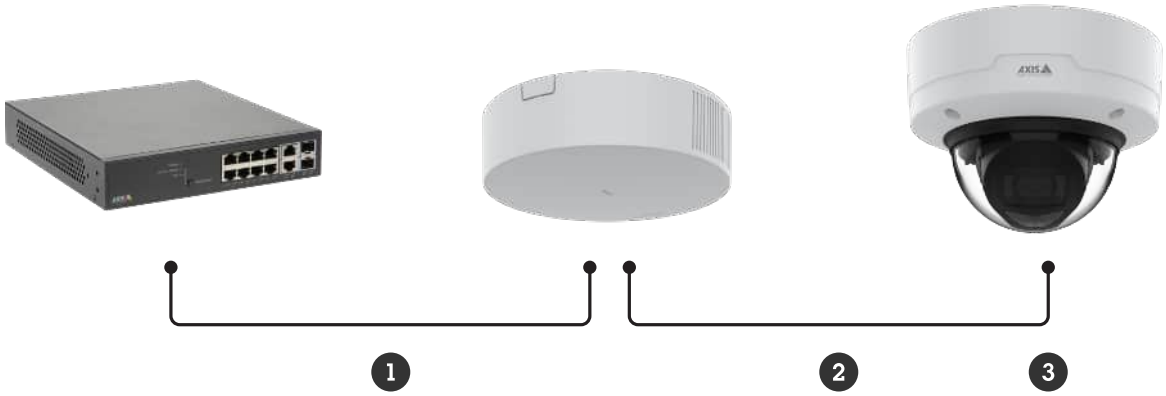
AXIS D6210 Air Quality Sensor

User manual

Table of Contents

Solution overview



1 *PoE in*
2 *PoE out*
3 *Host device*

Installation

Important

- Keep at least 1.5 meters (4.9 feet) away from areas with significant vents, or pollution sources. This includes air vents, doors, windows, cooking areas etc.
- Install the device in a location that allows free air flow.
- For effective vaping or smoking detection, install the device on the ceiling at a height of 2.4–2.7 meters (7.9–8.9 feet) from the floor.
- For effective air quality and environmental monitoring, install the device at a height of 0.9–1.8 meters (3.0–5.9 feet) from the floor.

For detailed installation instructions, refer to the installation guide.

Configure your device

About the device

When you connect your device to a supported host device, settings for **Air quality monitor** tab will appear on the host device's webpage.

You can manage all the settings described in this manual through the host device's webpage.

Set up rules for events

To learn more, check out our guide *Get started with rules for events*.

Record video when there is an alarm

The following example explains how to set up a camera to record video to an SD card when the air quality sensor detects vaping.

1. In the camera's webpage, go to **Settings > System > Storage** to check that the SD card is mounted.
2. Go to **Settings > System > Events** and add a rule. Enter the following information:
   - **Name**: Type a name for the rule.
   - **Condition**: **Air quality monitor > Vaping or smoking detected**.
   - **Action** : **Recordings > Record video**.
   - **Storage**: **SD card** . Make sure the SD card is mounted.
   - **Camera**: Select a camera view area.
   - **Stream profile**: Select a stream profile or **Create a stream profile**.
   - **Prebuffer** and **Postbuffer**: Set the desired values.
3. Click **Save**.

Activate strobe siren over MQTT when there is an alarm

This example explains how to connect a camera to the strobe siren over MQTT, and activate a profile in the strobe siren whenever the air quality sensor, connected with the camera, detects temperature is out of the preset range.

Important

Check that a PoE class 4 power supply is used, when the device is connected to a strobe siren.

Before you start :

- Create a profile in the strobe siren.
- Set up an MQTT broker and get the broker's IP address, username and password.
- Set up AXIS Air quality monitor in the camera.

Set up the MQTT client in the camera :

1. In the camera's webpage, go to **System > MQTT > MQTT client > Broker** and enter the following information:
   - **Host**: Broker IP address
   - **Client ID**: For example Camera 1
   - **Protocol**: The protocol the broker is set to
   - **Port**: The port number used by the broker
   - The broker **Username** and **Password**
2. Click **Save** and **Connect**.

Create a rule in the camera for MQTT publishing :

1. Go to **System > Events > Rules** and add a rule.
2. Enter the following information:
   - **Name**: Temperature out of range
   - **Condition**: **Air quality monitor > Air quality outside acceptable range**
   - **Sensor**: **Temperature**
   - **Action**: **MQTT > Send MQTT publish message**
   - **Topic**: Temperature out of range
   - **Payload**: On
   - **QoS**: 0, 1 or 2
3. Click **Save**.

