

VESDA VLP

Features:

- ▶ Wide sensitivity range
- ▶ Laser based smoke detection
- ▶ 4 configurable alarm levels
- ▶ High efficiency aspirator
- ▶ Four inlet pipes
- ▶ Airflow supervisor per sampling pipe
- ▶ Clean air barrier optics protection
- ▶ Easy to replace air filter
- ▶ 7 programmable relays
- ▶ Recessed mounting option
- ▶ VESDAnet™
- ▶ AutoLearn™
- ▶ Referencing
- ▶ Event log
- ▶ Modular design



Listings / Approvals



- Class A (30 holes / 0.05% obs/m)
- Class B (60 holes / 0.06% obs/m)
- Class C (100 holes / 0.08% obs/m)

The VESDA VLP detector is the central element of the VESDA ASD product range. Using unique detection principles, the VLP has an alarm sensitivity range of 0.005%–20% obscuration/m (0.0015%–6.25% obscuration/ft). The VLP is classed as a “Very Early Warning Smoke Detector”, which means that it 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 VLP 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 VLP and may be vented back into the protected zone.

Inside the VLP, a sample of air is passed into the laser detection chamber. Ultra-fine air filtration provides very clean air 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 VESDA 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™

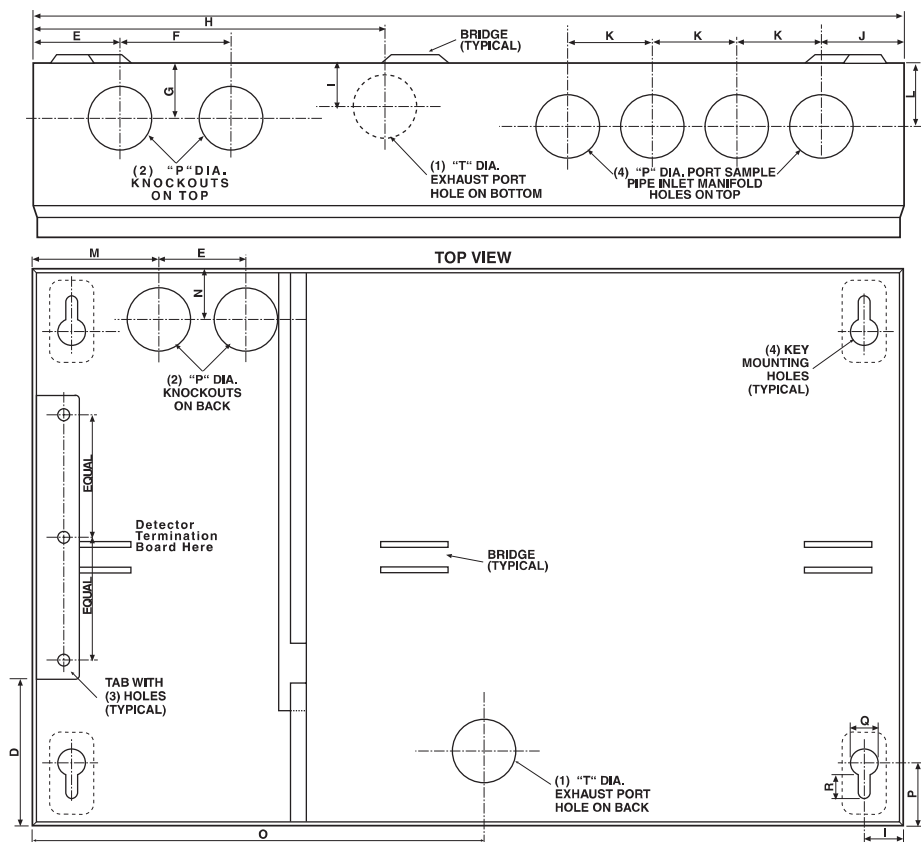
The VLP technology employs unique software tools to ensure optimum operation in many differing environments. AutoLearn monitors the ambient environment and sets the most appropriate alarm thresholds (Alert, Action, Fire1, Fire2) during the commissioning process to allow the earliest possible warning of a potential fire situation with reduced 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 the VLP 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 such nuisance alarms.

