VESDA ECO™ Detector

Xtralis the manufacturer of the market leading VESDA aspirating smoke detection (ASD) technology has developed the industry's first multi-hole aspirated gas detector. When used with the VESDA range of ASD products, VESDA ECO provides the industry's 1st combined aspirated smoke and gas detection system.

VESDA ECO provides early warning of toxic, oxygen and flammable gas hazards to protect personnel and property while ensuring business continuity.

Applications include:

Battery Charging Rooms	Boiler Plant Rooms	Commercial Kitchens
Parking Garages	Utility/Service Tunnels	Refrigerated Stores and Plant Rooms
Water Treatment and Sewerage Plants	Power Generation Plants	Metal Processing Plants

and more...

How It Works:

VESDA ECO uses an existing or new VESDA aspirating pipe network to actively monitor for gas escapes and build-ups. Each ECO gas detector can house up to two gas sensors, and additional detectors can be added easily to the VESDA pipe network to monitor more gases if required. Pre-calibrated sensor cartridges are easily replaced in the fi eld and make converting to different gas sensors or replacing sensors a simple task.

The VESDA ECO detector is configured using Xtralis VSC configuration software and can be remotely monitored using Xtralis VSM4 monitoring software. Both VSC and VSM can be used to download data from the onboard memory card for data analysis and trending of historical data.

Integration with an Axis AX Series fire alarm control panel provides real-time situational awareness for intelligent emergency response. VESDA ECO by Xtralis provides significant installation and routine maintenance cost savings over conventional multi-point gas detection solutions by reducing the number of detectors required to cover an area and by providing easy access for routine maintenance.

Hazardous area certified variants of VESDA ECO are available.

Features

- Compatible with VESDA Range of Aspirating Smoke Detection Products
- Toxic, Oxygen or Flammable Gas Detection
- Single or Dual Gas Versions
- Integral Gas Test Port
- Remote Reset
- Factory Calibrated Sensor Cartridges
- Integral Alarm Status LEDs
- Configurable Relays
- On-board Event Logging
- On-board Fault Diagnostics

Listings and Approvals

- CE
- Electrical Safety:
  - Conforms to ANSI/UL Std 61010-1
  - Certified to CAN/CSA Std C22.2 No. 61010-1
  - EN 61010-1
- EMC:
  - FCC 47CFR Part 15B class B
  - ICES 003 • EN 50270

Specification

Supply Voltage	18 to 30 VDC
Power Consumption @ 24 VDC:	3.6 watts (Max)
Current Consumption	Typically 60 mA @ 24 VDC for a dual gas (Flammable / Toxic) quiescent. 85 mA when in alarm.
Dimensions (WHD)	1.3" x 4.9" x 4.4" (33 mm x 125 mm x 110 mm)
Weight	0.6 pounds (250 g)
IP/NEMA Ratings:	IP65 and NEMA 4
Operating Conditions	Temperature Typically -4 º F to 122 º F (-20 º C to 50 º C) Gas Dependent O_2 -4 º F to 131 º F (-20 º C to 55 º C) NH3 -4 º F to 104 º F (-20 º C to 40 º C) Humidity: 10-95% RH, Non-Condensing
Pipe Size	External Diameter 3/4" (25 mm)
Wiring/Terminal Size	16 AWG (1.5 mm2) (max)
Cable Access and Termination	2 x PG9 Cable Glands, to Suit 0.157" to 0.335" (4.0 to 8.5 mm) Outer Cable Diameter
Accuracy	+/- 5%
Outputs	Four (4) Programmable Relays 30 VDC 1A One (1) 4-20 mA Output Per Sensor
On-board Memory Card:	Micro SD Card 2 GB (50,000 Events)
Other Approvals	Hazardous Area, ATEX, ANSI/ISA, CSA (Pending) LCPB, VdS, AFNOR Compatible for use with Xtralis EN54-20 Approved ASD LOM Approved to UNE 23300 (CO & CO + NO2) AQISQ - CMC, GB:15322.1 VNIIPO

Order Codes and Options

VESDA ECO gas detectors come complete with the main housing, sensor cartridge, data storage card and USB interface cable. Two variants are available based on detector outputs:

Part number structure:
ECO-D-X-AA-BB Select output option, replace X with either:
B Relays, and analog & serial outputs
R Relay and analog outputs only (Not approved for US markets)

Single Gas Units
Replace AA with the relevant gas type number below and remove BB:
11 Hydrogen (H_2) 0-100% LFL
12 Methane (CH_4) 0-100% LFL
13 Propane ($C_3 H_8$) 0-100% LFL
14 Hydrogen (H_2) 0-2000 ppm
15 Gasoline Vapour 0-100% LFL
16 Pentane ($C_5 H_{12}$) 0-100% LFL
19 Ammonia (NH_3) 0-100% LFL
20 Alcohol Vapor 0-100% LFL
31 Oxygen depletion only (O_2) 0-25% v/v
32 Oxygen depletion and enrichment (O_2) 0-25% v/v
41 Carbon Monoxide (CO) 0-500 ppm
42 Ammonia (NH_3) 0-100 ppm
43 Hydrogen Sulphide ($H_2 S$) 0-100 ppm
44 Sulphur Dioxide (SO_2) 0-10 ppm
45 Nitrogen Dioxide (NO_2) 0-10 ppm
47 Chlorine (Cl_2) 0-20 ppm

49 Carbon Dioxide (CO_2) 0-5% v/v

Dual Gas Units
Select one of the available combinations below. Replacing AA and BB with the preferred combination. Other combinations are available upon request:
11 – 31 Hydrogen and Oxygen
12 – 31 Methane and Oxygen
12 – 41 Methane and Carbon Monoxide
12 – 43 Methane and Hydrogen Sulphide
13 – 31 Propane and Oxygen
31 – 41 Oxygen and Carbon Monoxide
41 – 43 Carbon Monoxide and Hydrogen Sulphide
41 – 45 Carbon Monoxide and Nitrogen Dioxide

Example: ECO-D-B-12-41
An ECO detector with relay, analog and serial outputs for Methane and Carbon Monoxide.
Replacement sensor cartridge part number structure: ECO-SC-AA-BB
Where SC = Sensor Cartridge, AA-BB are 1st and 2nd gas types (see above)

Installation
VESDA ECO is designed to press fit onto VESDA air-sampling pipe work. To fit VESDA ECO simply remove a 60 mm section of pipe when using 25 mm OD air-sampling pipe work or 4" for ¾" BSP pipe.
VESDA ECO provides total flexibility to install one or more detectors anywhere on the pipe network to enable monitoring of a specific point, zone or total area.