# VESDA LaserSCANNER™

*UL S5198, ULC S7554, FM 1DOA4.AY, CSFM 7259-1491:105, NY-MEA 101-98-E, LPC, SSL, VdS*

The LaserSCANNER is similar to the standard LaserPLUS detector, but also includes a valve mechanism in the inlet manifold and software to control the airflow from the four VESDA sectors (pipes). This configuration enables a single VESDA zone to be divided into four separate sectors, for example, distinguishing between separate voids within a room.

## HOW IT WORKS

The LaserSCANNER draws air from all sectors in use. If the smoke level reaches the Adaptive Scan Threshold, the LaserSCANNER quickly scans each pipe to identify which pipe is carrying smoke. If more than one pipe is transporting smoke, the sector with the highest smoke concentration is designated as the First Alarm Sector (FAS).

Once Fast Scan is completed and the FAS identified, the LaserSCANNER continues to closely monitor all four sectors (pipes) to monitor fire growth and maintain full protection of the area.

There are four alarm levels (Alert, Action, Fire 1 and Fire 2) for each sector (pipe) and the sensitivity for each alarm level can be set to ensure the optimum alarm thresholds are applied for each sector.

### The LaserSCANNER Display

The LaserSCANNER display has a bar graph to indicate the overall smoke level, alarm thresholds and fault indication. The bar graph displays the individual sector smoke levels during the scanning sequence. There is an extra LED to indicate that a First Alarm Sector (FAS) has been identified and an extra function to the Silence button to allow for Manual Scan to be initiated.

### Relay Options

The LaserSCANNER detector can be fitted with a programmable 7 or 12 relay Termination card. Relays may be mounted in a remote box or in a 19 in subrack.

### VESDAnet™

The status of the detector, and all alarm, service and fault events, are transmitted to displays and external systems via VESDAnet, VESDA's 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 provides system programming from a location and forms the basis of the modular nature of the VESDA system.

### AutoLearn™ and Referencing

The LaserSCANNER has both the AutoLearn™ and Referencing software functions to ensure optimum operation in different environments and to eliminate the occurrence of nuisance alarms.

AutoLearn monitors the ambient environment and sets the most appropriate alarm thresholds (Alert, Action, Fire 1 and Fire 2) during the commissioning process.

Referencing ensures external pollution to a protected environment does not interfere with the true smoke level being detected.

Form No. V.1.04.01-1

## FEATURES

- Individual Pipe Identification
- Adaptive Scan Threshold
- Wide Sensitivity Range
- Laser Based Smoke Detection
- VESDAnet™ Communication
- 4 Alarm Levels per Sector
- High Efficiency Aspirator

- Clean Air Barrier Protects Optics to Increase Longevity
- Easy to Replace Air Filter
- 7 or 12 Programmable Relays Option
- AutoLearn™
- Referencing
- Event Log
- Recessed Mounting

## SPECIFICATIONS

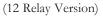**Supply Voltage:** 18 to 30VDC

**Power Consumption @ 24VDC:** No Display or Programmer

| | | Aspirator @ 3000rpm | | Aspirator @ 4200rpm | |
|---|---|---|---|---|---|
| | | Quiescent | With Alarm | Quiescent | With Alarm |
| Power | | 5.8W | 6.24W | 6.72W | 7.2W |
| Current | | 240mA | 260mA | 280mA | 300mA |

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

**Weight:** 9 lbs (4.0kg) including Display and Programmer modules

**Operating Conditions:** Detector Ambient: 32° to 103°F (0° to 39°C)
Sampled Air: -4° to 140°F (-20° to 60°C)
Humidity: 10 -95% RH, non-condensing
Please consult your Xtralis office for operation outside these parameters

**Sampling Network:** Maximum area of coverage: 20,000 sq. ft.
Maximum pipe length in accordance with Computer Design Tool (ASPIRE2™) and NFPA standards

**Pipe Size:** Minimum flow per pipe 15 liters/min.
External Diameter 1 in (25mm)
Internal Diameter 9/16 in - 7/8 in (15-21 mm)

