VESDA Air-Sampling

Your Safety, Our Technology

VESDA VLF

VLF-500

Features:

- Out-of-the-Box Installation and Commissioning
- Ultrasonic Airflow Sensing
- Laser-Based Absolute Smoke Detection
- Pre-engineered pipe network designs
- Programmable Alarm Thresholds
- Clean air barrier optics protection
- Multiple Event Logging in separate logs
- Event log – up to 18000 events
- Offline/online configuration capability
- Up to 500m² (5000sq. ft.) coverage*
- Field Service Access Door
- Instant Recognition Display
- Instant Fault Finder™
- AutoLearn™ Smoke
- AutoLearn™ Flow

Listings / Approvals

-Class A (30 holes / 0.05% obs/m)
-Class B (30 holes / 0.15% obs/m)
-Class C (30 holes / 0.32% obs/m)

The VESDA VLF-500 detector is a very early warning smoke detector designed to protect small, business-critical environments of less than 500m² (2500 sq. ft.).

The detector works by continually drawing air into sampling holes in a pipe network. The air is filtered and passed into a detection chamber where light scattering technology detects the presence of very small amounts of smoke. Detector status information is communicated on the detector display and via relays or optional interface cards.

Out-of-the-box operation

The VLF can be installed and commissioned out-of-the-box without the need for a special interface or software programming tools.

In operation, the unique Smoke Dial™ display provides the user with an instant understanding of a smoke event, even from a distance. Should a fault occur, the user simply opens the field service door and activates the Instant Fault Finder feature to determine the specific fault condition. This information can then be passed onto their fire service company, ensuring that service technicians arrive onsite fully prepared.

Ultrasonic Flow Sensing

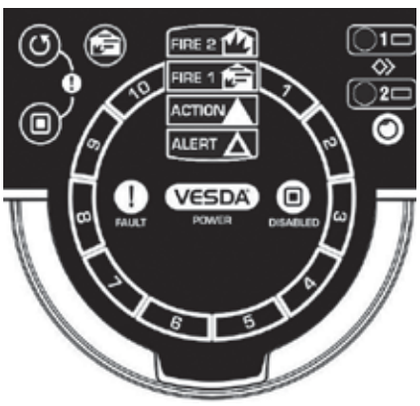
The patent-pending Ultrasonic Flow Sensing used in the VLF provides a direct reading of the sampling pipe flow rate. The system is immune to air temperature and pressure changes and is unaffected by contamination. The VLF is the first air sampling smoke detector to use ultrasonic flow sensing.

VESDA Air-Sampling

Your Safety, Our Technology

VESDA VLF

VLF-500



Display

The display provided to the user includes a Smoke Dial™ and alarm and status indicators.

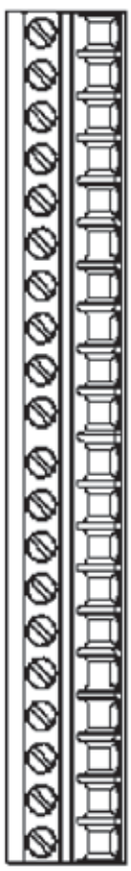
When the field service access door is open, the user has access to the RESET ↺ , DISABLE ▣, Fire Test , AutoLearn ◇» and Instant Fault Finder functions.

When the Instant Fault Finder function is activated, the Smoke DialTM converts to a fault indicator, with the dial segment numbers corresponding to the faults listed below.

