

VESDA LaserPLUS™

Listings/Approvals:
FM, LPC, SSL, ULC, VdS

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 0.005 - 20% obscuration/m (0.0015 - 6% obscuration/ft). 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 a dual-stage air filter. The first filtration stage removes dust and dirt from the air sample before entering the laser detection chamber for analysis. The second stage provides ultra fine air filtration to provide 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 achieve 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.

FEATURES

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



VESDA LaserPLUS 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	7.0W	9.6W	10.8W
Current	240mA	290mA	400mA	450mA

Dimensions (WHD):

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

Weight:

4.0kg (9lbs) including Display and Programmer modules

Operating Conditions:

Detector Ambient: 0°C to 39°C (32° to 103°F)

Sampled Air: -20° to 60°C (-4° to 140°F)

Humidity: 10- 95% RH, non-condensing

Please consult your Vision Systems office for operation outside these parameters or where sampled air is continually above 0.05% obs/m (0.015% obs/ft) under normal operating conditions.

Sampling Network:

Aggregate pipe length: 200m (650ft)

Maximum Single Length: 100m (325ft)

Pipe Modelling Design Tool: ASPIRE™

Pipe Size:

External Diameter 25mm (1in)

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

Programmable Relays:

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

IP Rating: IP30

Cable Access:

8 x 25 mm (1in) knockouts in various positions

Cable Termination:

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

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

Alarm Threshold Setting Range:

Alert: 0.005 - 1.990% obs/m (0.0015 - 0.6218% obs/ft)

Action: 0.010 - 1.995% obs/m (0.0031 - 0.6234% obs/ft)

Fire 1: 0.015 - 2.00% obs/m (0.0046 - 0.625% obs/ft)

Fire 2: 0.020-20.00% obs/m (0.0062-6.25% obs/ft)*

*Limited to 12% obs/m (4% obs/ft) in UL mode

Software Features:

Event Log: Up to 18,000 events stored 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.

Ordering Information:

Detector Configurations: VLP-0XX XX

0	X	X
---	---	---

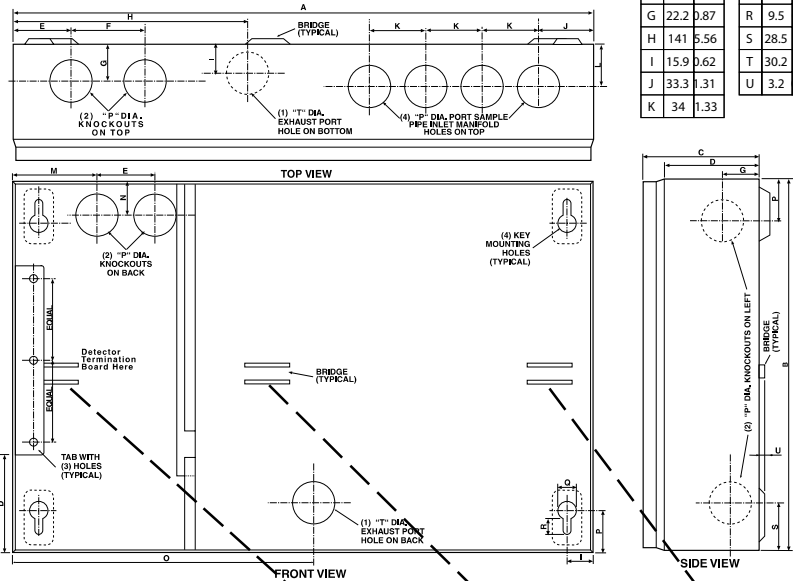
- 0=Blank Plate
- 1=Programmer
- 2=Display
- 0=Standard Detector Orientation
- 1=Inverted Detector Orientation
- 0=Standard Product
- 1=Custom (consult factory)

- Remote Programmer
- Recessed Mounting Kit (Optional)
- Hand-held Programmer
- 19in Sub Rack Configuration

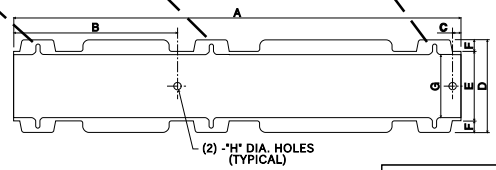
- VRT-100
- VSP-011
- VHH-1000
- contact Vision Systems

Dimensions		Dimensions			
	mm	in		mm	in
A	350	13.8	L	23.8	0.94
B	225	8.9	M	51	2
C	70	2.75	N	21	0.83
D	57	2.25	O	141	5.56
E	35	1.37	P	25.4	1
F	44.5	1.75	Q	11.1	0.44
G	22.2	0.87	R	9.5	0.37
H	141	5.56	S	28.5	1.12
I	15.9	0.62	T	30.2	1.19
J	33.3	1.31	U	3.2	0.125
K	34	1.33			

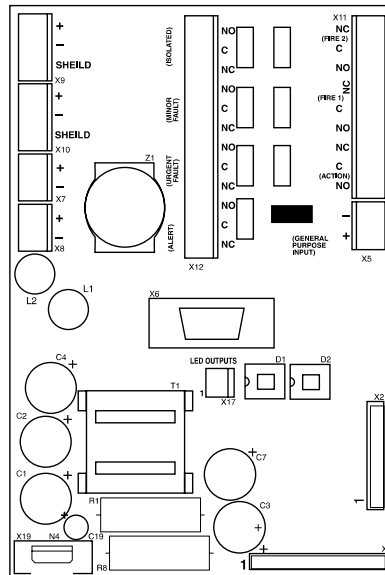
Detector Mounting Box



Detector Surface Mounting Bracket



Detector Termination Card



Dimensions		mm	in
A		337.3	13.25
B		130.8	4.87
C		14.5	0.28
D		70.6	2.81
E		50.6	2.06
F		10.0	0.37
G		47.62	1.87
H		6.35	0.25