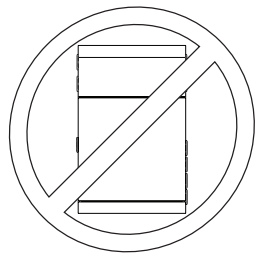
Additional installation and product information is available for download from:

- Xtralis Website (www.Xtralis.com):
  - 35712 – VESDA-E VEU-A00-UL Product Guide
  - 35713 – VESDA-E VEU-A10-UL Product Guide

- Gamewell-FCI Website (www.gamewell-fci.com):
  - 48971 – VESDA-E VEU-GW-VN Product Guide
  - Please visit the website for the panel-related documents and wiring supplements

Installation Instructions

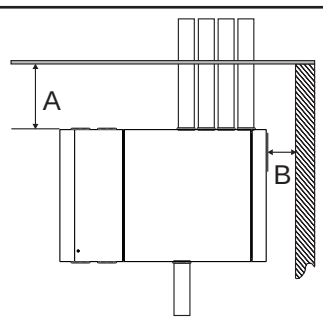
Notes



The VESDA-E detector can be mounted in an upright or inverted position. Do not mount the detector with a sideways orientation.

Ensure the mounting surface is flat as this allows an air tight seal to be achieved between the sampling pipe and the tapered air inlet pipes on the detector.

Refer to the detector Product Guide for information on inverted mounting.

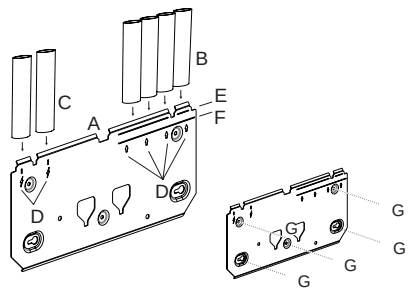


Ensure that there is sufficient clearance to mount the detector, noting the location of air sampling pipes and cable entry points. Due to the rigid nature of the plastic pipe, installation must provide for sufficient movement in all pipework (air inlet, air exhaust and cable pipes) to allow pipe ends to be easily fitted and removed.

- **A:** Minimum 2 in. (50 mm) below ceiling level.
- **B:** The detector can be mounted directly against a wall or obstruction.

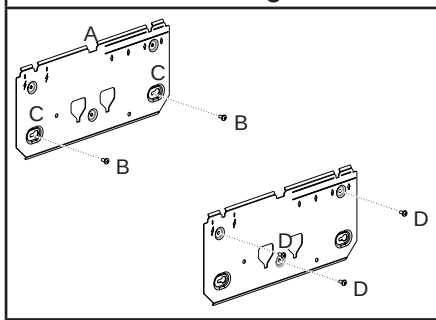
Attach the detector to the wall using the mounting bracket

Position the mounting bracket as specified by the system designer



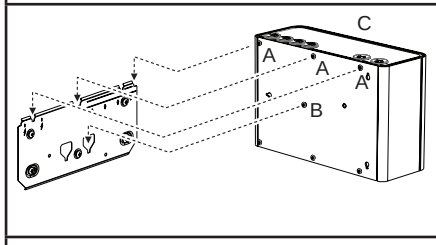
- Position the mounting bracket (A) to allow sampling pipes (B) and electrical conduit (C) to line up horizontally with the alignment marks (D) and vertically with the appropriate pipe depth line.
  - 3/4 inch IPS (1.05 inch OD) sampling pipe should vertically align with the top depth line (E).
  - 25 mm OD sampling pipe should vertically align with the bottom depth line (F).
- Hold the plate in position and mark positions for 5 screw holes (G) on the mounting surface. Remove the plate and drill holes. Insert plugs if required.

Secure the mounting bracket to the mounting surface



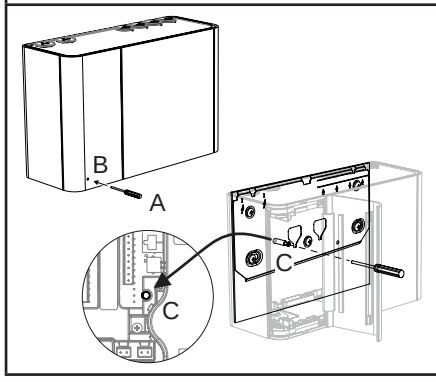
- Align the mounting plate with the holes. Ensure that the plate is level.
- Insert and tighten two screws (B) in the keyhole slots (C) followed by three screws (D) in the remaining slots.
  - Use screws and inserts that are appropriate for the mounting surface and the weight of the detector.

