ASP Vesda Laser Focus 500

Item numbers covered by this data sheet

Fire Eater item number and name	OEM item number
524513 ASP Vesda Laser Focus 500	VLF-500-03

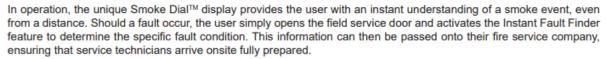### OEM data sheet

VESDA VLF
VLF-500

xtralis

The VESDA VLF-500 detector is a very early warning smoke detector designed to protect small, business-critical environments of less than 500 m² (5,380 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 patented 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.

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
- Instant Recognition Display
- Instant Fault Finder™
- AutoLearn™ Smoke
- AutoLearn™ Flow
- Field Service Access Door
- Multiple Event Logging in separate logs
- Event log – up to 18000 events
- Offline/online configuration capability
- Up to 500 m² (5,380 sq. ft.) coverage

Listings / Approvals

- CCC
- FM Class I Div II
- ActiveFire (ISO/AS 7240-20)
- CE
- UKCA
- LPCB
- VdS
- NF
- EN 54-20
  - Class A (30 holes / 0.05% obs/m)
  - Class B (30 holes / 0.15% obs/m)
  - Class C (30 holes / 0.32% obs/m)

  Classification of any configuration is determined using ASPIRE.

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

VESDA VLF
TECHNICAL SPECIFICATIONS

xtralis®

Specifications

Input Power	Voltage: 24V DC Nominal (18-30 V DC) 410 mA nominal, 490 mA in alarm
Dimensions (W x H x D)	256 mm x 183 mm x 92 mm (101/16 in x 71/5 in x 32/3 in)
Weight	Approx. 2 kg (4.4 lbs)
IP Rating	IP30
Mounting	Upright, inverted or horizontal
Operating Conditions*	Ambient: 0°C to 38°C (32°F to 100°F) Sampled Air: -20°C to 60°C (-4°F to 140°F) * Humidity: 5% to 95% RH, non-condensing *Sampled Air temperature shall reach Ambient Detector temperature upon entry into Detector. Refer to Xtralis Design Guides & Application Notes for sampled air pre-conditioning.*
Sampling Network	• Maximum pipe lengths: 1 x 50 m (150 ft) (Max. 24 holes) 2 x 30 m (90 ft) per branch (Max. 12 holes per branch) • Sampling Hole Options: Pre-Engineered Option or Maximum Pipe length in accordance with Pipe Modelling Design Tool (ASPIRE™)
Air Inlet Pipe	Accepts both metric and American standard pipe sizes Metric: 25 mm (1.05 in.) American Pipe: IPS 21 mm (¾ in.)
Area Coverage	Up to 500 m² (5,380 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 25 mm (1¹/₁₆ in.) cable entries (1 rear entry, 2 top entry)
Cable Termination	Screw Terminals 0.2-2.5 mm² (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 - 0.614% obs/ft) Fire 1, Fire 2: 0.025 - 20.00% obs/m (0.008 - 6.575% 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 Control • Fault and Disabled Indicators • Instant Fault Finder • Smoke and Flow AutoLearn Controlss
Event Log	Up to 18000 events, time and date stamped in separate, non-volatile, logs for: Smoke Level, Flow Level, Detector Status and Faults
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

Ordering Information

Ordering Code	Description	Ordering Code	Description
VLF-500-00	VESDA VLF. European language set. English display labels	VIC-010	VESDAnet Interface Card
VLF-500-01	VESDA VLF. European language set. International display labels	VIC-020	Multifunction Control Card (MCC)
VLF-500-02	VESDA VLF. English + Asian language set. International display labels	VIC-030	Multifunction Control Card (MCC) with Monitored Powered Output (MPO)
VLF-500-03	VESDA VLF. Scandinavian language set. International display labels	VSP-005	Filter Cartridge
VLF-500-04	VESDA VLF. English + Russian language set. International display labels	VSP-715	Aspirator for VESDA VLF-500
VLF-500-05	VESDA VLF. English + Eastern Euro language set. International display labels		

3.5" 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 Dial™ converts to a fault indicator, with the dial segment numbers corresponding to the faults listed below.

Legend of Fault Indicators

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

Terminal Block Connections

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	Action relay
17	NO	
18	NC	
19	Common	Fire 1 relay
20	NO	

Approvals Compliance

Please refer to the Product Guide for details regarding compliant design, installation and commissioning.