

# AXIS D6310 Air Quality Sensor

## Advanced indoor environmental monitoring and alerts

Built on AXIS OS, this standalone, easy-to-integrate device lets you monitor indoor air quality. It can detect vaping and smoking, as well as measure various air pollutants, including particulate matter (PM) and carbon dioxide (CO<sub>2</sub>). A virtual stream lets you view live data and visualize measurements in a dashboard. This advanced sensor includes a microphone, which can be disabled with a physical switch to ensure privacy is safeguarded. And AXIS Audio Analytics offers AI-based actionable insights. What's more, this vandal-resistant, IK08-rated device includes a PIR sensor for presence detection. Plus, a built-in speaker and four multicolored LEDs let you automate responses using audio and/or visual alerts.

- > All-in-one standalone device
- > Detect vaping and smoking
- > Measure indoor air quality (IAQ)
- > Easy to integrate and access data
- > Visual alerts and two-way communication



SIP



FIPS 140-3 Inside #5139



# AXIS D6310 Air Quality Sensor

## Sensors

### Temperature

Range: -10 °C to 45 °C (14 °F to 113 °F)  
Accuracy:  $\pm 1$  °C

### Humidity

Range: 0 to 100 %RH  
Accuracy:  $\pm 6$  %RH

### Carbon dioxide (CO<sub>2</sub>)

Range: 0 to 40000 ppm  
Accuracy: 400 to 1000 ppm :  $\pm(50 + 2.5\% \text{ m.v.}^1)$  ppm,  
1001 to 2000 ppm :  $\pm(50 + 3\% \text{ m.v.}^1)$  ppm.  
2001 to 5000 ppm :  $\pm(40 + 5\% \text{ m.v.}^1)$  ppm.

### Particle matter (PM1.0)

Range: 0 to 1000  $\mu\text{g}/\text{m}^3$   
Accuracy: 0 to 100  $\mu\text{g}/\text{m}^3$  :  $\pm 5\% \text{ m.v.}^1$   
Accuracy: 101 to 1000  $\mu\text{g}/\text{m}^3$  :  $\pm 10\% \text{ m.v.}^1$

### Particle matter (PM2.5)

Range: 0 to 1000  $\mu\text{g}/\text{m}^3$   
Accuracy: 0 to 100  $\mu\text{g}/\text{m}^3$  :  $\pm 5\% \text{ m.v.}^1$   
Accuracy: 101 to 1000  $\mu\text{g}/\text{m}^3$  :  $\pm 10\% \text{ m.v.}^1$

### Particle matter (PM4.0)

Range: 0 to 1000  $\mu\text{g}/\text{m}^3$   
Accuracy :  $\pm 25\% \text{ m.v.}^1$

### Particle matter (PM10.0)

Range: 0 to 1000  $\mu\text{g}/\text{m}^3$   
Accuracy :  $\pm 25\% \text{ m.v.}^1$

### Volatile organic compounds (VOC) index

Range: 0 to 500  
Accuracy:  $\pm 5\% \text{ m.v.}^1$

### Air quality index (AQI)

Range: 0 to 500  
Accuracy:  $\pm 10\% \text{ m.v.}^1$

### Nitric oxide and nitrogen dioxide (NO<sub>x</sub>) index

Range: 0 to 500  
Accuracy:  $\pm 10\% \text{ m.v.}^1$

### Sampling frequency

1 sample/second<sup>2</sup>

## Storage frequency

High Frequency: 1 sample/second, up to 30 days  
Balanced: 1 sample/5 seconds, up to 90 days  
High Retention: 1 sample/10 seconds, up to 365 days

## System on chip (SoC)

### Model

S6L

### Memory

1 GB RAM, 8 GB Flash

## Video

### Video compression

H.264 (MPEG-4 Part 10/AVC) Main and High Profiles  
H.265 (MPEG-H Part 2/HEVC) Main Profile  
Motion JPEG

### Resolution

16:9: 1280x720

### Frame rate

Up to 30 fps

### Video streaming

Controllable frame rate

## Audio hardware

### Enclosure

1.8 inch dynamic cone speaker in sealed enclosure

### Max sound pressure level

86 dB (at 1 m / 39.4 in) at 4.89 kHz

### Frequency response

230 Hz - 13.3 kHz

### Coverage pattern

150°

### Input

Built-in microphone (can be disabled)  
Physical microphone switch

1. Of measured value

2. Applies to all the sensors in this product.

## Output

Built-in speaker

### Built-in microphone specification

20 Hz - 20 kHz

### Signal-to-noise ratio

72 dB

### Amplifier description

Built-in 4 W Class D amplifier

### Digital signal processing

Built-in and pre-configured

## Audio management

### AXIS Audio Manager Pro

Compatible with AXIS Audio Manager Pro 5.0 or later  
For larger and more advanced systems. Sold separately.  
See separate datasheet for specifications.  
For specifications, see the datasheet on [axis.com/products/axis-audio-manager-pro/support](http://axis.com/products/axis-audio-manager-pro/support)

