VESDA VLP

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 0.0015%–6.25% obscuration/ft (0.005%–20% obscuration/m). 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™

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.

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
- VESDAnet™
- AutoLearn™
- Referencing
- Event log
- Modular design
- Recessed mounting option

Listings/Approvals

- UL
- ULC
- FM
- LPCB
- VdS
- CFE
- ActivFire
- AFNOR
- VNIIPO
- CE - EMC and CPD
- EN 54-20
  - Class A (30 holes / 0.05% obs/m)
  - Class B (60 holes / 0.06% obs/m)
  - Class C (100 holes / 0.08% obs/m)

Classification of any configuration is determined using ASPIRE2.

Regional approvals listings and regulatory compliance vary between VESDA product models. Refer to www.xtralis.com for the latest product approvals matrix.

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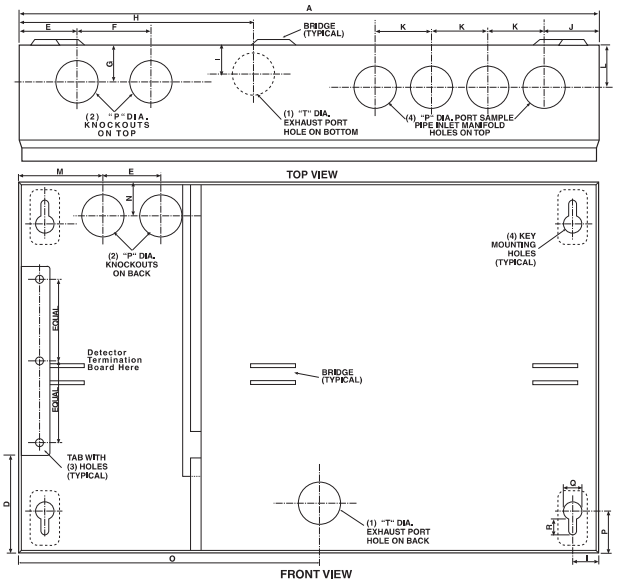
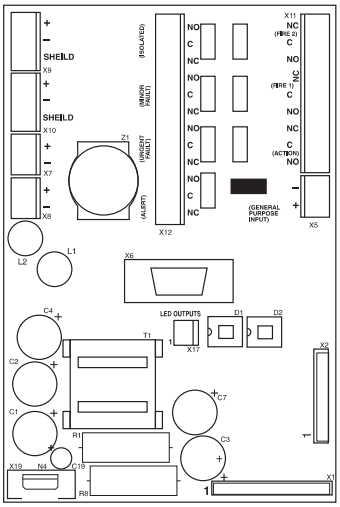
VESDA VLP

Detector Mounting Box



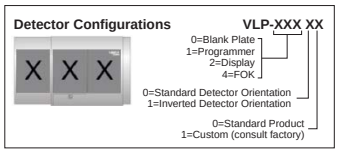
Dimensions		
	in	mm
A	13.8	350
B	8.9	225
C	2.75	70
D	2.25	57
E	1.37	35
F	1.75	44.5
G	0.87	22.0
H	5.56	141
I	0.62	15.9
J	1.31	33.3
K	1.33	34
L	0.94	23.8
M	2	51
N	0.83	21
O	5.56	141
P	1	25.4
Q	0.44	11.1
R	0.37	9.5
S	1.12	28.5
T	1.19	30.2
U	0.125	3.2

Detector Termination Card



Ordering Information

VESDA VLP — VLP-XXX XX (see below)*



Remote Programmer	VRT-100
Recessed Mounting Kit (Optional)	VSP-011
Hand-held Programmer	VHH-1000
19 in Sub Rack Configuration	contact Xtralis

* Not all combinations can be ordered.

Specifications

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

Weight:
9 lbs (4.0 kg) including Display and Programmer modules

IP Rating: IP30

Operating Conditions:
Tested to: 14°F to 131°F (-10°C to 55°C)*
Detector Ambient: 32° to 103°F (0°C to 39°C)* (Recommended)
Sampled Air: -4° to 140°F (-20° to 60°C)*
Humidity: 10% to 95% RH, non-condensing
Please consult your Xtralis offi ce 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: 32° to 185°F (0° to 85° C)
Must not exposed to sunlight or other radiation sources

Sampling Network:
Aggregate pipe length: 650 ft (200 m)
Maximum Single Length: 328 ft (100 m)
Minimum flow per pipe: 15 liters/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 21500 sq. ft. (2000 m^2), depending on local codes and standards.

Pipe Size:
External Diameter 1 in (25 mm)
Internal Diameter $^{9}/_{16}$ in–$^{7}/_{8}$ in (15–21 mm)

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

Cable Access:
1 in (8 x 25 mm) knockouts in various positions

Cable Termination:
Screw terminals 30–12 AWG (0.2–2.5 sq mm)

Alarm Sensitivity Range:
0.0015%–6.25% obs/ft (0.005%–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 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.

Approvals Compliance

Please refer to the Product Guide for details regarding compliant design, installation and commissioning
* Product UL listed for use from 32°F to 104°F (0°C to 38°C)

www.xtralis.com

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