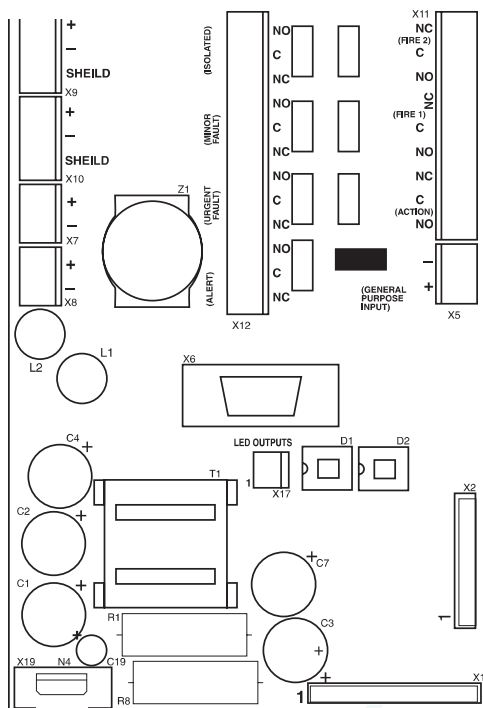
VESDA VLP

Detector Mounting Box



Dimensions		
	mm	in
A	350	13.8
B	225	8.9
C	70	2.75
D	57	2.25
E	35	1.37
F	44.5	1.75
G	22.0	0.87
H	141	5.56
I	15.9	0.62
J	33.3	1.31
K	34	1.33
L	23.8	0.94
M	51	2
N	21	0.83
O	141	5.56
P	25.4	1
Q	11.1	0.44
R	9.5	0.37
S	28.5	1.12
T	30.2	1.19
U	3.2	0.125

Detector Termination Card



Detector Configurations VLP-XXX XX



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

VESDA VLP

Specification					
Supply Voltage	18–30 VDC				
Power Consumption @ 24 VDC	No Display or Programmer				
		Aspirator @ 3000 rpm		Aspirator @ 4200 rpm	
		Quiescent	With Alarm	Quiescent	With Alarm
	Power	5.8 W	6.96 W	8.16 W	9.36 W
	Current	240 mA	290 mA	340 mA	390 mA
Dimensions (WHD)	350mm x 225mm x 125mm (13.8” x 8.9” x 4.9”)				
Weight	4.0 kg (9 lbs) including Display and Programmer modules				
IP Rating	IP30				
Operating Conditions	Tested to:	-10°C to 55°C (14°F to 131°F)*			
	Detector Ambient:	0°C to 39°C (32° to 103°F)* (Recommended)			
	Sampled Air:	-20° to 60°C (-4° to 140°F)*			
	Humidity:	10%–95% RH, non-condensing			
	Please consult your Hochiki 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.				
Storage Conditions (non-operational)	Battery life:	Up to 2 years			
	Humidity:	Dry (<95%)			
	Temperature:	0° to 85° C (32° to 185°F)			
		Must not exposed to sunlight or other radiation sources.			
Sampling Network	Aggregate pipe length:	200m (650 ft)			
	Maximum Single Length:	100m (328 ft)			
	Minimum flow per pipe:	15liters/min			
	Pipe Modelling Design Tool:	ASPIRE2™			
	These pipe lengths represent best practice for systems with single pipe runs on each port (no branching). For longer and/or more complex pipe arrangements, predictions of EN 54-20 compliance are determined using ASPIRE2.				
Area Coverage	Typically up to 2000m² (21500sq. ft.), depending on local codes and standards				
Pipe Size	External Diameter 25mm (1”) Internal Diameter 15–21mm (9⁄16” – 7⁄8”)				
Programmable Relays	7 Relays, Contacts rated 2 A @ 30 VDC NO/NC Contacts				
Cable Access	8 x 25mm (1”) knockouts in various positions				
Cable Termination	Screw terminals 0.2–2.5 sq mm (30–12 AWG)				
Alarm Sensitivity Range	0.005% – 20% obs/m (0.0015% – 6.25% 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				

VESDA VLP

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.
Software Features	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

Product

Remote Programmer
Recessed Mounting Kit (Optional)
Hand-held Programmer

Part Number

VRT-100
VSP-011
VHH-100

* Not all combinations can be ordered.