VESDA Exd™

FEATURES

- Exd IIB T6 rating
- Exd approved Flame Arrestors to protect Inlet & exhaust Ports
- CE ATEX 94/9/EC Category 3 equipment
- Absolute smoke detection
- Wide Alarm Threshold Sensitivity range
- VESDAnet connectivity
- AutoLearn™
- Referencing
- Three alarm levels
- Programmable Relays
- Arflow monitoring
- Remote display and relay capability
- Simple mounting design
- Hinged door

The VESDA Exd has been specifically designed to provide very early warning smoke detection capability within hazardous environments that may contain flammable gases. The VESDA Exd satisfies the need of those end users who implement risk based fire-engineering practices and recognise the value of their critical assets.

The VESDA Exd detector is rated to Exd IIB T6. The Exd rating indicates that the enclosure can withstand an internal explosion and prevent the transmission of the explosion to the surrounding explosive atmosphere. Gas Group IIB includes but is not limited to ammonia, propane and methanol. The T6 rating allows use of the VESDA Exd in areas where the maximum temperature does not exceed 85°C in abnormal conditions.

Description

The VESDA detector is housed in an explosion proof enclosure. The air inlet and exhaust ports provide Exd protection through the use of Flame Arrestors.

The VESDA detector is supplied with the full compliment of VESDA features including multiple alarm levels, AutoLearn, Referencing and comprehensive event logging.

The detector is supplied with VESDAnet, the fault tolerant communications protocol, as standard. VESDAnet supports reporting and remote control/diagnostics of the detector from a non-hazardous area allowing easier periodic maintenance reviews without the need to open the Exd enclosure cover.

With VESDAnet, the standard remote module options are available. Remote displays can be used for immediate status reviews displaying alarm levels, smoke levels, common faults and also the ability to remotely reset and isolate the detector. Remote relays provide extensive and flexible relay reporting.

With access via VESDAnet, standard VESDA PC Software permits remote access to detector settings and extensive event logs. VESDAnet access allows remote diagnostics and modifications including smoke trends, alarm thresholds, air-flow trends and detector configuration. The General Purpose Input function can be configured to automatically isolate the detector or put it in standby mode when particular conditions apply.

The VESDA Exd has hinged internal access to ease the maintenance process and the enclosure has 4 x M25 holes for Exd approved cable glands.

How It Works

The air samples collected in a protected area are transported by the pipe network to the VESDA detector. The air sample is passed through an inline deflagration flame arrestor as it enters the explosion proof enclosure.

The air sample is passed through the First Stage of a two stage filter, removing dust and dirt from the sampled air. A small percentage of this air flows to the detector chamber for smoke detection. The Second Stage Filter further filters the air sample to produce ultra clean air. The ultra clean air is used to protect the optical integrity of the surfaces in the detection chamber.

The detection chamber is absolutely calibrated and uses a stable highly efficient laser light source and unique sensor configuration to achieve the optimum response to a wide range of smoke types. When smoke passes through the detection chamber it creates light scattering which is detected by the very sensitive sensor circuitry.

The exhaust air from the detector passes through a Flame Arrestor before being returned to the protected area maintaining the Exd integrity of the unit.

VESDA Exd Specifications

Supply Voltage:
18 to 30Vdc (nominally 24Vdc)
Power Consumption:
8.0 watts quiescent, 8.6 watts alarm
Current Consumption:
335mA nominal, 360mA in alarm @ 24Vdc
Fuse Rating: 1.6A
Enclosure Rating: Exd IIB T6
Enclosure Dimensions (WHD):
490mm x 358mm x 208mm
($19^3/_8$ in x $14^1/_8$ in x $8^1/_8$ in)
Enclosure Weight: 44Kg (approx. 97lbs.)
Operating Conditions:
Detector Ambient: -10°C to 39°C (14° to 103°F)
Sampled Air: -20° to 60°C (-4° to 140° F)
Humidity: 10-95% RH, non-condensing
Sampling Network:
Single pipe length 50m (164ft) max.
Twin (branched) pipe length 30m (98ft) max per branch
Max. 10 Sampling Holes inc End Cap
Min. 2 Sampling Holes inc End Cap in all cases
Pipe ID:
Internal Diameter: 15-21mm (9/16" – 7/8")
External Diameter: 25mm (1")
Sampling pipe gland: - 2 x 25mm (1in)
IP Rating: IP66
Mounting:
4 external lugs with holes centred at 318 x 452mm accepting 10mm bolts
Cable Access:
4 x M25 holes for Exd-approved cable glands (not supplied).
Unit shipped with Exd blanking plugs only.
Cable Termination:
Screw terminal blocks 0.2-2.5 mm^2 , (30-12 AWG)
Alarm Threshold Setting Range:
Alert: 0.005 - 1.990% obs/m (0.0015 - 0.6218% obs/ft)
Pre-Alarm: 0.010 - 1.995% obs/m (0.0031 - 0.6234% obs/ft)
Fire: 0.015 - 20.00% obs/m (0.0046 - 6.25% obs/ft)*
*Limited to 4% obs/ft for UL
Software Features:
Event Log: Up to 12,000 events stored on FIFO Smoke level, alarms and faults with time and date stamp
AutoLearn: Minimum 15 minutes, maximum 14 days
During AutoLearn thresholds are NOT changed from pre-set values.
Standards & Approvals:
EN50018:2000
Certificate No. AUS Ex 03.3854X
Tested by Testsafe, Sydney, Australia
CE - ATEX 94/9/EC - Category 3 equipment
Certificate No. ITS 03 ATEX 11273
Certified by Intertek ETL SEMKO UK

