VESDA LaserFOCUS™

The VESDA LaserFOCUS Air Sampling Smoke Detector provides very early warning smoke detection performance for the protection of small, business-critical environments of 2,500 (VLF-250) and 5,000 (VLF-500) square feet or less.

The air sampling detection concept works by continually drawing ambient air through sample points in a pipe network. Upon entering the unit the sampled air is filtered then it is passed into the detection chamber where light scattering technology detects the presence of very small amounts of smoke. As the amount of detected smoke increases the revolutionary circular Smoke Dial™ provides the user with an instant understanding of a smoke event, even from a significant distance. Detector status information is communicated externally via relays or optional interface cards.

OUT-OF-BOX OPERATION™

The VESDA LaserFOCUS' unrivaled "Out-of-Box Operation" concept provides straight-forward installation and commissioning right out of the box using proven pre-engineered sampling pipe network designs and powerful AutoLearn routines without the need for a special interface or software programming tools. The AutoLearn™ function automatically sets acceptable alarm thresholds for both smoke and flow levels without the need for a PC or separate programming device. Custom sampling pipe network designs are supported via the ASPIRE2 calculation program.

In operation, the unique circular Smoke Dial provides instant understanding of a smoke event and system status. Should a fault occur the System Fault LED is illuminated. To trouble shoot the condition 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 the Fire Service provider, ensuring service technicians arrive onsite fully prepared.

ULTRASONIC FLOW SENSING™ FEATURE

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

- Out-of-Box™ Operation
- Ultrasonic Flow Sensing™ (Ultrasonic Airflow Sensing)
- Laser-Based Absolute Smoke Detection
- Pre-engineered Pipe Network Designs
- Programmable Alarm Thresholds
- Clean Air Barrier Protects Optics for Longer Life
- Instant Recognition Display
- Instant Fault Finder™

- AutoLearn™ Smoke
- AutoLearn™ Flow
- Field Service Access Door
- Multiple Event Logging in separate logs
- Event log - up to 18,000 events
- Offline/online configuration capability
- Up to 2500 sq. ft. (250 m^2) coverage on VLF-250
- Up to 5000 sq. ft. (500m^2) cover on VLF-500

Form No. V.1.06.01-1

SPECIFICATIONS

Input Power:	Voltage: 24VDC Nominal (18-30 VDC)
	Current @ 24 VDC: 220 mA nominal, 295 mA in alarm -VLF-250
	Current @ 24 VDC: 410 mA nominal, 490 mA in alarm -VLF-500
Dimensions (WHD):	9 5/8in x 6 7/8in x3 1/2in (245mm x 175mm x 90mm) - VLF-250
	9 7/8in x 7 1/8in x 3 1/2in (255mm x 185mm x 90mm) - VLF-500
Weight:	Approx. 4.4 lbs (2kg)
IP Rating:	IP30
Mounting:	Upright, inverted or horizontal
Operating Conditions:	Detector Ambient: 32° to 104°F (0° to 40°C)
	Humidity: 5% to 95% (non-condensing)
Sampling Network:	Maximum area of coverage: 2500 sq. ft for VLF and 500 sq. ft. for VLF 500 depending on local codes and standards. Maximum pipe length in accordance with pre-engineered designs or for custom networks use Pipe Modeling Design Tool (ASPIRE2™) and NFPA standards
Air Inlet Pipe:	Accepts both American and metric standard pipe sizes without use of adapter.
	External diameter: 1 in. (25mm)
	Internal diameter: IPS 3/4 in. (21mm)
Relay Outputs:	3 Form C relays (Fire 1, Action, Fault), Contacts rated 2A @ 30VDC (max)
Optional Relay Outputs:	2 Form C relays (Alert, Fire2), Contacts rated 2A @ 30VDC (max)
Cable Access:	3 x 1 in. (25mm) cable entries (1 rear entry, 2 top entry)
Cable Termination:	Screw Terminals 30-12AWG (0.2-2.5 mm^2)
Interfaces:	Shown in Terminal Block Connections diagram, plus an RS232 Programming Port, General Purpose Input (GPI) interface offers: Reset, Disable, Standby, Alarm set 1, Alarm set 2 and External Input functions
Sensitivity Range:	0.008-6.25% obs/ft (0.025-20.00% obs/m)
Alarm Threshold Setting Range:	Alert, Action: 0.008-0.625% obs/ft (0.025-2.00% obs/m)
	Fire 1, Fire 2: 0.008-6.25% obs/ft (0.025-20.00% obs/m)
	Individual Alarm Delays: 0-60 seconds
	Two Alarm Threshold Setting: 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 18,000 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
Optional Monitored Power Output:	MPO max output 1A @ 24VDC, MPO min power supply 2A @ 24VDC
Warranty Period:	2 years

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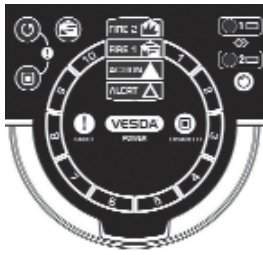
The display provided to the user includes a Smoke Dial and alarm and status indicators.

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 Auto Learn 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
11. Power Out 24 VDC — (if more than 1 detector per Power Supply Unit)
12. NC — Fault relay
13. Common
14. NO
15. NC — Action relay
16. Common
17. NO
18. NC — Fire 1 relay
19. Common
20. NO

ORDERING INFORMATION

Fike Part Number	Manufacturers Part Number	Description
68-071	VLF-250	LaserFOCUS 250
68-072	VLF-500	LaserFOCUS 500
68-073	VIC-010	VESDA Interface Card
13-0100	VIC-020	Multi-function Control Card (two relays)
13-0101	VIC-030	Multi-function Control Card (three relays or two relays & mpo)

Fike®