

Sensis® Azure 500s Single Zone Aspirating Smoke Detector

[EN] 4500-100



Overview

The Azure 500s series offers industry-leading aspirating smoke detection technology, combining exceptional performance with cost-efficiency, specifically engineered for compact environments.

The Azure 500s utilises a high-power Blue LED as its detection light source, ensuring exceptional sensitivity to small smoke particles during the incipient stage of a fire. The short wavelength of 470 nm blue light is highly responsive to smaller particles, making the Blue LED an optimal choice for detecting particles across a wide range of sizes, from the smallest to the largest.

Employing Large Volume “Three-Dimension” detection, Azure 500s utilises a specially engineered smoke chamber structure, resulting in a significantly large total scattered light signal. This enables a more accurate representation of the actual concentration of smoke in the air.

APPLICATIONS

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

Features

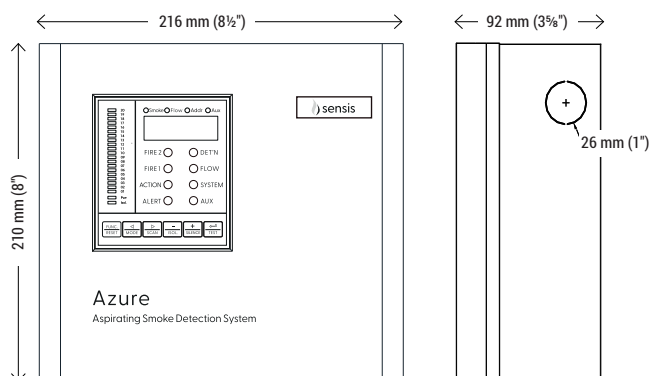
- **Very early warning smoke detection** – Alarm sensitive range of 0.005~20% obs/m, covering a maximum area of up to 1,860m².
- **High Power Blue LED** – High Power Blue LED is a brighter light source with a shorter wavelength, which improves the response to smaller particles for earlier detection than 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.
- **Signal output** – 7 relays (configurable) at 2 A @ 30 Vdc

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	1,860 m ²
Aspirator Speed	1 ~ 10
Pipe Length (linear)*	100 m (328 ft)
Pipe Length (branched)*	240 m (787½)
EN54-20 Class A/B/C*	30/60/60
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	24 hours, 365 days non-stop environmental 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	IP51
Net Weight	2.5 kg (5.5 lb)

***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. The SensisFlow air sampling pipe network design tool can be used to calculate the maximum transport time and sampling hole sensitivity.

DIMENSIONS

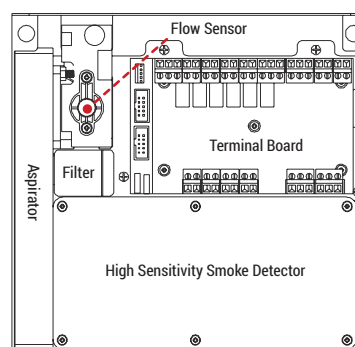


Feature Description	Specification
ELECTRICAL SPECIFICATION	
Relay Output	7 relays on termination board (configurable)
Rating	2 A @ 30 Vdc
General Purpose Inputs	4 x GPIs (configurable)
GPI Functions	Reset/Isolate/Silence/Test/Scan/ Mains Fault/BatteryFault/ Power FaultSensitivityMode 1/ Sensitivity Mode 2/UDI-1/UDI-2/ UDI-4/UDI-*
*Note: UDI, User Defined Input	
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.

INTERNAL STRUCTURE



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