

VESDA LaserCOMPACT™

Listings/Approvals:
FM, LPC, SSL, UL, ULC, VdS



FEATURES

- Reduced size
- Absolute smoke detection
- Wide sensitivity range
- Single pipe inlet
- Simple display
- Referencing
- VESDAnet communication (VN)
- Dual stage dust filter
- Three Alarm Levels
- Programmable Relays
- Air flow monitoring
- Optional remote display and relay capability
- Simple mounting design
- AutoLearn™

The LaserCOMPACT detector has been specifically designed to provide all the benefits of aspirating smoke detection, including very early warning, in single environment small areas and where space is a premium. This has been achieved through the combination of approved LaserPLUS detection technology, dual-stage air filtration technology and a modified aspirator design incorporated into a smaller enclosure with a simplified display. LaserCOMPACT is available in two versions, one that interfaces via relays only (RO) or via the relays and VESDAnet (VN).

Description

The LaserCOMPACT is made up of two parts: the main enclosure and the front cover.

The main enclosure houses all the key components of the detector. All non-serviceable items like the main processor board and detector chamber are mounted away from the general access area, protecting them during the installation and service process.

The main enclosure includes:

- Laser Detection Chamber
- Main processor board with integrated flow sensor card

- Single air inlet port with air flow monitoring device
- Termination Card supporting three relays
 - Fire
 - Pre-alarm
 - Alert/Fault(including service and Isolate)
The card also includes power connections and VESDAnet communication connection on the (VN) version
- LaserCOMPACT Aspirator
- Dual-Stage Air Filter Cartridge
- Air Exhaust Port

The front cover supports

- 5 LEDs:
 - Fire, Pre-Alarm/Alert, Fault, OK, Reset/Isolate
- Reset/Isolate Push Button (press to reset, press and hold to isolate)

How It Works

Air is continually drawn through a simple pipe network to a central detector by a high efficiency aspirator. Air entering the unit passes a flow sensor before a sample is passed through a dual-stage dust filter (the majority of air is exhausted from the detector and where required back vented to the protected area). The first stage removes dust and dirt from the air sample before it enters the chamber for smoke detection. The second ultra fine stage provides a clean air supply to be used inside the detection chamber to form clean air barriers, which protect the optical surfaces from contamination.

The detection chamber 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 scatter which is detected by the very sensitive sensor circuitry.

The status of the detector, all alarms, service and fault events, are monitored and logged with time and date stamps. Status reporting can be transmitted via simple relay connections or across the advanced VESDAnet communications network (VN version only).



VESDA LaserCOMPACT Specifications

Supply Voltage: 18 to 30VDC

Power Consumption: 5.4W quiescent, 5.9W with alarm

Current Consumption: 225mA quiescent, 245mA with alarm

Fuse Rating: 1.6A

Dimensions (WHD): 225mm x 225mm x 85mm

(8 7/8" x 8 7/8" x 3 3/8")

Weight: 1.9kg (4.2lbs.)

Operating Temperature:

Detector Ambient -10°C to 39°C (14°F to 103°F)

Sampled Air -20°C to 60°C (-4°F to 140°F)

Sampling Network:

Maximum area of Coverage 800sq.m (8000sq.ft)

Maximum Pipe lengths:

1 x 80m

2 x 50m

Computer Design Tool: ASPIRE™

Pipe:

Internal Diameter 15-21mm (9/16" - 7/8")

External Diameter 25mm (1")

Relays:

3 Relays rated 2A @ 30VDC

Default Configuration

Fire

Pre-Alarm

Alert/Fault (Maintenance & Isolate)

Programmable 0 - 60 seconds time delay for each relay

Software Programmable Relays:

Latching or non-latching

IP Rating: IP30

Cable Access: 4 x 25mm (1") cable entries

Cable Termination:

Screw Terminal blocks 0.2-2.5sq mm

(30-12 AWG)

Sensitivity Range:

0.005 to 20% obs/m

(0.0015 to 6% obs/ft)

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 1,200 events stored on FIFO

Smoke level, alarms and faults with time and date stamp

AutoLearn: Minimum 15 minutes, maximum 15 days.

Recommended minimum 14 days.

During AutoLearn thresholds are NOT changed from pre-set values.

Configurable General Input (24VDC):

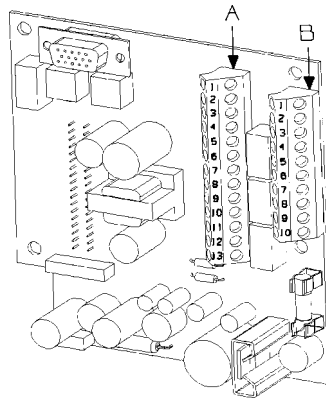
Standby, Mains OK and Reset/Isolate

Ordering Information:

VLC-505 VESDAnet Version (VN)

VLC-500 Relays only Version (RO)

LaserCOMPACT TERMINATION CARD (VN)



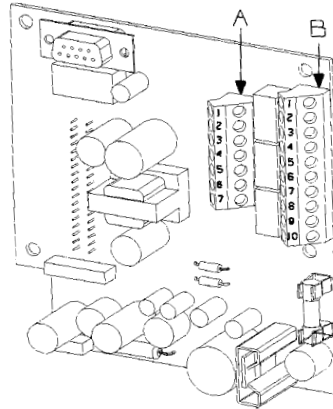
Terminal A

- 1 Bias (-) (GND)
- 2 Reset (-)
- 3 Reset (+)
- 4 Bias (+)
- 5 LED (-) (GND)
- 6 LED (+)
- 7 FIRE (NO)
- 8 FIRE (C)
- 9 PRE-ALARM (NO)
- 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 (+)

LaserCOMPACT TERMINATION CARD (RO)



Terminal A

- 1 FIRE (NO)
- 2 FIRE (C)
- 3 PRE-ALARM (NO)
- 4 PRE-ALARM (C)
- 5 FAULT (NO)
- 6 FAULT (C)
- 7 FAULT (NC)

Terminal B

- 1 Bias (-) (GND)
- 2 Reset (-)
- 3 Reset (+)
- 4 Bias (+)
- 5 LED (-) (GND)
- 6 LED (+)
- 7 Power (-)
- 8 Power (+)
- 9 Power (-)
- 10 Power (+)

MOUNTING DIAGRAM (Rear View)

