# VESDA VLC



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.

### **VLC-400**

#### **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.



## 205 (8.07) Rear view dimension Е Mounting Bracket 225 (8.86) 112.5 (4.43) 95 (3.74) 0

225 (8.86)

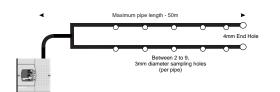
### Maximum pipe length - 80m $\sim$ 4mm End Hole Between 3 to 15 of, 2.5mm diameter sampling holes

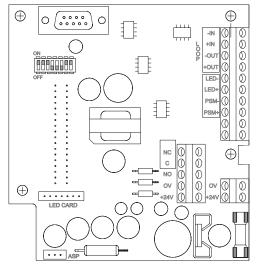
#### Illustrative pre-engineered pipe networks

112.5 (4.43)

E = Cable Entry Point on Rear of Enclosure

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 VI C-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:

#### **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)

#### www.xtralis.com

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\*Depending upon local codes and standards †Operation outside these parameters will reduce detector life. Doc no 03547 07

