

AVIGILON™

Avigilon Halo 4 Smart Sensor

Smarter insights for any environment



Add an extra layer of security anywhere, even in privacy-sensitive locations. The Avigilon Halo 4 Smart Sensor is an intelligent, multi-sensor device designed to help maintain a safer environment. Integrate Avigilon Unity, or Alta Video for fast setup and improved threat detection.



Smart Security Anywhere

Address safety and security concerns with the Halo 4 Smart Sensor. Detect events like smoking, vaping, loud noises, air quality, environmental changes, and occupancy¹ for proactive protection.



Tailored Alerts

Create personalized thresholds for parameters that matter to you. Meet specific safety or operational needs, ensuring highly relevant and tailored outcome alerts.



Customizable LED Notifications

Enhance safety protocols with customizable LED ring lighting, configurable in a wide range of colors for immediate visual notification and response during emergencies.



Advanced Audio Features

Detect threats even when visuals are unavailable. Advanced audio analytics detect screams, gunshots, and other sounds, with two-way communication enabling fast response.



Real-time Insights

Make fast, informed decisions with easy data visualizations and historical reports². Quickly understand situations and take action to improve safety and operations.



Secure & Compliant

Keep your data safe. FIPS 140-3 level 3 and secure boot provide advanced cybersecurity, ensuring compliance and protection.

¹Only available on Halo 4 Occupancy Counter model.

²Available through Halo Cloud.

Specifications

SENSOR PERFORMANCE	
CO	Provides relative trend indication within a 1-1000 ppm range, not absolute concentration
CO2	Range : 0 to 40,000 ppm Accuracy: 400-1,000ppm +/- (50 + 2.5% m.v.) 1,001-2,000ppm +/- (50 + 3% m.v.) 2,001-5,000ppm +/- (40 + 5% m.v.)
NH3	Provides relative trend indication within a 1-500 ppm range, not absolute concentration
NO2	Provides relative trend indication within a 1-270 ppb range, not absolute concentration
PM 1.0 (Particle Detection Range: 0.3 to 1.0 µm)	Range : 1 to 1000 µg/m ³ Accuracy: 0 to 100 µg/m ³ +/- (5 µg/m ³ + 5 % m.v.) ; 100 to 1000 µg/m ³ +/- 10 % m.v
PM 2.5 (Particle Detection Range: 0.3 to 2.5 µm)	Range : 1 to 1000 µg/m ³ Accuracy: 0 to 100 µg/m ³ +/- (5 µg/m ³ + 5 % m.v.) ; 100 to 1000 µg/m ³ +/- 10 % m.v
PM 10 (Particle Detection Range: 0.3 to 10.0 µm)	Range : 1 to 1000 µg/m ³ Accuracy: 0 to 100 µg/m ³ +/- 25 µg/m ³ ; 100 to 1000 µg/m ³ +/- 25 % m.v
TVOC	Range : 1 to 1382 ppb Accuracy: 0-111ppb +/- 8ppb >111ppb +/- 20ppb Meets the WELL Building Standard
Humidity	Range : 0 to 95% RH Non-Condensing ; Typical Accuracy: +/- 4.5% @ 25°C (77°F) 30-70% RH
Temperature	Range : 0° to 50°C (32° to 122°F) Typical Accuracy: +/- 1°C (+/- 1.8°F) at 50% RH
Light	Range : 0 to 30,000 lux
Barometric Pressure	Range : 30 to 110 kPa Typical Accuracy: +/- 50 Pa
Air Quality Index	Range : 0 to 500 (US EPA AQI Scale)
Health Index	Range : 1 to 5 (Custom Index based on AQI)
Vape/Smoke/THC Detection	Proprietary Algorithm
Motion	FoV 90°
Occupancy*	FoV 90°

% m.v. means % of measured value

* OC version only.



DASHBOARD STREAM	
Dashboard Stream Resolution	1280x960
Framerate	2
Video Compression	H.264

COMPONENTS	
Audio Input	Built-in MEMS Microphone with hardware enable / disable control switch Frequency Response: 20 Hz - 20 kHz
Audio Output	Alarm Condition, Pre-Recorded Files, Programmable WAV Files. Built-in speaker Alarm Condition Support, Pre-Recorded Audio Files, Programmable WAV Files
Visual Alert	Status LED Pre-programmed color options: Red, Green, Blue, Yellow, Violet, Cyan, White, Orange, Pink Alarm Condition Support, Programmable Pattern
Alarm Triggers	Air Quality Index (AQI), Health Index, Vape, Vape THC, Gunshot, Spoken Keyword, Tamper, Particulates, Carbon Dioxide Calibrated, Total Volatile Organic Compounds, Carbon Monoxide, Ammonia, Nitrogen Dioxide, Temperature, Humidity, Light Level, Motion Detection, Occupancy Count*, Pressure, Orientation, Glassbreak, Scream, Fire Alarm, Car Alarm, Metal Crash, Loud Noise, Ultrasound Panic Alarm

* OC version only.

