VESDA LaserCOMPACT™

UL S5198, FM 3002483, FM Hazardous Locations, Class 1, Div. 2, Group A, B, C, D, 4D7A3.AX, LPC, Vds, ULC-S7554

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 at a premium. This has been achieved through the combination of approved LaserPLUS detection technology, clean air barrier 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
*   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 dust filter (the majority of air is exhausted from the detector and where required back vented to the protected area). This 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).

Form No. V.1.05.01-1

FEATURES

- Reduced size
- Absolute smoke detection
- Wide sensitivity range
- Single pipe inlet
- Simple display
- Supports Referencing
- VESDAnet communication (VN)
- Clean Air Barrier Protects Optics for Increased Detector Longevity

- Three alarm levels
- Programmable relays
- Air flow monitoring
- Optional remote display and relay capability
- Simple mounting design
- AutoLearn™

SPECIFICATIONS

|	
Supply Voltage:	18 to 30VDC
Power Consumption:	5.4W quiescent, 5.9W with alarm
Current Consumption:	225mA at 24VDC quiescent, 245mA with alarm
Fuse Rating:	1.6A
Dimensions (WHD):	8 7/8 in x 8 7/8 in x 3 3/8 in (225mm x 225mm x 85mm)
Weight:	4.2 lbs (1.9kg)
Operating Temperature:	Detector Ambient: 14° to 103°F (-10° to 39°C)
	Sampled Air: -4° to 140°F (-20° to 60°C)
Sampling Network:	Maximum area of coverage 8000 sq. ft.
	Maximum pipe length in accordance with Computer Design Tool (ASPIRE2™) and NFPA standards
Pipe:	Internal Diameter: 9/16 in - 7/8 in (15-21mm)
	External Diameter: 1 in (25mm)
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:	1 in TKO (4 x 25mm) cable entries
Cable Termination:	Screw Terminal blocks 0.2-2.5 sq. mm (30-12 AWG)
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: 0.0046-6.25% 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 FIFO, Smoke level, alarms and faults with time and date stamp
	AutoLearn: Minimum 15 minutes, maximum 15 days. Recommended minimum 14 day
	During AutoLearn thresholds are NOT changed from pre-set values
Remote Configurable General Purpose Input (24VDC):	Standby, AC Power OK and Reset/Isolate

TERMINATION CARD (VN)
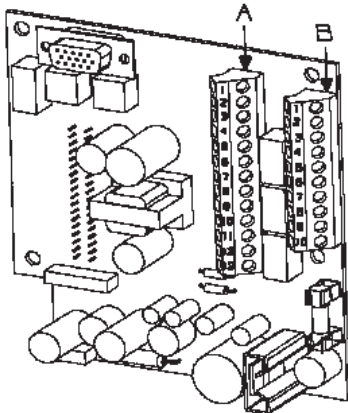
Terminal A

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 (-)
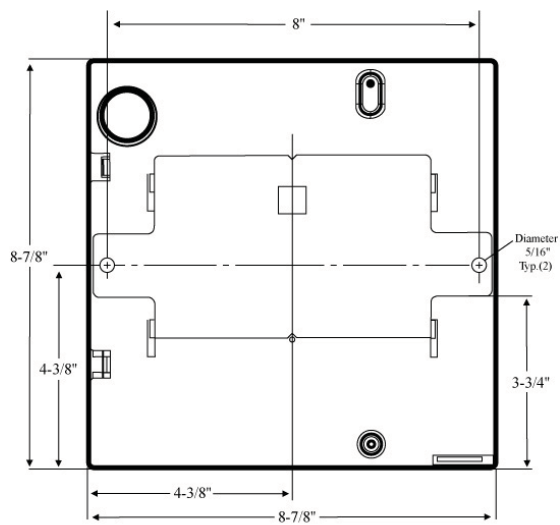10. Power (+)

TERMINATION CARD (RO)
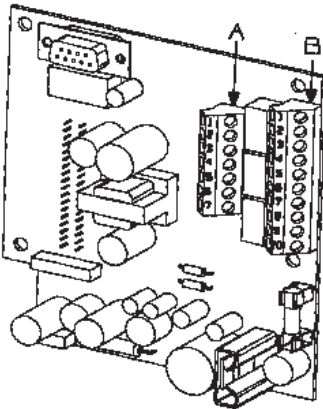
Terminal A

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

Terminal A

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)

8"

8-7/8"

4-3/8"

4-3/8"

8-7/8"

3-3/4"

Diameter 5/16" Typ.(2)

(Toleranceonfractions: 1/16")

ORDERING INFORMATION

Fike Part Number	Manufacturers Part Number	Description
68-040	VLC-500	Compact, Relay Only
68-041	VLC-505	Compact, VESDANET and Relay
68-058	VRT-K00	Display, Remote, Single Gang Box, No Relays
68-059	VRT-J00	Display, Remote, Single Gang Box, 7 Relays
68-060	VSR-K	Display, Remote, 19" Rack Use, No Relays
68-061	VSR-J	Display, Remote, 19" Rack Use, 7 Relays