**Programmable Relays:** 7 or 12 Relays option
Contacts rated 2A @ 30VDC
Default: 7 Relays: NO/NC contacts Alert, Action, Fire 1, Fire 2, Maintenance, Urgent Fault & Isolate, First Alarm Sector 1 to 4 and Scan
Default: 12 Relays: 10 x NO., 2 x NO/NC contacts Alert, Action, Fire 1, Fire 2, Maintenance, Urgent Fault & Isolate, First Alarm Sector 1 to 4 and Scan

**IP Rating:** IP30

**Cable Access:** 1 in (8 x 25mm) knockouts in various positions

**Cable Termination:** Screw terminals 30-12 AWG (0.2-2.5 sq mm)

**Sensitivity Range:** 0.0015 to 6% obs/ft (0.005 to 20% obs/m)

**Alarm Threshold Setting Range:** Alert: 0.0015-0.6218% obs/ft (0.005-1.990% obs/m)
Action: 0.0031-0.6234% obs/ft (0.010-1.995% obs/m)
Fire 1: 0.0046-0.625% obs/ft (0.015-2.00% obs/m)
Fire 2: 0.0062-6.25% obs/ft (0.020-20.00% obs/m)*
*Limited to 4% obs/ft (12% obs/m) in UL mode

**Software Features:** *Event Log:* up to 18,000 events stores 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.
*Referencing:* compensation for external ambient conditions
Four Alarm Levels (per sector pipe): Alert, Action, Fire 1 & Fire 2
*Two Fault Warning Levels:* Maintenance and Major fault
*Software Programmable Relays:* 7 or 12
*Maintenance Aids:* Filter & Flow monitoring
Event reporting via VESDAnet or Event Log
*Adaptive Scan Threshold:* Detector selects the appropriate scan threshold automatically

## DETECTOR MOUNTING BOX

### DETECTOR TERMINATION CARD
(12 Relay Version)

#### TOP VIEW

#### FRONT VIEW

#### SIDE VIEW

| Dimensions | | |
|---|---|---|
| | in | mm |
| A | 13.8 | 350 |
| B | 8.9 | 225 |
| C | 2.75 | 70 |
| D | 2.25 | 57 |
| E | 1.37 | 35 |
| F | 1.75 | 44.5 |
| G | .87 | 22.2 |
| H | 5.56 | 141 |
| I | .62 | 15.9 |
| J | 1.31 | 33.3 |
| K | 1.33 | 34 |
| L | .94 | 23.8 |
| M | 2 | 51 |
| N | .83 | 21 |
| O | 5.56 | 141 |
| P | 1 | 25.4 |
| Q | .44 | 11.1 |
| R | .37 | 9.5 |
| S | 1.12 | 28.5 |
| T | 1.19 | 30.2 |
| U | .125 | 3.2 |

## DETECTOR SURFACE MOUNTING BRACKET

### DETECTOR TERMINATION CARD
(7 Relay Version)

(2) -"H" DIA. HOLES
(TYPICAL)

| Dimensions | | |
|---|---|---|
| | In | mm |
| A | 13.25 | 337.3 |
| B | 4.87 | 130.8 |
| C | .28 | 14.5 |
| D | 2.81 | 70.6 |
| E | 2.06 | 50.6 |
| F | .37 | 10.0 |
| G | 1.87 | 47.62 |
| H | .25 | 6.35 |

## ORDERING INFORMATION

| Fike Part Number | Manufacturers Part Number | Description |
|---|---|---|
| 68-007 | VLS-200 | Scanner, 7 Relays |
| 68-009 | VLS-300 | Scanner, 12 Relays |
| 68-010 | VLS-600 | Scanner, 7 Relays, LEDs |
| 68-011 | VLS-700 | Scanner, 12 Relays, LEDs |
| 68-012 | VLS-204 | Scanner, 7 Relays, Display |
| 68-013 | VLS-304 | Scanner, 12 Relays, Display |
| 68-014 | VLS-214 | Scanner, 7 Relays, Display, Programmer |
| 68-015 | VLS-314 | Scanner, 12 Relays, Display, Programmer |
| 68-016 | VLS-210 | Scanner, 7 Relays, Programmer |
| 68-017 | VLS-310 | Scanner, 12 Relays, Programmer |