VESDA VLC

VLC-400

The VESDA VLC-400 is a derivative of the standard VESDA VLC product family specifically designed to communicate directly on the Apollo loop. It acts as a smoke sensor on the Apollo loop and reports directly to the Fire Alarm Control Panel (FACP). It is compatible with Apollo XP95 and Discovery FACPs. Up to 126 VLC-400 detectors may be connected directly to an Apollo Discovery or XP95 panel eliminating the need for a separate loop interface thereby providing simpler installation and lower costs.

The VLC-400 provides very early smoke detection for small to medium areas within a single environment and incorporates:

- a modified aspirator design to fit into a smaller enclosure
- clean air barrier optics protection
- a simplified display
- onboard relay and remote LED output
- an onboard isolator
- a PSU monitor input with a 47 k EOL resistor

Description

VLC detectors provide Very Early Warning of potential fire conditions by drawing air samples through a single 25mm pipe up to 80m long, or through two pipes of up to 50m when branched within 4m of the detector. Smoke is sampled through holes in the pipe and transported to the detector by an integrated aspirator. Holes are positioned according to the application and often follow the spacing of standard conventional point detectors. Where necessary sampling points can be constructed using capillary tubes.

In keeping with the Apollo protocol it reports the analogue value with a count of 55 corresponding to the Fire Condition. As a discovery detector, the VLC-400 operates in one of 5 sensitivity modes (see specifications overleaf). The threshold associated with each mode is independently configurable using a PC running Xtralis VSC with the default settings.

How It Works

The detector continuously passes air samples from the protected area through to the Laser Detection Chamber. Ultra-fine air filtration provides very clean air to protect the optical surfaces inside the detector from contamination. If any smoke is detected in the chamber, its concentration is signalled to the Main Processor Card. When the concentration of smoke is higher than the set alarm thresholds, then it is reported either as a Pre-Alarm or an Alarm depending upon the set alarm thresholds.

Features

- Compatible with Apollo Discovery and XP95 fire panels
- Protect areas up to 800 sq.m (8000 sq.ft approx.)
- Absolute smoke detection
- Wide sensitivity range
- Single pipe inlet
- VESDAlink communications
- Clean air barrier optics protection
- Airflow monitoring
- AutoLearn Smoke
- Simple mounting design

Approvals/Listings*

- UL
- CE
- VdS
- LPCB
- EN 54-20
  - Class A (30 holes / 0.05% obs/m)
  - Class B (36 holes / 0.09% obs/m)
  - Class C (40 holes / 0.165% obs/m)

  Classification of any configuration is determined using ASPIRE2.

* Regional approvals listings and regulatory compliance vary between VESDA product models. Refer to www.xtralis.com for the latest product approvals matrix.

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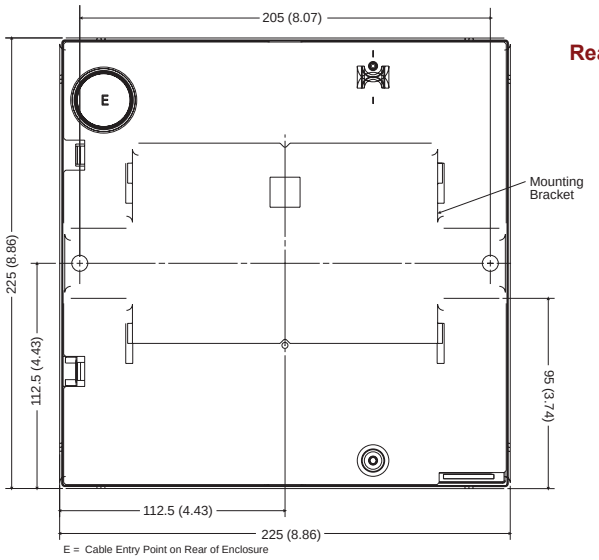
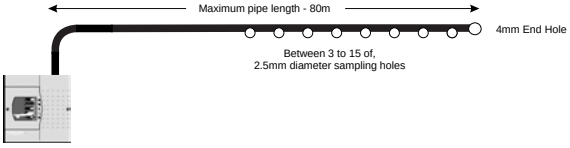
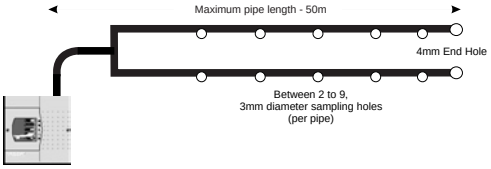


