

## VESDA LaserPLUS™

UL S5198, ULC S7554, FM OB5A5AY, FM (classified) 4D7A3.AX, CSFM 7259-1491:105, NY-MEA 101-98 LPC, SSL, VdS

### DESCRIPTION

The LaserPLUS detector is the central element of the VESDA smoke detection product range. Using unique detection principles, the LaserPLUS has a sensitivity range of 0.0015-6% obscuration/ft (0.005-20%obscuration/m). The LaserPLUS detects fire at the earliest possible stage and reliably measures very low to extremely high concentrations of smoke.

### HOW IT WORKS

Air is drawn into the LaserPLUS through a network of air sampling pipes by a high efficiency aspirator. Each inlet pipe has an airflow sensor that monitors airflow changes in the pipes. Air is exhausted from the LaserPLUS and may be vented back into the protected zone.

Inside the LaserPLUS, a sample of air is passed into the laser detection chamber via an air filter. The filter provides very clean air that is used to protect the optical surfaces inside the detector from contamination.

The detection chamber uses a stable Class 1 laser light source and carefully positioned sensors to active the optimum response to a vast range of smoke types.

The status of the detector, and all alarm, service and fault events are transmitted to displays and external systems via VESDAnet.

### VESDAnet™

VESDA detectors and devices communicate across VESDAnet, the fault tolerant communications protocol. The VESDAnet loop provides a robust bi-directional communication network between devices, even allowing continued operation during single point wiring failures. It also allows for system programming from a single location and forms the basis of the modular nature of the VESDA system.

### AutoLearn™

The LaserPLUS technology employs unique software tools to ensure optimum operation in many differing environments. AutoLearn monitors the ambient environment and sets the most appropriate alarm thresholds (Alert, Action, Fire1, Fire2) during the commissioning process to allow the earliest possible warning of a potential fire situation with no nuisance alarms.

### Referencing

Environments that employ air handling systems may be affected by pollution external to the controlled environment when “fresh air make up” is added. Referencing by VESDA ensures that external pollution does not interfere with the true smoke level being detected in the protected environment. The system can safely compensate for this transient state and allow continued operation free from nuisance alarms.



Form No. V.1.01.01-1

**FEATURES**

- Wide Sensitivity Range
- Laser Based Smoke Detection
- Four Configurable Alarm Levels
- High Efficiency Aspirator
- Four Inlet Pipes
- Airflow Supervisor per Sampling Pipe
- Clean Air Barrier Protects Optics for Increased Longevity
- Easy to Replace Air Filter
- 7 Programmable Relays
- VESDAnet™
- AutoLearn™
- Referencing
- Event Log
- Modular Design
- Recessed Mounting Option

**SPECIFICATIONS**

**Supply Voltage:**

18 to 30VDC

**Power Consumption @ 24VDC:**

No Display or Programmer

	Aspirator @ 3000rpm		Aspirator @ 4200rpm	
	Quiescent	With Alarm	Quiescent	With Alarm
Power	5.8W	6.96W	8.16W	9.36W
Current	240mA	290mA	340mA	390mA

**Dimensions (WHD):**

13.8in x 8.9in x 4.9in  
(350mm x 225mm x 125mm)

**Weight:**

9lbs (4.0kg) including Display and Programmer modules

**Operating Conditions:**

Detector Ambient: 32° to 103°F (0° to 39°C)  
 Sampled Air: -4° to 140°F (-20° to 60°C)  
 Humidity: 10-95% RH, non-condensing  
 \*Please consult your Xtralis office for operation outside these parameters

**Sampling Network:**

Maximum area of coverage: 20,000 sq. ft.  
 Maximum pipe length in accordance with Computer Design Tool (ASPIRE2™) and NFPA standards

**Pipe Size:**

External Diameter 1in (25mm)  
 Internal Diameter 9/16in-7/8in (15-21mm)

**Programmable Relays:**

7 Relays, Contacts rated 2A @ 30VDC NO/NC Contacts

**IP Rating:**

IP30

**Cable Access:**

1 in(8x25 mm) knockouts in various positions

**Cable Termination:**

Screw terminals 30-12 AWG (0.2-2.5sq mm)

**Sensitivity Range:**

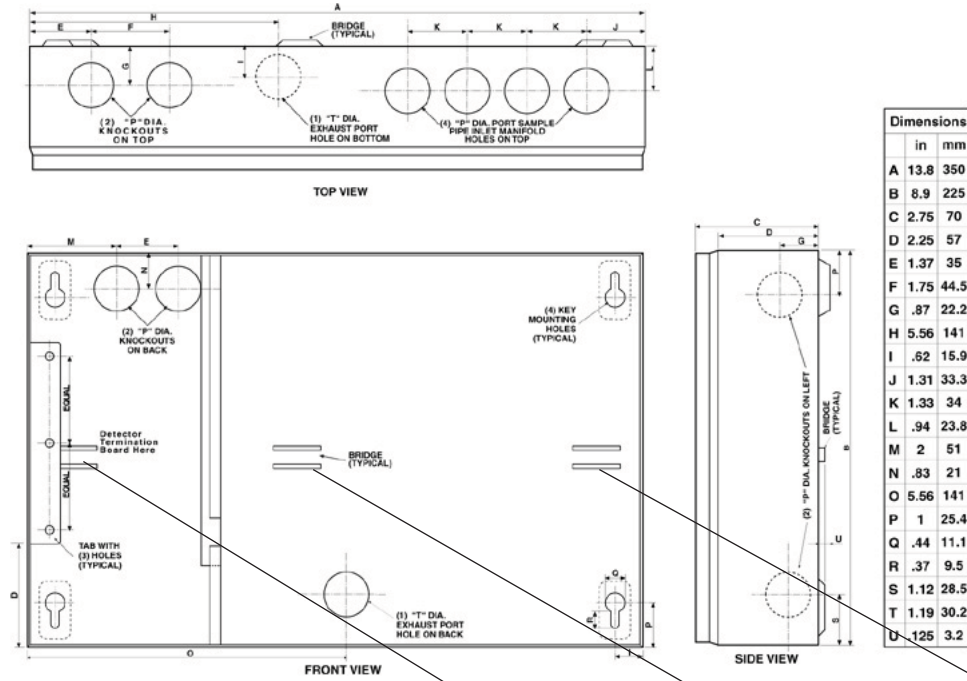
0.0015 to 6% obs/ft (0.005 to 20% obs/m)