Position the detector on the mounting bracket



- Align the mounting studs (A) on the rear of the detector with the mounting stud slots on the mounting bracket. Ensure that the center stud (B) is in its slot.
- Slide the detector (C) down until the top of the detector is flush with the top of the mounting bracket.

Secure the detector to the mounting bracket



- Open the door on the front of the detector by inserting a thin screwdriver (A) into the hole at bottom left of the door (B) and firmly pushing perpendicular to the door surface to release the door latch.
- Remove the tape covering the partially inserted locking screw (C).
- Tighten the locking screw.

Attach the detector directly to the mounting surface

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

Warning: 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.

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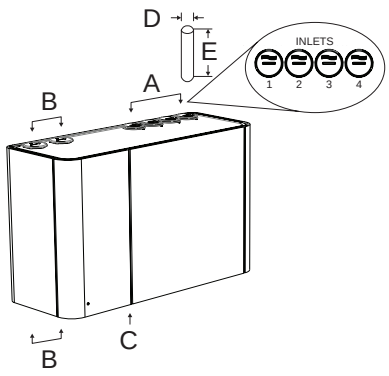
Gamewell FCI FIRE CONTROL INSTRUMENTS

VESDA-E VEU-GW-VN Installation Instructions

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 requries 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 square and smooth.



A	Inlet Port, Qty 4
B	Cable Entry Port, Qty 4, 1” (26 mm)
C	Exhaust Port, OD 1.05” or 25 mm (3/4” IPS) via adaptor
D	Inlet Pipe Diameter: OD 1.05” (3/4” IPS) or 25 mm
E	Minimum Inlet Pipe Length: 19.6” (500mm)

Note: To remove the pipe inlet and cable entry port plugs, place a large screwdriver in the large slot and twist, or use a small screwdriver in the side slots to lever the plug out.

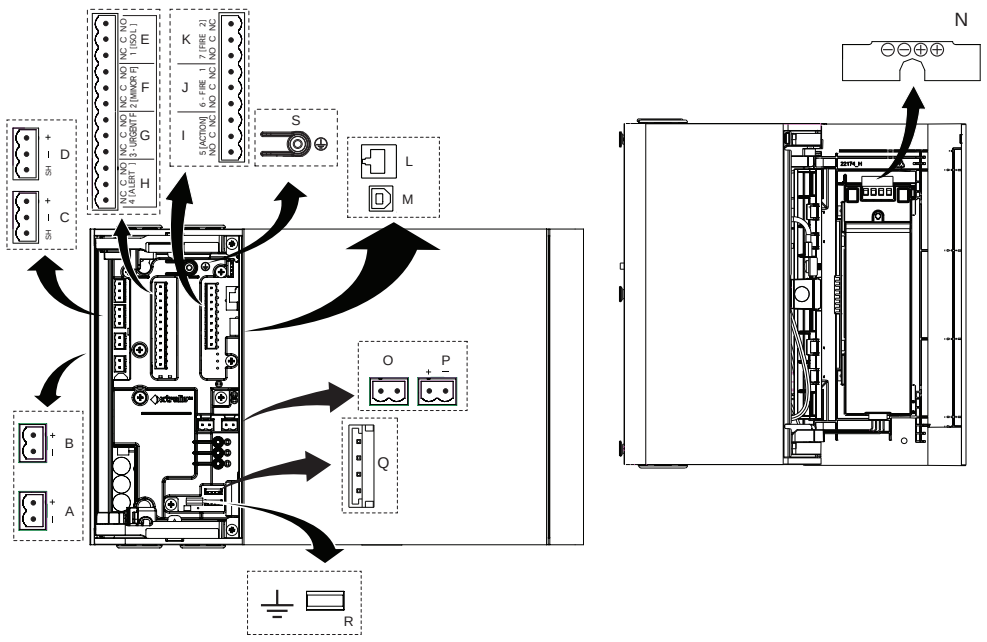
- Insert the inlet and exhaust pipes (if used) into the correct inlet ports (A) and exhaust port.
- Exhaust pipe should be as short as possible.
- Feed the electrical wiring connections through the cable entry ports.
- Use the correct cable gland size to fit into the 1” (26 mm) cable entry port. Use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

Note: Do not glue the inlet and exhaust pipe into the detector ports. The product warranty will be void if the pipes are glued.

Wiring: Power, SLC and VESDAnet.

