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 0.005%–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.

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
- NF-SSI (www.marque-nf.com)
- VNIIPO
- CE
- 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 ASPIRE.

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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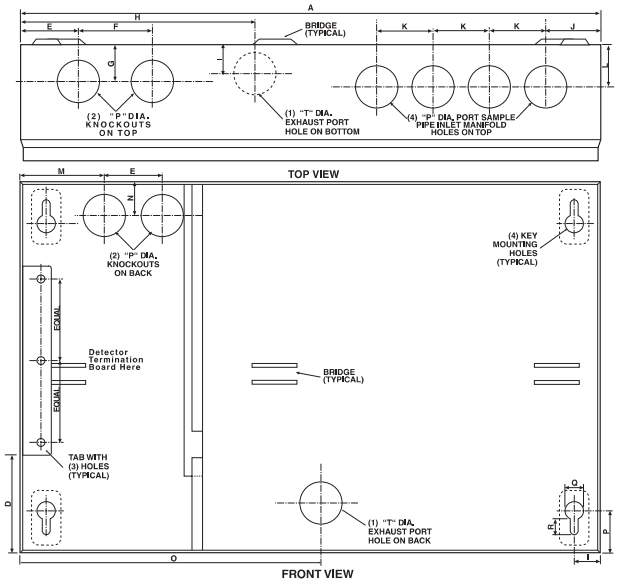
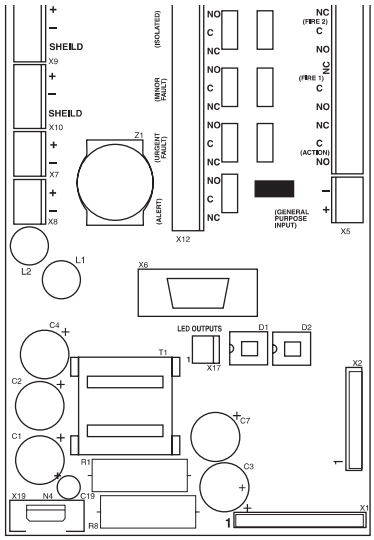
VESDA VLP

Detector Mounting Box



Dimensions		
	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



Detectors

VLP detector with two blank plates and a standard display module	VLP-002
VLP detector with a centrally mounted LCD programmer module and a standard display module	VLP-012
VLP detector with FOK	VLP-400

Spare Parts

VLP Display Module	VSP-002
Filter Cartridge	VSP-005
VESDA VLP Detector Chassis Assembly, includes manifold	VSP-006
Recessed Mounting Kit (optional)	VSP-011
7 Relay Head Termination Card (HTC7)	VSP-014
Aspirator for VESDA VLP	VSP-015
VLP Screw Cover - Pack of 2	VSP-020
Filter Cartridge - Pack of 20	VSP-025
VESDA VLP Mounting Bracket	VSP-028
Exhaust Deflector - Black	VSP-540

Accessories

VESDA VLP display with a remote termination card, 7 relays	VRT-200
VESDA VLP display with a remote termination card, no relays	VRT-600
Includes blank plate with a remote mounting box. 7 relays version for VLP	VRT-500
Remote Programmer	VRT-100
Hand-held Programmer	VHH-100
IP66 enclosure (RAL 7035 powder coated)	020-050
Stainless Steel Grade 316L IP66 enclosure for marine applications or similar environments	020-050-SS
19 in Sub Rack Configuration	Contact Xtralis

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

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 Xtralis 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
Must not exposed to sunlight or other radiation sources

Sampling Network:
Aggregate pipe length: 200 m (656 ft)
Maximum Single Length: 100 m (328 ft)
Minimum flow per pipe: 15 liters/min.
Pipe Modelling Design Tool: ASPIRE™

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 ASPIRE.

Area Coverage:
Typically up to 2000 m^2 (21520 sq. ft.), depending on local codes and standards

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

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

Cable Access:
8 x 25 mm (1 in) 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 (0.0016%–6.25% obs/ft)

Alarm Threshold Setting Range:
Alert: 0.005%–1.990% obs/m (0.0016%–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 (0.0063%–6.25% obs/ft)*
**Limited to 12% obs/m (4% obs/ft) 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 0°C to 38°C (32°F to 104°F).

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