**Alarm Threshold Setting Range:**

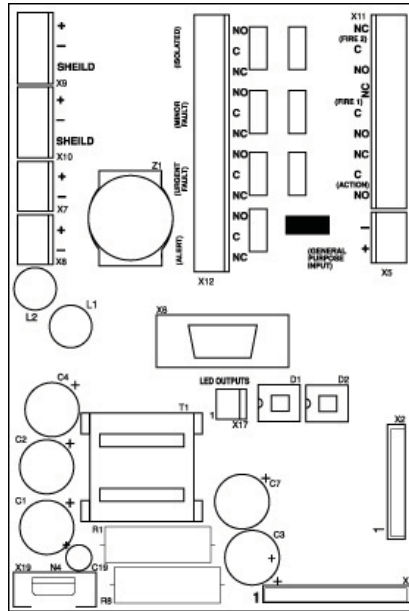
Alert: 0.0015-0.6218% obs/ft (0.005-1.990% obs/m)  
 Action: 0.0031-0.6234% obs/ft (0.010-1.995% obs/m)  
 Fire 1: 0.0046-0.625% obs/ft (0.015-2.00% obs/m)  
 Fire 2: 0.0062-6.25% obs/ft (0.020-20.00% obs/m)\*

\*Limited to 4% obs/ft (12% obs/m) in UL mode  
*Event Log:* Up to 18,000 events stores on FIFO basis  
*AutoLearn:* Minimum 15 minutes, maximum 15 days  
 Recommended minimum period 1 day. During AutoLearn thresholds are NOT changed from pre-set values.  
*Referencing:* Compensation for external ambient conditions  
*Four Alarm Levels:* Alert, Action, Fire 1 & Fire 2  
 Two Fault Warning Levels: Maintenance and Major fault  
 Software Programmable Relays: 7  
*Maintenance Aids:* Filter & Flow monitoring  
 Event reporting via VESDAnet or Event Log

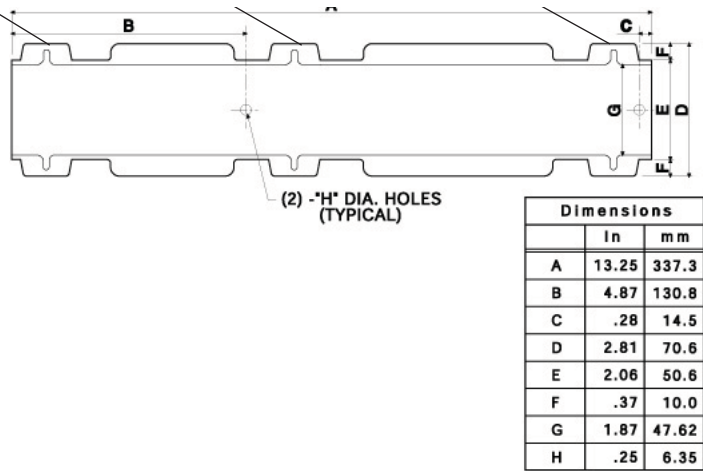
# DETECTOR MOUNTING BOX



## DETECTOR TERMINATION CARD



## DETECTOR SURFACE MOUNTING BRACKET



## ORDERING INFORMATION

<b>Fike Part Number</b>	<b>Manufacturers Part Number</b>	<b>Description</b>
68-003	VLP-000	LaserPLUS, Detector Only
68-004	VLP-400	LaserPLUS, Detector with Two LEDs
68-001	VLP-002	LaserPLUS, Detector with Display
68-006	VLP-010	LaserPLUS, Detector with Programmer
68-005	VLP-012	LaserPLUS, Detector with Display and Programmer

The contents of this document are provided on an “as is” basis. No representation or warranty (either express or implied) is made as to the completeness, accuracy or reliability of the contents of this document. The manufacturer reserves the right to change designs or specifications without obligation and without further notice. Except as otherwise provided, all warranties, express or implied, including without limitation any implied warranties of merchantability and fitness for a particular purpose are expressly excluded.

This document includes registered and unregistered trademarks. All trademarks displayed are the trademarks of their respective owners. Your use of this document does not constitute or create a license or any other right to use the name and/or trademark and/or label.

This document is subject to copyright owned by Xtralis AG (“Xtralis”). You agree not to copy, communicate to the public, adapt, distribute, transfer, sell, modify or publish any contents of this document without the express prior written consent of Xtralis.

