

Architect and Engineer Specification

U.L. Listed

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).

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™

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 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 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).

Supply Voltage: 18 to 30VDC

Power Consumption:

4.0W quiescent, 4.5W with alarm

Current Consumption:

170mA quiescent, 19mA with alarm

Fuse Rating: 1.5A

Dimensions (WHD):

8 7/8" x 8 7/8" x 3 3/8"
(225mm x 225mm x 85mm)

Weight: 4.3 lbs (1.9kg)

Operating Temperature:

Detector Ambient 14°F to 103°F (-10°C to 39°C)
Sampled Air -4°F to 140°F (-20°C to 60°C)

Sampling Network:

Maximum area of Coverage 5000 sq.ft. (500 sq.m)
Maximum pipe length in accordance with
Computer Design Tool (ASPIRE™)
and NFPA standards

Pipe:

Internal Diameter 9/16" - 7/8" (15-21mm)
External Diameter 1" (25mm)

Relays:

3 Relays rated 2A @ 30VDC
Default Configuration
Fire
Pre-Alarm
Aler/Fault (Maintenance & Isolate)
Programmable 0 - 60 seconds time delay for each:

Software Programmable Relays:

Latching or non-latching

IP Rating: IP30

Cable Access:

1" TKO (4 x 25mm) cable entries

Sensitivity Range:

0.0015 to 6% obs/ft
(0.005 to 20% obs/m)

Threshold Setting Range:

Alert 0.0015 - 0.6218% obs/ft (0.005 to 1.990% obs/m)
Pre-Alarm: 0.0031 - 0.6234% obs/ft (0.010 - 1.995% obs/m)
Fire: 0.0046 to 6.25% obs/ft (0.015 - 20.00% obs/m)*

*Limited to 4% obs/ft for UL

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

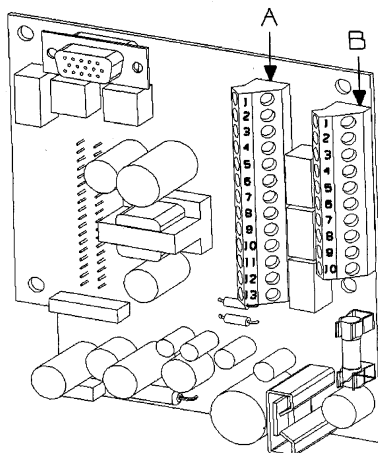
Remote Configurable General Purpose

Input (24VDC):

Standby, AC Power OK and Reset/Isolate

Ordering Information:

68-041 - VLC-505 VESDAnet Version (VN)
68-040 - VLC-500 Relays only Version (RO)
68-058 - VRT-K00 Remote Display, No Relay
68-059 - VRT-J00 Remote Display, 7 Relays



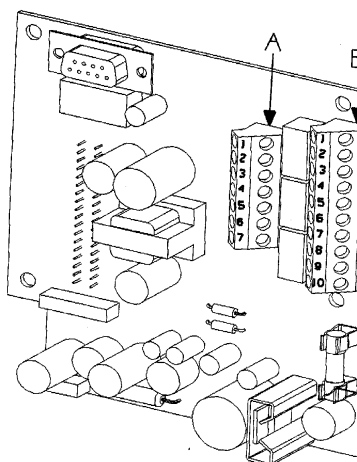
Terminal A

- 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)

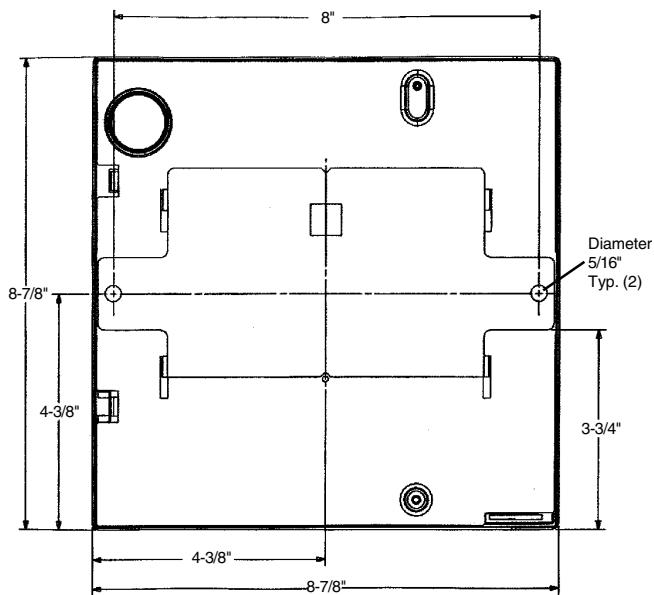


Terminal A

- 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 (+)



(Tolerance on fractions: ± 1/16")