Ordering Information:
VLX-100 VESDA Exd

Optional Devices:

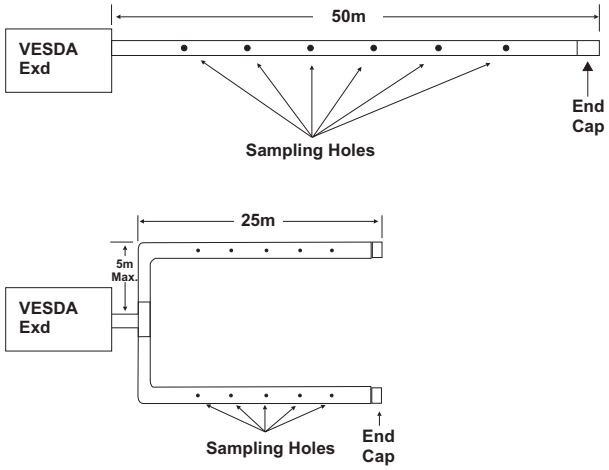
Remote LaserCOMPACT Display and Relays	VRT-J00
Remote VESDAnet Socket	VRT-300
Remote LCD Programmer	VRT-100
VESDA System Management (VSM3)	VSW-007
VConfigPRO	VSW-005

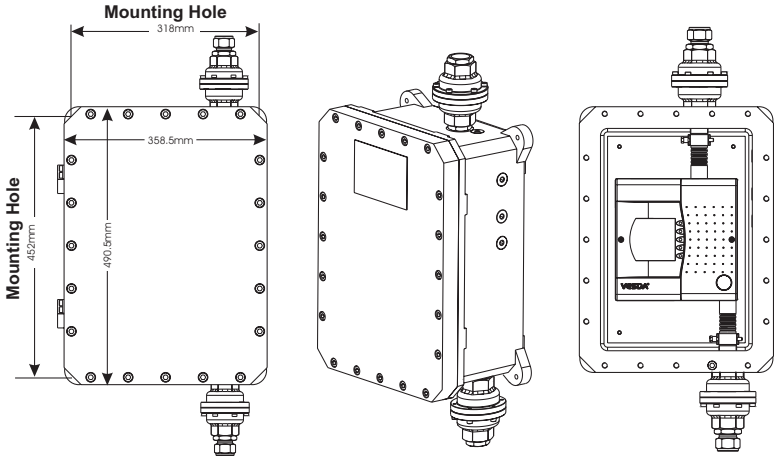
Spare Parts:

Flame Arrestor	VSP-400
VLC Exd VN Detector	VSP-405

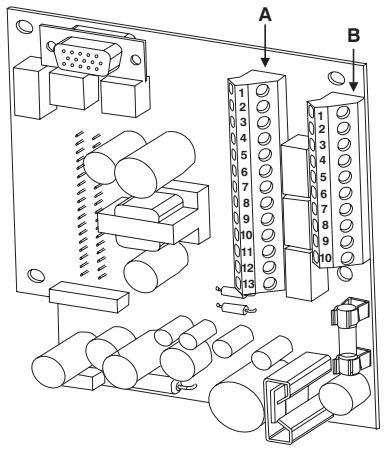
To confirm the suitability of the VESDA Exd for your application please refer to the VESDA Regional Office closest to you

Recommended Example of Sampling Pipe Networks





VESDA Exd External Dimensions



Terminal A

1	Bias (-) (GND)
2	Reset (-)
3	Reset (+)
4	Bias (+)
5	LED (-) (GND)
6	LED (+)
7	FIRE (NO)
8	FIRE (C)
9	PRE-ALARM
10	PRE-ALARM (C)
11	FAULT (NO)
12	FAULT (C)
13	FAULT (NC)

Terminal B

1	Shield
2	VESDAnet-A (-)
3	VESDAnet-A (+)
4	Shield
5	VESDAnet-B (-)
6	VESDAnet-B (+)
7	Power (-)
8	Power (+)
9	Power (-)
10	Power (+)

Detector Termination Card

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