

VESDA LaserCOMPACT™

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
- Configurable 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 filtration technology and a modified aspirator design incorporated in a smaller enclosure with simplified display. LaserCOMPACT is available in two versions, one that interfaces via relays only (RO) or across either the relays or 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-port entry 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 Filter Cartridge
- Exhaust Port

The front cover supports:

- 5 LED's:
 - 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 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:

4.0 watts quiescent, 4.5 watts alarm

Current Consumption:

170 mA quiescent, 190 mA in alarm

Fuse Rating: 1.5 A

Dimensions (WHD):

225mmx225mmx85mm
(8 7/8"x 8 7/8"x 3 3/8")

Weight: 1.9Kg (4.2 Lbs.)

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 500sq.m (5000sq.ft)
Maximum Pipe lengths
Single Pipe, 50m (165 ft)
Twin Pipe, 2 x 40m (130 ft)
Tripe Pipe, 3 x 30m (98 ft)
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

IP Rating: IP30

Cable Access:

3 x 25mm (1") cable entries

Cable Termination:

Screw Terminal blocks 0.2-2.5mm
(30-12 AWG)

Sensitivity Range:

0.005 to 20% Obs/m
(0.0015 to 6% Obs/ft)
Limited to 4% Obs/ft for UL

Threshold Setting Range:

Alert: 0.005 to 2% Obs/m (0.0015 to 0.62% Obs/ft)
Pre-Alarm: 0.010 - 2% Obs/m (0.0030 to 0.62% Obs/ft)
Fire: 0.015 - 20% Obs/m (0.0045 to 6.0% Obs/ft)

Software Features:

Event log: Up to 12,000 events stored on FIFO
Smoke level, alarms and faults with time and date stamp
AutoLearn: Minimum 15 minutes, maximum 15 days.
Recommended minimum 1 day.
During AutoLearn thresholds are NOT changed from pre-set values.

Software Configurable Relays:

Latching or non-latching

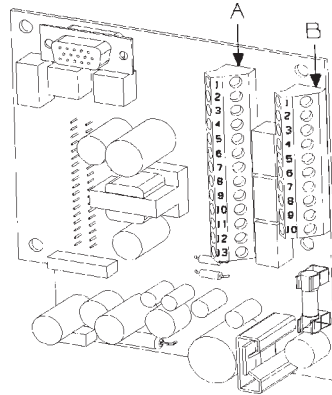
Configurable General Input (24Vdc):

Standby, Mains OK and Reset/Isolate

Ordering Information:

VLC-505 VESDAnet Version (VN)
VLC-500 Relays only Version (RO)

LaserCOMPACT TERMINATION CARD (VN)



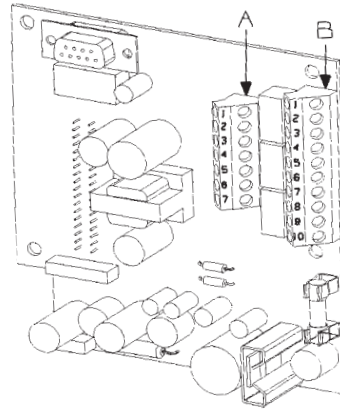
Terminals A

- 1 Bias (-) (GND)
- 2 External Reset (-)
- 3 External Reset (+)
- 4 Bias (+)
- 5 Remote LED (-) (GND)
- 6 Remote LED (+)
- 7 FIRE (NO)
- 8 FIRE (C)
- 9 PRE-ALARM (NO)
- 10 PRE-ALARM (C)
- 11 FAULT (NO)
- 12 FAULT (C)
- 13 FAULT (NC)

Terminals B

- 1 Shield
- 2 Vnet-A (-)
- 3 Vnet-A (+)
- 4 Shield
- 5 Vnet-B (-)
- 6 Vnet-B (+)
- 7 Power (-)
- 8 Power (+)
- 9 Power (-)
- 10 Power (+)

LaserCOMPACT TERMINATION CARD (RO)



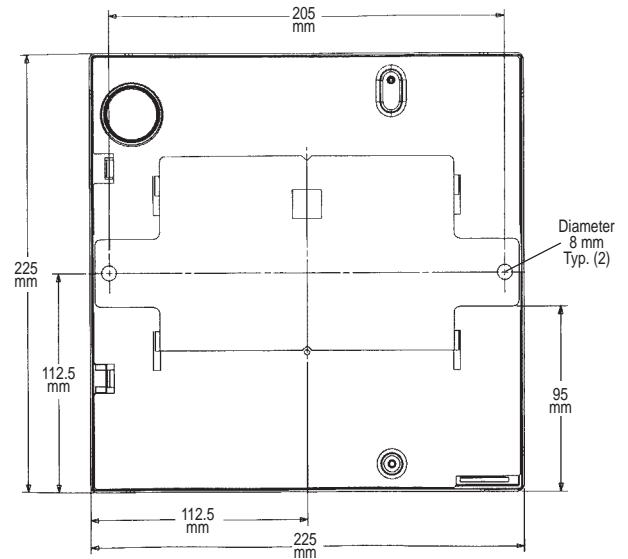
Terminals A

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

Terminals B

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

MOUNTING DIAGRAM



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