Set up the temperature range

- In the camera's webpage, go to **Air quality monitor > Settings** . Enter the **MIN** and **MAX** data to set the temperature range.

Set up the MQTT client in the strobe siren :

1. In the strobe siren's webpage, go to **System > MQTT > MQTT client > Broker** and enter the following information:
   - **Host**: Broker IP address
   - **Client ID**: Siren 1
   - **Protocol**: The protocol the broker is set to
   - **Port**: The port number used by the broker
   - **Username** and **Password**
2. Click **Save** and **Connect**.
3. Go to **MQTT subscriptions** and add a subscription.
   Enter the following information:
   - **Subscription filter**: Temperature out of range
   - **Subscription type**: Stateful
   - **QoS**: 0, 1 or 2
4. Click **Save**.

Create a rule in the strobe siren for MQTT subscriptions :

1. Go to **System > Events > Rules** and add a rule.
2. Enter the following information:
   - **Name**: Temperature out of range
   - **Condition**: **MQTT > Stateful**
   - **Subscription filter**: **Temperature out of range**
   - **Payload**: On
   - **Action**: **Light and siren > Run light and siren profile while the rule is active**
   - **Profile**: Select the profile you want to be active.
3. Click **Save**.

Flash status LED on air quality sensor when there is an alarm

This example explains how to flash status LED on air quality sensor when CO2 is too high.

Create a rule

1. In the camera's webpage, go to **Events >Rules > Add a rule** to create a rule.
2. Enter the following information:
   - **Name**: Type a name for the rule.
   - **Conditions**: **Air quality monitor > Air quality outside acceptable range**
   - **Sensors**: **CO2**
   - **Actions**: **Flash I/O interface status LED**
   - **Color**: **Red**
   - **Duration**
3. Click **Save**.

Set up the alarm range for CO2

1. In the camera's webpage, go to **Air quality monitor > Settings > CO2**.
2. Enter the **MIN** and **MAX** data to set the CO2 range.

Calibration for the first run of the device

Note

- The AQI (Air Quality Index) requires 12 hours to be functional the first time the device runs. The AQI will show **Calculating** until it has enough data.
- Full CO2 accuracy takes 2 days the first time the device runs.
- Full VOC accuracy takes one hour the first time the device runs.
- Full NO☐ accuracy takes 6 hours the first time the device runs.

The web interface

Dashboard

Real-time sensor data

Shows the real-time sensor data.

Note

- The AQI (Air Quality Index) requires 12 hours to be functional the first time the device runs. The AQI will show **Calculating** until it has enough data.
- Full CO2 accuracy takes 2 days the first time the device runs.
- Full VOC accuracy takes one hour the first time the device runs.
- Full NO☐ accuracy takes 6 hours the first time the device runs.

 : Click to set the name of the dashboard.

Temperature: View the real-time temperature from the air quality sensor.

Humidity: View the real-time humidity from the air quality sensor.

CO2: View the real-time carbon dioxide.

The color meanings of the CO2 status bars are as follows:

- **Green (0–1000)**: **Good**. The data is considered satisfactory.
- **Orange (1001–2000)**: **Unhealthy for sensitive group**. Members of sensitive groups may experience health effects. The general public is less likely to be affected.
- **Red (2001–5000)**: **Unhealthy**. Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
- **Purple (5001–40000)**: **Very unhealthy**. Health warnings of emergency conditions. The entire population is more likely to be affected.

NOx: View the real-time volatile organic compounds.

The color meanings of the NOx status bars are as follows:

- **Green (0–30)**: **Good**. The data is considered satisfactory.
- **Yellow (31–150)**: **Moderate**. The data is acceptable. There may be a moderate health concern for a very small number of people who are unusually sensitive.
- **Orange (151–300)**: **Unhealthy for sensitive group**. Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
- **Red (301–500)**: **Unhealthy**. Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.

PM 1.0: View the real-time particle matter 1.0.

PM 2.5: View the real-time particle matter 2.5.