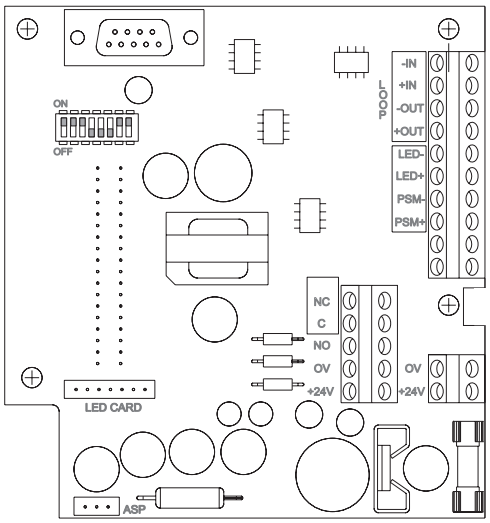
Rear view dimension



Illustrative pre-engineered pipe networks

Note: It is recommended that desired transport times, local codes and standards are confirmed with ASPIRE2™ for validation of pipe networks.





Ordering Information

Product	Part number
VESDA VLC 400	VLC-400

For Power Supply ordering information relevant to your region see www.xtralis.com

Specifications

Supply Voltage:
18 to 30 VDC (nominally 24 VDC)

Power Consumption:
Max 5.4 watts (incl. Alarm)

Current Consumption:
245 mA max at 24 VDC (in Alarm state)

Maximum No. of detector Per Apollo Loop:
126 units (addresses 1-126)

Configurable Onboard Relay:
Follows Fire LED or under control of panel
(NO or NC, 2 A @ 30 VDC)

Configurable Remote LED Output:
Follows Fire LED or under control of panel

Isolation:
Fuse rating: 1.6A
Integrated Apollo loop isolation

Enclosure Dimensions (WHD):
225 mm x 225 mm x 85 mm (8 in x 8 in x 3 in)

Enclosure Weight:
1.9 kg (4.2 lbs.)

Operating Temperature:
Ambient: 0°C to 39°C (32°F to 103°F) *
Tested: -10°C to 55°C (14°F to 131°F)
Sampled Air: -20°C to 60°C (-4°F to 140°F)
Humidity: 10% to 95% RH, non-condensing

Sampling Network:
Maximum single pipe length: 80 m (260 ft approx.)
Maximum two pipe lengths: 50 m (164 ft approx.) each
Maximum area of coverage: 800 m² (8000 sq.ft approx.)

Pipe ID:
Internal Diameter: 15-21mm (9/16" – 7/8")
External Diameter: 25mm

IP Rating:
IP30

Cable Termination:
Screw terminal blocks 0.2 - 2.5 mm² (30-12 AWG)

Sensitivity Range:
0.005 to 20% Obs/m (0.0015 to 6% Obs/ft)

Default Settings for Sensitivity Modes:
Mode 1 – 0.05% Obs/m – 15 sec delay
Mode 2 – 0.1% Obs/m – 10 sec delay
Mode 3 – 0.2% Obs/m – 10 sec delay
Mode 4 – 0.5% Obs/m – 10 sec delay
Mode 5 – 1.0% Obs/m – 10 sec delay

Software Features:
- *Event Log:* Capacity 10,240 events reporting Smoke level, alarms and faults with time and date stamp
- AutoLearn function which adapts the detector to the surrounding environment (minimum 15 minutes, maximum 15 days).

Approvals Compliance

Please refer to the Product Guide for details regarding compliant design, installation and commissioning.

* Product UL listed for use from 0°C to 38°C (32°F to 104°F)

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*Depending upon local codes and standards †Operation outside these parameters will reduce detector life.

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