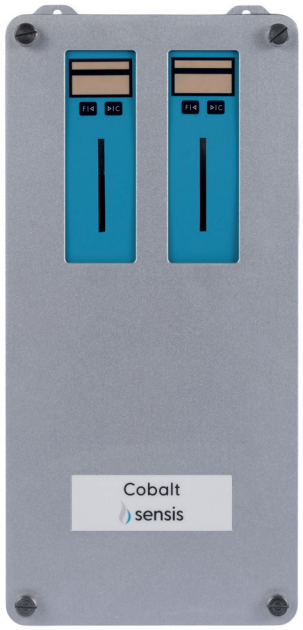
SENSIS® COBALT HM1, HM2

SINGLE OR DUAL ZONES ASPIRATING SMOKE DETECTOR

PRODUCT DATASHEET

Features

- Mini 3-in-1 display
- Alarm sensitivity range: 0.01~20% obs/m
- Built-in temperature and humidity sensors
- 2 x event thresholds for temperature and humidity
- 4 alarm levels (Alert, Action, Fire 1, Fire 2)
- 2/4 relay outputs (configurable)
- Expansion relays (optional)
- RS485 network, support Modbus RTU open protocol
- EN54-20 approved



Product overview

Cobalt Aspirating Smoke Detector integrates a unique combination of sensors, including smoke, temperature and humidity sensors, providing advanced detection capabilities across various applications.

Cobalt 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. It offers a balanced response to both small and large particles. Employing Large Volume "Three-Dimension" detection, Cobalt 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. The Cobalt Smart Smoke Level (SSL) algorithm automatically activates upon power-up of the device. Operating continuously, 24/7, it gathers data on background particle levels. 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.

The Cobalt mini display and status bar serve to present the operational conditions, control options and fundamental function adjustments of the detector.

- **Display mode:** The display mode delivers real-time data including smoke value, normalised flow value as a percentage, flow raw value, active events, temperature and humidity.
- **Programmer mode:** In programmer mode, users can configure essential 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 display test.

For comprehensive function customisation, the SensisTool application running on a PC is recommended. Alternatively, full function settings can also be accessed via AMS or NCP if the device is networked.

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Technical specification

Specification	
Smoke detection principle	• Light scattering mass detection • High power blue LED
Smoke detection range	0.02~25%/m
Alarm sensitivity range	0.01~20%/m
Temp. detection range	0~100°C
Humidity detection range	0~100% RH
Coverage	• HM1 : 1600 m2 • HM2 : 2000 m2
Pipe length (linear/ branch) [1]	• HM1: 105 m/260 m • HM2: 2 x 105 m/2 x 260 m
No. of sampling holes [1] EN54-20 Class A/B/C	• HM1 : 8/16/30 • HM2 : 16/32/64
Alarm levels and time delay	
Alert	(0~60 seconds)
Action	(0~60 seconds)
Fire-1	(0~60 seconds)
Fire-2	(0~60 seconds)
Environment smoke learning	24 hours, 365 days non-stop smoke background level learning
Flow detection principle	Heat mass detection
Flow monitoring	• Pipe flow normalise to 100% • Flow high and flow low fault • Adjustable flow detection sensitivity

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

Electrical specification	
Aspirator speed	10 speed adjustable
Relay output	• HM1 : 2 relays (configurable) • HM2 : 4 relays (configurable) • Rating: 2 A @ 30 Vdc
Expansion relays (optional)	• HM1 : 4 relays (configurable) • HM2 : 8 relays (configurable) • Rating: 2 A @ 30 Vdc
General purpose inputs	• HM1 : 1 x GPIs (configurable) • HM2 : 2 x GPIs (configurable)
Power (@Aspirator speed 1~10)	• 24 ±4.8 Vdc • HM1 : 115 mA~157 mA • HM2 : 230 mA~314 mA
Communi-cation	• RS485 Network • Maximum number of devices on network: 250 • Maximum cable length for all devices on network: 1.2 km • Support Modbus RTU open protocol
Event logs	• Number of events: 180,000 • Event type: Alarm/Fault/ Operation/ Smoke/Flow/ Temp./Humidity
Operating conditions [2]	
Ambient temp.	0~40°C (0~104°F)
Tested	-30~55°C (-22~131°F)
Sampling air temp.	-20~60°C (-4~140°F)
Humidity	10~95% RH non-condensing
Mechanical specification	
Dimensions	321.7(h) x 154(w) x 97.4(d) mm (12¾"(h) x 6"(w) x 3¾"(d))
IP rating	IP51
Weight	• HM1 : 2.2 kg (4¾ lb) • HM2 : 2.3 kg (5 lb)

[2] Warning: The temperature sensor in this device can detect temperatures up to 100 °C, but the device is designed to operate only within a maximum ambient temperature of 60 °C. Operating the device above 60 °C may result in malfunction, reduced performance, or permanent damage. Please ensure the device is used within its specified operating range.

Part numbers

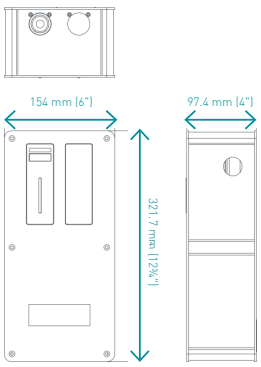
Part number	Description
116-4100-100	Sensis Cobalt HM1 (1 pipe, Fire&Fault only)
116-4200-100	Sensis Cobalt HM2 (2 pipes, Fire&Fault on pipe)

Accessories

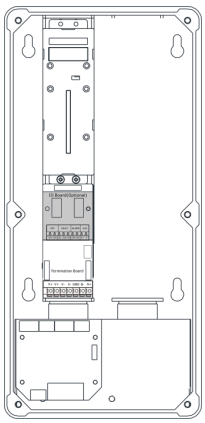
Part number	Description
116-4210-001	Sensis Cobalt HM series additional relay card for Alert, Action
116-4800-000	Sensis Network Interface Module (NIM-1200)
116-4800-001	Sensis Network Control Panel (NCP-1215) with display for floor plans
116-4800-002	Sensis In-Line Filter 25 mm
116-4800-003	RS485 to USB Converter for programming and commissioning

Dimensions & mounting

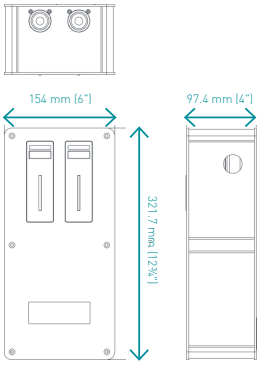
HM1



Internal structure



HM2



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