## Audio software

### Streaming

Configurable duplex:  
One-way (simplex, half duplex)  
Two-way (half duplex, full duplex)

### Encoding

24bit LPCM, AAC-LC 8/16/32/44.1/48 kHz, G.711 PCM  
8 kHz, G.726 ADPCM 8 kHz, Opus 8/16/48 kHz  
Configurable bitrate

## Features

10-band graphic equalizer for audio input  
Voice enhancer  
Echo cancellation

## Light

### Illumination LED

Multi color status LED (red, yellow, green, and blue)

## Network

### Network protocols

IPv4, IPv6 USGv6, HTTP, HTTPS<sup>3</sup>, HTTP/2, TLS<sup>3</sup>, QoS Layer 3 DiffServ, FTP, SFTP, CIFS/SMB, SMTP, mDNS (Bonjour), UPnP®, SNMP v1/v2c/v3 (MIB-II), DNS/DNSv6, DDNS, NTP, PTP, NTS, RTSP, RTP, RTSPS, TCP, RTCP, DHCPv4/v6, SSH, CDP, MQTT v3.1.1, Secure syslog (RFC 3164/5424, UDP/TCP/TLS), Link-Local address (ZeroConf)

## System integration

### Application Programming Interface

Open API for software integration, including VAPIX®, metadata and AXIS Camera Application Platform (ACAP); specifications at [axis.com/developer-community](http://axis.com/developer-community).

One-click cloud connection

ONVIF® Profile G and ONVIF® Profile S, specifications at [onvif.org](http://onvif.org)

Support for Voice over IP (VoIP) through the Session Initiation Protocol (SIP), using peer-to-peer (P2P) or Private Branch Exchange (PBX).

### Video management systems

Compatible with AXIS Camera Station Edge, AXIS Camera Station Pro, AXIS Camera Station 5, and video management software from Axis' partners available at [axis.com/vms](http://axis.com/vms).

### Onscreen controls

Media clip

### Edge-to-edge

Speaker pairing

3. This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. ([openssl.org](http://openssl.org)), and cryptographic software written by Eric Young ([eay@cryptsoft.com](mailto:eay@cryptsoft.com)).

## Event conditions

Air quality monitor: Air quality outside acceptable range, vaping or smoking detected  
Audio: audio clip playing, physical microphone switch  
Audio analytics: audio level above threshold, glass break detected, scream detected, shout detected, speech detected, SPL: above threshold upper, SPL: below threshold lower  
Call: state, state change  
Device status: above/below/within operating temperature, casing open, IP address blocked/removed, live stream active, network lost, new IP address, PIR sensor, system ready  
Edge storage: storage disruption, storage health issues detected  
I/O: digital input is active, digital output is active, manual trigger, virtual input is active  
MQTT: MQTT client connected  
Scheduled and recurring: schedule

## Event actions

Audio clips: play, stop  
Call: answer call, end call, make call  
I/O: toggle I/O once, toggle I/O while the rule is active  
LEDs: flash status LED, flash status LED while the rule is active  
Light and siren: run light and siren profile, run light and siren profile while the rule is active, stop activities  
MQTT: send MQTT publish message  
Notification: HTTP, HTTPS, TCP and email  
Recordings: record video, record video while the rule is active  
Security: erase configuration  
SNMP trap messages: send, send while the rule is active  
Images or video clips: FTP, SFTP, HTTP, HTTPS, network share and email

## Built-in installation aids

Pixel counter, level grid

## Analytics

### Applications

**Included**  
AXIS Audio Analytics

**Supported**  
Support for AXIS Camera Application Platform enabling installation of third-party applications, see [axis.com/acap](http://axis.com/acap)