The color meanings of the PM 2.5 status bars are as follows:

- **Green (0–9)**: **Good**. The data is considered satisfactory.
- **Yellow (9.1–35.4)**: **Moderate**. The data is acceptable. There may be a moderate health concern for a very small number of people who are unusually sensitive.
- **Orange (35.5–55.4)**: **Unhealthy for sensitive group**. Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
- **Red (55.5–125.4)**: **Unhealthy**. Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
- **Purple (125.5–225.4)**: **Very unhealthy**. Health warnings of emergency conditions. The entire population is more likely to be affected.
- **Maroon (225.5–1000)**: **Hazardous**. Emergency conditions. The entire population is more likely to be affected.

PM 4.0: View the real-time particle matter 4.0.

PM 10.0: View the real-time particle matter 10.0.

The color meanings of the PM 10.0 status bars are as follows:

- **Green (0–54)**: **Good**. The data is considered satisfactory.
- **Yellow (55–154)**: **Moderate**. The data is acceptable. There may be a moderate health concern for a very small number of people who are unusually sensitive.
- **Orange (155–254)**: **Unhealthy for sensitive group**. Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.

- **Red (255–354): Unhealthy**. Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
- **Purple (355–424): Very unhealthy**. Health warnings of emergency conditions. The entire population is more likely to be affected.
- **Maroon (425–1000): Hazardous**. Emergency conditions. The entire population is more likely to be affected.

Vaping/Smoking: View the vaping or smoking detected or undetected.

The color meanings of the Vaping/Smoking status bars are as follows:
- **Green: Undetected**. The suspected vaping or smoking activity is not detected.
- **Red: Detected**. The suspected vaping or smoking activity is detected.

VOC: View volatile organic compounds index.

The color meanings of the VOC status bars are as follows:
- **Green (0–100): Good**. The data is considered satisfactory.
- **Yellow (101–300): Moderate**. The data is acceptable. There may be a moderate health concern for a very small number of people who are unusually sensitive.
- **Orange (301–400): Unhealthy for sensitive group**. Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
- **Red (401–500): Unhealthy**. Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.

AQI: View air quality index.

The color meanings of the air quality index status bars are as follows:
- **Green (0–50): Good**. The data is considered satisfactory.
- **Yellow (51–100): Moderate**. The data is acceptable. There may be a moderate health concern for a very small number of people who are unusually sensitive.
- **Orange (101–150): Unhealthy for sensitive group**. Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
- **Red (151–200): Unhealthy**. Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
- **Purple (201–300): Very unhealthy**. Health warnings of emergency conditions. The entire population is more likely to be affected.
- **Maroon (301–500): Hazardous**. Emergency conditions. The entire population is more likely to be affected.

Settings

Threshold

Sets up the air quality sensor data.

Temperature: Set temperature **MIN** and **MAX** within the range **-10 to 45**.

Humidity : Set humidity **MIN** and **MAX** within the range **0 to 100**.

CO2 : Set carbon dioxide **MIN** and **MAX** within the range **0 to 40000**.

NOx : Set volatile organic compounds **MIN** and **MAX** within the range **0 to 500**.

PM1.0 : Set particle matter 1.0 **MIN** and **MAX** within the range **0 to 1000**.

PM2.5 : Set particle matter 2.5 **MIN** and **MAX** within the range **0 to 1000**.

PM4.0 : Set particle matter 4.0 **MIN** and **MAX** within the range **0 to 1000**.

PM10.0 : Set particle matter **MIN** and **MAX** within the range **0 to 1000**.

VOC : Set volatile organic compounds index **MIN** and **MAX** within the range **0 to 500**.

AQI : Set air quality index **MIN** and **MAX** within the range **0 to 500**.

Temperature units

Show temperature in : **Celsius** or **Fahrenheit**

Vaping Detect Sensitivity

Sets up the vaping detect sensitivity.

Low sensitivity ,**High sensitivity** : Use the slider to adjust the difference between low sensitivity and high sensitivity.

Statistics

Sensor data statistics

You can view the sensor data or download sensor data statistics up to 90 days to a file for expanded usability in applications such as Microsoft® Excel. The file format is CSV.

Select source: select the source you'd like to view or download.

From and **To** : select the days you'd like to view or download. You can view or download the data up to 90 days.

Download: select **Download selected sensor data** or **Download all sensor data** from the drop-down menu.

Download sensor data

You can download sensor data statistics up to 90 days to a file for expanded usability in applications such as Microsoft® Excel. The file format is CSV.

