



VLC-500

LASERCOMPACT AIR SAMPLING DETECTOR



Standard Features

- Absolute smoke detection
- Wide sensitivity range
- Single pipe inlet
- Five (5) status LEDs
- Referencing
- Clean air barrier optics protection
- Three (3) Alarm Levels
- Three (3) Programmable Relays
- Air flow monitoring
- Optional remote display and relay capability
- Simple mounting design
- AutoLearn™



ActivFire
AFNOR

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LPCB

P/N: 19075

Overview

The VLC-500 VESDA® LaserCOMPACT air sampling smoke 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.

The VLC-500 combines the well-proven VLP Series VESDA® LaserPLUS air sampling detection technology with a modified aspirator design, and incorporates them into a compact enclosure with a simplified display.

Description

The VLC-500 air sampling detector 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 nonserviceable 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 front cover includes:

- 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 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 is transmitted via simple relay connections.

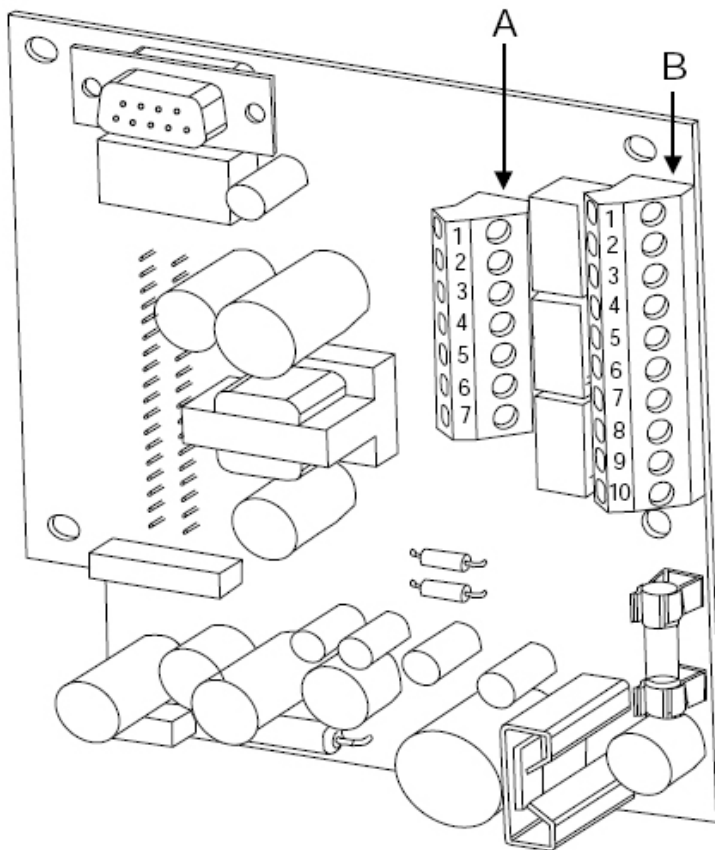
VLC Termination Card

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 (+)





Specifications

Supply voltage:	18 to 30 VDC
Power consumption:	5.4 W quiescent, 5.9 W with alarm
Current consumption:	225 mA quiescent, 245 mA with alarm
Fuse rating:	1.6 A
Dimensions (WHD):	8-7/8" x 8-7/8"x 3-3/8" (225 mm x 225 mm x 85 mm)
Operating conditions:	Tested to 14°F to 131°F (-10°C to 55°C) Recommended Detector Ambient: 14°F to 103°F (-10°C to 39°C) Sampled Air: -4°F to 140°F (-20°C to 60°C) Humidity: 10% to 95% RH, non-condensing
Sampling network:	Maximum area of Coverage 8000 sq.ft (800 sq.m)
Maximum pipe lengths:	1 x 80 m, 2 x 50 m
Computer design tool:	ASPIRE2™
Pipe:	Internal Diameter: 9/16"–7/8" (15 mm–21 mm) External Diameter: 1" (25 mm)
Relays:	3 Relays rated 2 A @ 30 VDC Fire (NO) Pre-Alarm (NO) Alert/Fault (Maintenance & Isolate) (NC/NO) Configurable as latching or non-latching
IP rating:	IP30
Cable access:	4 x 1" (25 mm) cable entries
Cable termination:	Screw Terminal blocks 30–12 AWG (0.2–2.5 sq mm)
Alarm sensitivity range:	0.0015% to 6.25% obs/ft (0.005% to 20% obs/m)
Threshold setting range:	Alert: 0.0015%–0.6218% obs/ft (0.005%–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 in FIFO format Smoke level, user actions, 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 (24 VDC):	Standby, Mains OK or Reset/Isolate

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Ordering Information

Model	P/N	Description	Ship Wt. lb (kg)
VLC-500	19075	Air Sampling, LaserCOMPACT	4.2 (1.9)
VSP-509	19095	Programming Cable (for connecting PC to VLC)	1.0 (0.5)

Note: Approvals/Listings maintained by and manufactured by Xtralis AG.

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