Sensis® Azure 2000s Four-pipe Aspirating Smoke Detector

[EN] 4020-100 – Azure 2000s 1A
[EN] 4021-100 – Azure 2000s 4A (Pipe scanning)
[EN] 4022-100 – Azure 2000s 4A16 (Pipe scanning & Zone relay)



Overview

The Sensis Azure 2000s series offers industry-leading aspirating smoke detection technology, combining exceptional performance with cost-efficiency, specifically engineered for high ceilings and expansive open spaces, ensuring enhanced detection coverage and reliability in such specialized applications.

Utilising four independent Aspirators across up to four inlet pipes, the Sensis Azure 2000s uses a high-power Blue LED as its detection light source, with a short wavelength of 470 nm that is exceptionally sensitive to small smoke particles during the incipient stage of a fire. Employing Large Volume "Three-Dimension" detection, Sensis Azure 2000s has a specially engineered smoke chamber structure with a large total scattered light signal, enabling a more accurate representation of the actual concentration of smoke in the air.

The Smart Smoke Level (SSL) algorithm automatically activates upon power-up and gathers data on background environmental levels 24/7. The algorithm calculates the average background particle level and uses it as the reference point (zeroing) for detection, ensuring consistent performance and minimising nuisance alarms.

Features

- **Very early warning smoke detection** – Alarm sensitive range of 0.005~20% obs/m, covering a maximum area of up to 2,000 m^2.
- **High Power Blue LED** – High Power Blue LED is a brighter light source with a shorter wavelength, which improves the response to smaller particles for earlier detection than conventional infra-red light sources.
- **Smart Smoke Level (SSL)** – Operates 24/7 to continuously monitors the background environmental value and establishes a reference point for smoke concentration and alarm threshold to improve reliability and reduce false alarms.
- **3-in-1 display** – Optimised user interface with 3-in-1 display providing real-time smoke levels (20 segment bargraph), 4 fire alarm indicators, 4 fault indicators and an isolator indicator.
- **Display Modes** – Delivers real-time data including smoke value, normalised flow value (%), device address and event log. Configure all functional parameter settings from the device, such as alarm thresholds, fan speed and device address.
- **Programmer Mode** – In Programmer Mode, users can configure all functional parameter settings such as alarm threshold adjustments, Fan speed alterations, and address changes.
- **Control Mode** –The Control Mode enables users to execute various actions including Reset, Isolate/De-isolate, Silence, and LED Test.
- **Signal output** – 7 relays (configurable) at 2 A @ 30 Vdc

APPLICATIONS			
Airports	Heritage buildings	Cold storage	Warehouses
Atrea	Lift shafts	Data centres	Wash down
Building voids	Manufacturing	Food factories	
Clean rooms	Telco		