Legend of fault indicators

1	Filter
2	Aspirator
3	High flow
4	Low flow
5	n/a
6	External Device/PSU
7	Interface card
8	Field wiring
9	AutoLearn Fail
10	Detector failure

Legend of fault indicators



1	GPI	
2	GPI	
3	Display TX	
4	Display RX	
5	Display Common Ground	
6	Display Power -	
7	Display Power +	
8	Power Return 0 VDC	*From power supply unit*
9	Power In 24 VDC	
10	Power Return 0 VDC	*To next detector (if more than 1 detector per Power Supply Unit)*
11	Power Out 24 VDC	
12	NC	
13	Common	*Fault relay*
14	NO	
15	NC	
16	Common	*Fire 1 relay*
17	NO	
18	NC	
19	Common	*Action relay*
20	NO	

VESDA Air-Sampling

Your Safety, Our Technology

VESDA VLF

VLF-500

Specification	
Input Power	Voltage: 24V DC Nominal (18-30 V DC) Current @ 24 VDC: 410 mA nominal, 490 mA in alarm
Dimensions (W x H x D)	256mm x 183mm x 92mm (10 1/16" x 7 1/5" x 3 2/3")
Weight	Approx. 2 kg (4.4 lbs)
IP Rating	IP30
Mounting	Upright, inverted or horizontal
Operating Conditions	Ambient: 0°C to 39°C (32°F to 103°F) * Tested to: -10°C to 55°C (14°F to 131°F) Sampled Air: -20°C to 60°C (-4°F to 140°F) Humidity: 5% to 95% RH, non-condensing
Sampling Network	Maximum pipe lengths: 1 x 50m (150ft) (Max. 12 holes) -10°C to 55°C (14°F to 131°F) 2 x 30m (90ft) per branch (Max. 12 holes per branch) Sampling Hole Options: Pre-Engineered Option or Maximum Pipe length in accordance with Pipe Modelling Design Tool (ASPIRE2™)
Air Inlet Pipe	Accepts both metric and American standard pipe sizes Metric: 25mm (1.05") American Pipe: IPS 21mm (3/4 ".)
Area Coverage	Up to 500m² (5000 sq. ft.) depending on local codes and standards
Relay Outputs	3 changeover relays (Fire 1, Action, Fault), Contacts rated 2A @ 30 VDC (max). NO/NC Contacts
Cable Access	3 x 25mm (1 1/16 ") cable entries (1 rear entry, 2 top entry)
Cable Termination	Screw Terminals 0.2-2.5mm² (30-12 AWG)
Interfaces	Shown in Terminal Block Connections diagram, to right, plus an RS232 Programming Port. General Purpose Input (GPI) interface offers: Reset, Disable, Standby, Alarm set 1, Alarm set 2 and External Input functions.
Alarm Threshold Setting Range	Alert, Action: 0.025 - 2.00% obs/m (0.008 - 0.625% obs/ft) Fire 1, Fire 2: 0.025 - 20.00% obs/m (0.008 - 6.25% obs/ft) Individual Alarm Delays: 0 – 60 seconds Two Alarm Threshold Settings: Either time or GPI based
Display	▸ 4 Alarm State Indicators ▸ Smoke Level Indicator ▸ Reset, Disable and Test Controls ▸ Fault and Disabled Indicators ▸ Instant Fault Finder ▸ Smoke and Flow AutoLearn Controls
Event Log	Up to 18000 events, time and date stamped in separate, non-volatile, logs for: Smoke Level, Flow Level, Detector Status and Faults

VESDA VLF

VLF-500

AutoLearn Smoke & Flow	▸ Automatically set acceptable alarm thresholds for both smoke and flow levels ▸ Minimum 15 minutes, maximum 15 days (default 14 days) ▸ During AutoLearn thresholds are NOT changed from pre-set values
Warranty Period	2 years

Ordering Information

Product	Part Number
European language set. English display labels	VLF-500-00 VESDA VLF
European language set. International display labels	VLF-500-01 VESDA VLF
English + Asian language set. International display labels	VLF-500-02 VESDA VLF
English + Russian language set. International display labels	VLF-500-04 VESDA VLF
English + Eastern Euro language set. International display labels	VLF-500-05 VESDA VLF
VESDAnet Interface Card	VIC-010
Multifunction Control Card (MCC)	VIC-020
Multifunction Control Card (MCC) with Monitored Powered Output (MPO)	VIC-030
Filter Cartridge, VSP-722 Aspirator for VESDA VLF-250	VSP-005