NETWORK	
Network	10/100BASE-T
Cabling	CAT5
Connecter	RJ-45
ONVIF	Device has ONVIF interfaces for media and analytics with Onvif Profile T and M compliance.
Security	Password protection, HTTPS encryption, digest authentication, WS authentication, user access log, onboard FIPS 140-3 L3 certified TPM, Secure Boot, Signed and encrypted firmware
Protocols	IPv6, IPv4, HTTP, HTTPS, SOAP, DNS, NTP, RTSP, RTCP, RTP, TCP, UDP, IGMPv3, ICMP, DHCP, Zeroconf, HSTS, BACnet
Wireless	Wifi 6, Bluetooth Low Energy 5.4
Streaming Protocols	RTP/UDP, RTP/UDP multicast, RTP/RTSP/TCP, RTP/RTSP/HTTP/TCP, RTP/RTSP/HTTPS/TCP, HTTP, SRTP

PERIPHERALS	
Ethernet Port Out	RJ-45 to power downstream PoE Device

AUXILIARY I/O	
External I/O Terminals	2 x Digital inputs, 2 x Digital Outputs, 5 VDC out at 500mA, Ground

MECHANICAL	
Product Dimensions (LxWxH)	Length 13.49 cm (5.31") x Width 13.49 cm (5.31") x Height 4.44 cm (1.75")
Product Weight	460 gm

ELECTRICAL	
Power Consumption	13W Max without downstream PoE device ; 25W Max with downstream PoE device
Power Source	PoE: IEEE 802.3af Class 3 PoE+: IEEE 802.3at Class 4 (to power downstream device)



ELECTRICAL

Power Available to PoE Out	PoE class 3 (13W) , with PoE+ Power Source
RTC Backup	>10 Days

ENVIRONMENTAL

Operating Temperature	0°C to +50 °C (32 °F to 122 °F)
Storage Temperature	-10 °C to +70 °C (14 °F to 158 °F)
Operating Humidity	0 - 90% non-condensing
Storage Humidity	0 - 80% non-condensing
Memory	8GB RAM, 4GB Flash

CERTIFICATIONS

Certifications/Approvals	CE, ROHS, FCC, IC, RCM, CMIM, IMDA, MIC, ANATEL, IFT
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Safety Standards	Complies with EN/IEC/UL/CSA 62368-1 EN/IEC 60825-1 CAN/CSA E60825-1 CFR, Title 21, Part 1040, Section 10 CDRH FDA Laser Registration
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Environmental Standards/Ratings	IEC/EN 62262 Impact IK08
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Electromagnetic Emissions Standards	FCC Part 15 Subpart B (Class B) ICES-003 (Class B) EN 55032 (Class B) EN 61000-6-3 EN 61000-3-2 EN 61000-3-3
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Electromagnetic Immunity Standards	EN 55035 EN 61000-6-1
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Radio	FCC Part 15 Subpart C FCC Part 1, Subpart I RSS-247 RSS-102 RSS-Gen EN 300 328 EN 301 489-1 EN 301 489-3 EN 50663 EN 50665 EN 62311 EN 62479 Bluetooth SIG
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Warranty	Limited 5 Year Warranty (avigilon.com/warranty). Up to 10-year warranty with Active Cloud License.
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Analytics Specifications

SUPPORTED AUDIO ANALYTICS¹

Gunshot	Up to 50m (164')
Scream	Up to 15m (49')
Glass Break	Up to 15m (49')
Car Alarm	Up to 30m (98')
Smoke Alarm	Up to 15m (49')
Dog Bark	Up to 15m (49')
Tire Screech	Up to 15m (49')
Loud Noise	Up to 40m (131')
Metal Crash	Up to 15m (49')
Ultrasonic Panic Alarm	Up to 40m (131') ²

¹The detection range is dependent on environment and obstructions. Range maybe reduced in loud environments.

²The detection range is affected by the quality and power of the device creating the panic alarm.