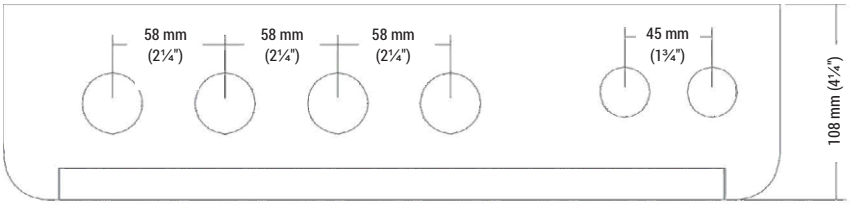
Technical Specifications

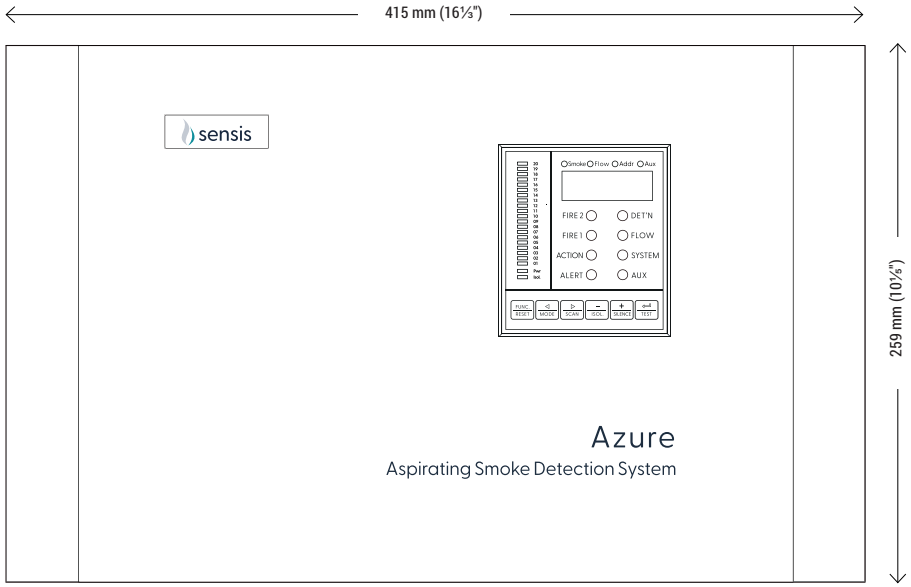
Feature Description	Specification
PERFORMANCE	
Smoke Detection Principle	Forward light scattering mass detection
Smoke Detection Range	0.001 ~ 25% obs/m
Alarm Sensitivity Range	0.005 ~ 20% obs/m
Area Coverage	2,000 m^2
Aspirator Speed	1 ~ 10
Major components	4 x Sampling Pipes 4 x Aspirators 4 x Flow Sensors 1 x High Sensitivity Smoke Detector 1 x Filter
Pipe Length (linear)*	4 x 100 m (328 ft)
Pipe Length (branched)*	4 x 240 m (787½)
EN54-20 Class A/B/C*	40/60/100
Alarm Levels & Time Delay:	
Alert	(0~60 seconds)
Action	(0~60 seconds)
Fire-1	(0~60 seconds)
Fire-2	(0~60 seconds)
Smart Smoke Learning (SSL) operation	4 hours, 365 days non-stop smoke background level learning
Flow Detection Principle	Heat mass detection
Flow Monitoring	• Pipe flow normalize to 100% • Flow high and flow low fault • Adjustable flow detection sensitivity
MECHANICAL SPECIFICATION	
Sampling Pipe Material	ABS/UPVC
OD	25 mm (1")
IP Rating	IP40
Net Weight	5.2 kg (11.5 lb)

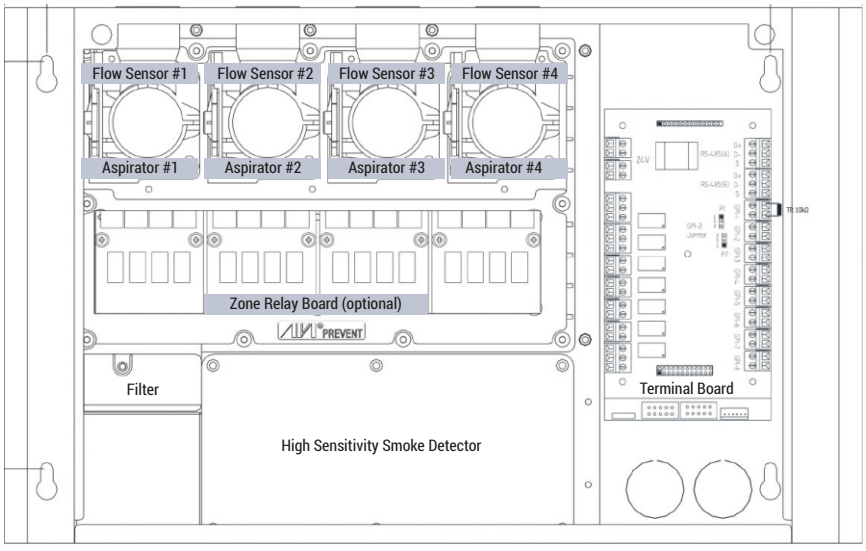
Feature Description	Specification
ELECTRICAL SPECIFICATION	
Relay Output	7 relays on termination board (configurable)
Rating	2 A @ 30 Vdc
Zone relay output (4A16 version)	16 relays on one Relay Board (configurable)
Rating	2 A @ 30 Vdc
GPI Functions *Note: UDI, User Defined Input	Reset/Isolate/Silence/Test/Scan/ Mains Fault/BatteryFault/ Power FaultSensitivityMode 1/ Sensitivity Mode 2/UDI-1/UDI-2/ UDI-4/UDI-5*
COMMUNICATION (500S MODEL)	
Network	RS-485 network
Max. No. of Devices	250
Repeater	Built in
Max. Cable Length Between Two Adjacent Devices	1.2 km (3,937 ft)
Protocol	Support modbus RTU open protocol
EVENT LOGS	
Number of events	183,000
Event Type	Alarm/Fault/Operation/Smoke/ Flow/Auxiliary Gas Sensors
OPERATING CONDITIONS	
Ambient Temp.	0~40°C (0~104°F)
Tested	-30°C~+55°C (-22~131°F)
Sampling Air Temp.	-20~60°C (-4~140°F)
Humidity	10~95% RH non-condensing
Operating Voltage	24 ±4.8 Vdc | 216 mA – 366 mA
APPROVALS	
EN54-20 approved. Worldwide approvals pending. Visit ffeuk.com for up-to-date approvals information.	

***NOTE:** Per EN54-20 Class A Sensitivity. Please refer to Sensis design manual for the details about pipe length and the number of sampling holes.

DIMENSIONS & INTERNAL STRUCTURE







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