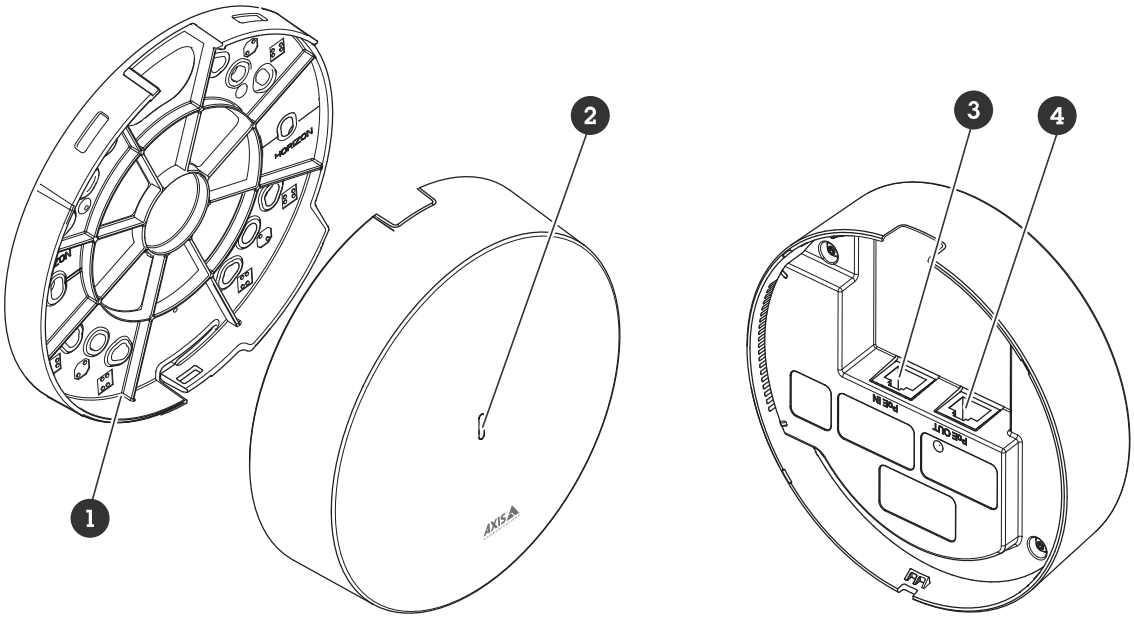
1. On the host device webpage, go to **Air quality monitor > Statistics > Sensor Data Statistics** .
2. In the list of **Select source**, select the source you'd like to download.
3. In the list of **From** and **To**, select the days you'd like to download. You can download the data up to 90 days.
4. Click on the **Download**, select **Download selected sensor data** or **Download all sensor data** from the drop-down menu.

The file is downloaded to your downloads folder. Download could take a while depending on the file size.

Specifications

Product overview

AXIS D6210



1 *Bracket mount*
2 *Status LED*
3 *PoE in*
4 *PoE out*

LED indicators

Status LED	Indication
Unlit	Connection and normal operation.
Green	Shows steady green for 10 seconds for normal operation after startup completed.
Amber	Steady during startup. Flashes during device software upgrade.
Amber/ Red	Flashes amber/red if network connection is unavailable or lost.
Red	Flashes red for device software upgrade failure.

Connectors

Network connector

Input: RJ45 Ethernet connector with Power over Ethernet (PoE).

Output: RJ45 Ethernet connector with Power over Ethernet (PoE).

Troubleshooting

Technical issues, clues and solutions

If you can't find what you're looking for here, try the troubleshooting section at *axis.com/support*

The Air quality monitor tab is not visible in the host device's webpage	
The webpage is not updated.	Refresh the browser window. If that does not help, clear the browser cache.
Wrong host device firmware version.	Make sure that the host device has the latest firmware version installed. For information about how to check the host device's firmware version, see the host device's user manual.
The network connection is unavailable.	Check the LED indicators on the product and compare with the LED indicators table on .
The input and output network cables are connected to the wrong connectors.	Interchange the input and output network cables.
The host device is not compatible.	Go to the device's product page to see if your host device is compatible.

The Air quality monitor tab is visible but Air quality sensor is not working	
The host device has been disconnected from the Air quality sensor.	Reconnect the host device to the Air quality sensor and refresh the host device's webpage.

The host device doesn't start up after connecting it to the product	
Hardware issue	Contact Axis support.
The network connection is unavailable.	Check the LED indicators on the product and compare with the LED indicators table on .
The input and output network cables are connected to the wrong connectors.	Interchange the input and output network cables.

Contact support

If you need more help, go to *axis.com/support*.

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