### AXIS Audio Analytics

**Features:** adaptive audio detection, audio classification, sound pressure level

**Audio classes:** scream, shout, glass break, speech

**Event metadata:** audio detections, classifications, sound pressure level

## Approvals

### Product markings

UL, CE, KC, VCCI, RCM

### Supply chain

TAA compliant

### EMC

CISPR 32 Class A, EN 55035, EN 55032 Class A, EN 61000-6-1, EN 61000-6-2

**Australia/New Zealand:** RCM AS/NZS CISPR 32 Class A

**Canada:** ICES(A)/NMB(A)

**Japan:** VCCI Class A

**Korea:** KS C 9835, KS C 9832 Class A

**USA:** FCC Part 15 Subpart B Class A

### Safety

CAN/CSA C22.2 No. 62368-1 ed. 3, IEC/EN/UL 62368-1 ed. 3, IEC/EN 60825-1 Class 1

### Environment

IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-6, IEC 60068-2-14, IEC 60068-2-27, IEC 60068-2-78, IEC/EN 62262 IK08

### Network

IPv6 USGv6, NIST SP500-267

### Cybersecurity

ETSI EN 303 645, FIPS 140

## Cybersecurity

### Edge security

**Software:** Signed OS, brute force delay protection, digest authentication, password protection, Axis Cryptographic Module (FIPS 140-2 level 1)

**Hardware:** Axis Edge Vault cybersecurity platform

Secure keystore: secure element (CC EAL 6+, FIPS 140-3 Level 3), system-on-chip security (TEE)

Axis device IDsecure boot, encrypted filesystem (AES-XTS-Plain64 256bit)

### Network security

IEEE 802.1X (EAP-TLS, PEAP-MSCHAPv2)<sup>4</sup>,

IEEE 802.1AE (MACsec PSK/EAP-TLS), IEEE 802.1AR, HTTPS/HSTS<sup>4</sup>, Network Time Security (NTS), host-based firewall

4. This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. ([openssl.org](http://openssl.org)), and cryptographic software written by Eric Young ([eay@cryptsoft.com](mailto:eay@cryptsoft.com)).

## Documentation

[AXIS OS Hardening Guide](#)

[Axis Vulnerability Management Policy](#)

[Axis Security Development Model](#)

[AXIS OS Software Bill of Material \(SBOM\)](#)

To download documents, go to [axis.com/support/cybersecurity/resources](#)

To read more about Axis cybersecurity support, go to [axis.com/cybersecurity](#)

## General

### Casing

Aluminum and plastic casing

Color: white NCS S 1002-B

### Mounting

Mounting bracket with junction box holes (double-gang, single-gang, 4" square, and 4" octagon)

### Power

Power over Ethernet (PoE) IEEE 802.3af/802.3at Type 1

Class 3 or IEEE 802.3at Type 2 Class 4

Typical power consumption: 2.8 W

Max power consumption: 6.9 W

### I/O functionality

1 digital/supervised input and 1 output 12 VDC output, max load 25 mA

### Connectors

I/O: 4-pin 2.5 mm terminal block

Network: Shielded RJ45 10BASE-T/100BASE-TX/1000BASE-T PoE

Serial communication: RS485/RS422, 1 pcs, 4 pos, full duplex, terminal block

### PIR sensor

Passive infrared (PIR) motion sensor

Max range: 5 m (16.4 ft)

### Operating conditions

Temperature: -10 °C to 45 °C (14 °F to 113 °F)

Humidity: 0–90% RH (non-condensing)

### Storage conditions

Temperature: -40 °C to 65 °C (-40 °F to 149 °F)

Humidity: 0–80% RH (non-condensing)

### Dimensions

For the overall product dimensions, see the dimension drawing in this datasheet.

### Weight

830 g (1.8 lb)

### Box content

Air quality sensor, installation guide, terminal block connectors, owner authentication key

### System tools

AXIS Site Designer, AXIS Device Manager

Available at [axis.com](#)

### Languages

English, German, French, Spanish, Italian, Russian, Simplified Chinese, Japanese, Korean, Portuguese, Polish, Traditional Chinese, Dutch, Czech, Swedish, Finnish, Turkish, Thai, Vietnamese

### Warranty

5-year warranty, see [axis.com/warranty](#)

### Part numbers

Available at [axis.com/products/axis-d6310-air-quality-sensor#part-numbers](#)

## Optional accessories

### Mounting

AXIS T94K01D Pendant Kit, AXIS TP3101 Pendant Wall Mount

## Sustainability

### Substance control

RoHS in accordance with EU RoHS Directive 2011/65/EU and 2015/863, and standard EN IEC 63000:2018 REACH in accordance with (EC) No 1907/2006. For SCIP UUID, see [echa.europa.eu](#)

### Materials

Renewable carbon-based plastic content: 65% (recycled)

To read more about sustainability at Axis, go to [axis.com/about-axis/sustainability](#)

## Environmental responsibility

[axis.com/environmental-responsibility](#)

Axis Communications is a signatory of the UN Global Compact, read more at [unglobalcompact.org](#)