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

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



Power	
A	Power Out
B	Power In
VESDAnet	
C	VESDAnet B
D	VESDAnet A
Relays	
E	1 - Isolate (Disable)
F	2 - Minor Fault
G	3 - Urgent Fault
H	4 - Alert
I	5 - Action
J	6 - Fire 1
K	7 - Fire 2

Communications	
L	Ethernet
M	USB
N	SLC Connection
Q	EBUS Port
R	Reference Terminal For UL installations connect to local ground to enable ground fault detection on VESDAnet
GPI	
O	Monitored GPI
P	Unmonitored GPI
Ground	
S	Chassis Ground Terminal

Power, Relay and SLC Wiring

Power: Make power connections compatible with the level of service required for SLC wiring.

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: 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).

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 : Verifier que toute les cables ont passé au nombres d’instructions du fabricant et locaux et au feu national de securited’incendie sois exiger. Adresser aux codes informations sur les normes et reglementations de detection de fume par prelevement d’air par le notice descriptive du produit pour plus de renseignements au conformite du cablage.

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

Attention : NE PAS RALIER LES CABLES TERMINAUX PENDANT LES CABLAGES DES FILS. POUR TOUTES LES CONNECTIONS A RELAIS, INTERROMPRE LES FILS POUR PERMETTRE LA SUPERVISION DU CABLAGE.

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

Unmonitored GPI

The Unmonitored GPI is an input which can be used to initiate a Remote Reset function.

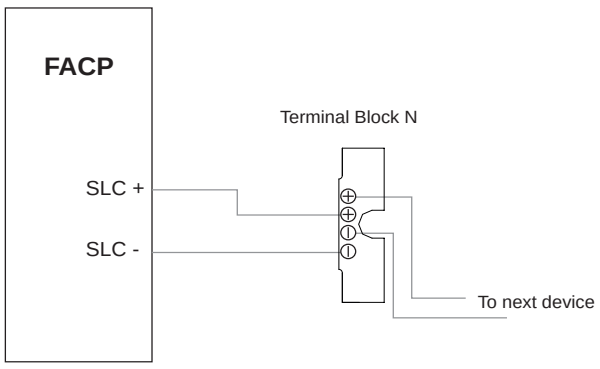
Monitored GPI

The monitored GPI in the SLC mode of operation. The monitored GPIs are pre-configured to default settings and cannot be changed on the VESDA-E SLC detectors.

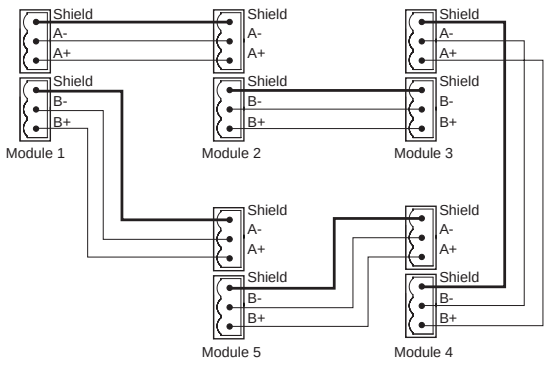
A 10K end of line resistor is used to allow the detector to monitor for open circuit faults in the wiring from the detector to the contact.

SLC Wiring

Terminal block (N) is used for SLC wiring. Connections should be made as per the FACP wiring diagram below:

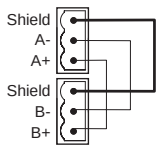


Connection to VESDAnet



The diagram shows an example of the wiring for a closed VESDAnet loop, which is the recommended configuration. Remove the factory default A and B links from the VESDAnet sockets (C and D) prior to connecting the detector to the VESDAnet. It is recommended that 120 Ohm twisted pair cables (e.g. Belden 9841) be used for including 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.

Standalone Detector



The diagram below shows the factory default wiring for VESDAnet sockets (C and D) as required for a detector that is not connected to a VESDAnet.

- Leave as is, or replace if it has been removed.

Ground Fault Detection

In order for VESDAnet ground fault detection to be active, connect the Chassis Ground Terminal (S) to the building ground and insert a jumper on the Ground Fault Monitoring Jumper terminals (R).

Communications

- **USB:** The USB port (M) 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 (L) is used for permanent network connection to the detector and provides a gateway to 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.

Sampling Pipe Network

Complete the pipe network installation in accordance with the system design. Refer to the detector Product Guide and the VESDA 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 and Configuration

Connect 24 VDC power to the Power In terminals (B). Close front door.

Follow the commissioning and configuration steps as defined in the respective product guide.

www.gamewell-fci.com

1-800-7161

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. All specifications are subject to change without notice.

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