AVIGILON SOFTWARE SUPPORTED FEATURES

Avigilon Unity 8.6 or higher	Native integration. Requires STD or ENT channel license.
ACC7 or Unity (8.5.1 or older)	Integrated via Point of Sale (POS) engine, requires POS license.
Alta Video	Events integration, requires cloud license.

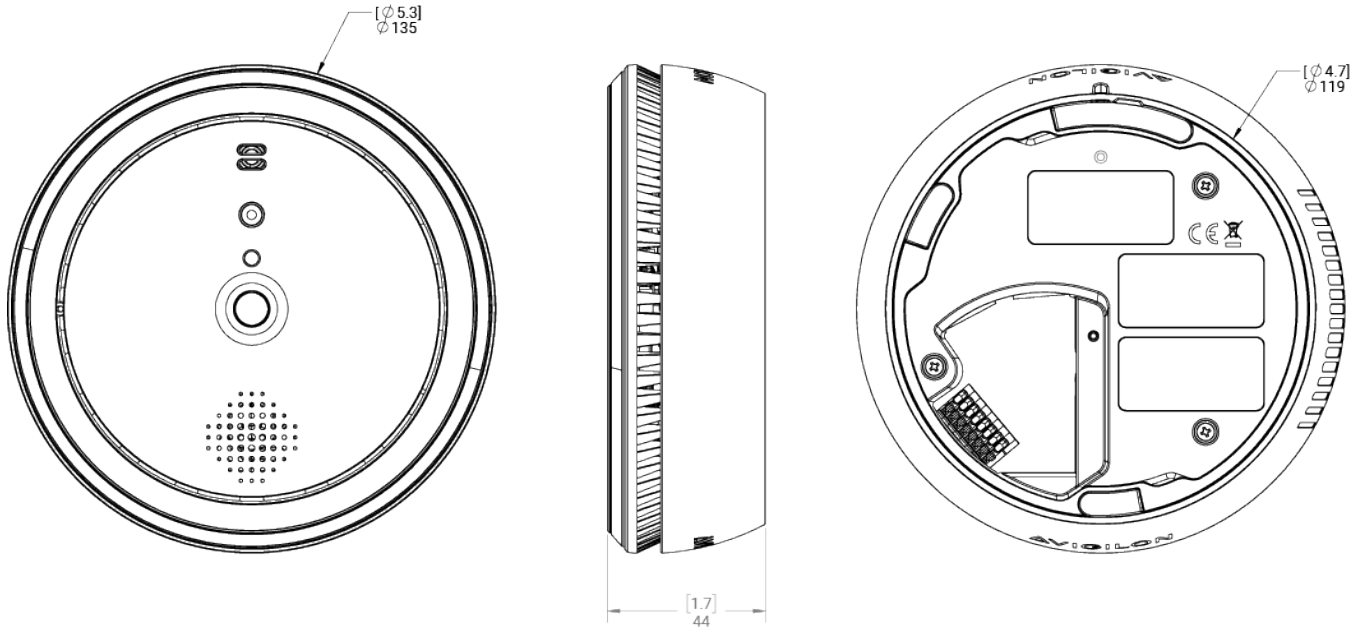


Outline Dimensions

[X.XX]	INCHES
X.X	MM

Halo 4 IoT Smart Environmental Sensor

(HALO-S4-D / HALO-S40C-D)



Ordering Information

Halo 4 Smart Sensors

PART NUMBER	DESCRIPTION
HALO-S4-D	Halo 4 IoT Smart Environmental Sensor
HALO-S40C-D	Halo 4 IoT Smart Environmental Sensor with Occupancy Counter

Accessories

PART NUMBER	DESCRIPTION
HALO-4-BACKBOX	Back box for Halo 4 sensor. Required anytime there is a wire mold or conduit connection to the Halo.

Avigilon Software Licenses

PART NUMBER	DESCRIPTION
UNITY8-ENT	Avigilon Unity Video 8 Enterprise Edition license
UNITY8-STD	Avigilon Unity Video 8 Standard license
SEN-CLOUD-1YR	1-year subscription, per Halo, to Halo Cloud and Alta Video. End user information required
SEN-CLOUD-3YR	3-year subscription, per Halo, to Halo Cloud and Alta Video. End user information required
SEN-CLOUD-5YR	5-year subscription, per Halo, to Halo Cloud and Alta Video. End user information required
SEN-CLOUD-10YR	10-year subscription, per Halo, to Halo Cloud and Alta Video. End user information required



Support

For product support, visit: avigilon.com or sales@avigilon.com

To learn more, visit:
avigilon.com/halo-4-smart-sensor



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