



Environmental Sensor

An all-in-one sensor to unlock new insights



Overview

Verkada's SV11 is an all-in-one sensor for monitoring environmental changes in your physical space. With a collection of powerful embedded sensors, the SV11 simultaneously measures air quality, temperature, humidity, motion, and noise.

Each SV11 sensor can be managed from Verkada's web-based Command platform. Users can configure the device to display the sensor data they wish to monitor, as well as set custom alerts based on user defined thresholds. Users receive alert notifications in real-time, allowing for fast and proactive responses.

Sensor data from the SV11 is visualized in an interactive graph in Command. Users can associate a Verkada camera with their sensor to provide greater context into environmental changes and events. This video footage and sensor data are automatically synced, ensuring a seamless experience for historical investigations or live monitoring.

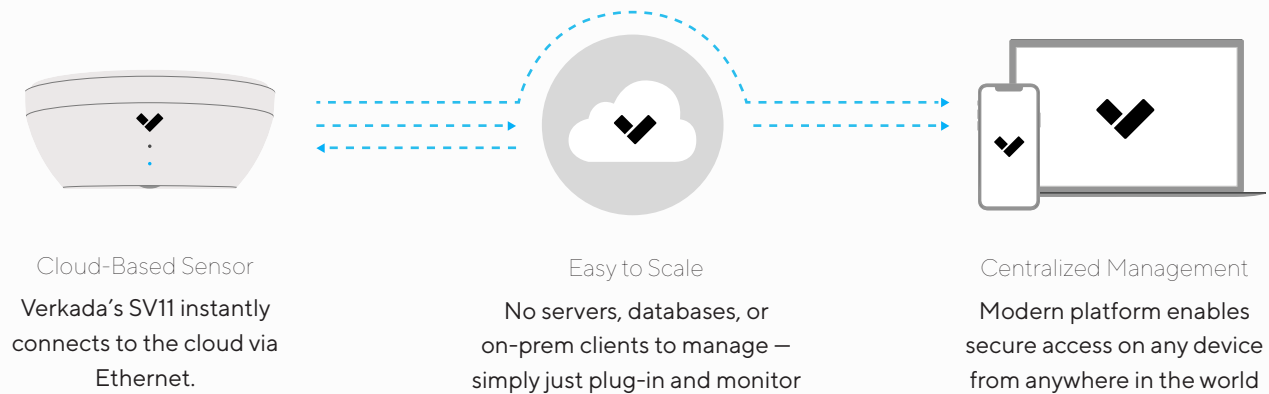
For scenarios where an SV11 is used in sensitive areas, such as a bathroom or locker room, users can opt to use their sensor without an associated camera or can place one in an adjacent, safe-to-record area.

The SV11 lends itself to a wide range of use cases. From monitoring air quality in manufacturing facilities to detecting temperature fluctuations in server closets, the SV11 offers a new kind of visibility and insight into your physical space.

In addition to monitoring a wide range of environmental changes, the SV11 can detect vaping and smoking events. Schools and other smoke-free facilities can monitor vaping and smoking behavior from Command using Verkada's Vape Index, making it easy to conduct investigations and implement deterrence measures.



Verkada's Cloud-Based Sensor



Benefits of Verkada's Cloud-Based Sensor Platform

Simple to Install

- Sensors come online and configure in minutes
- No VPNs, added software or complexities
- Users can quickly configure and customize sensors and alerts

Easy to Use

- Color-coded sensor readings and data visualizations
- No training required, with one-click investigations
- Out-of-the-box integration with Verkada cameras

Ready For Scale

- Cloud-based platform has no limitations on the number of sensors or users
- Remotely monitor sensors across any number of locations
- Minimal bandwidth impact

No Hidden Costs

- Hardware includes a 10-year warranty
- Automatic firmware updates keep sensors secure
- No additional maintenance or support fees

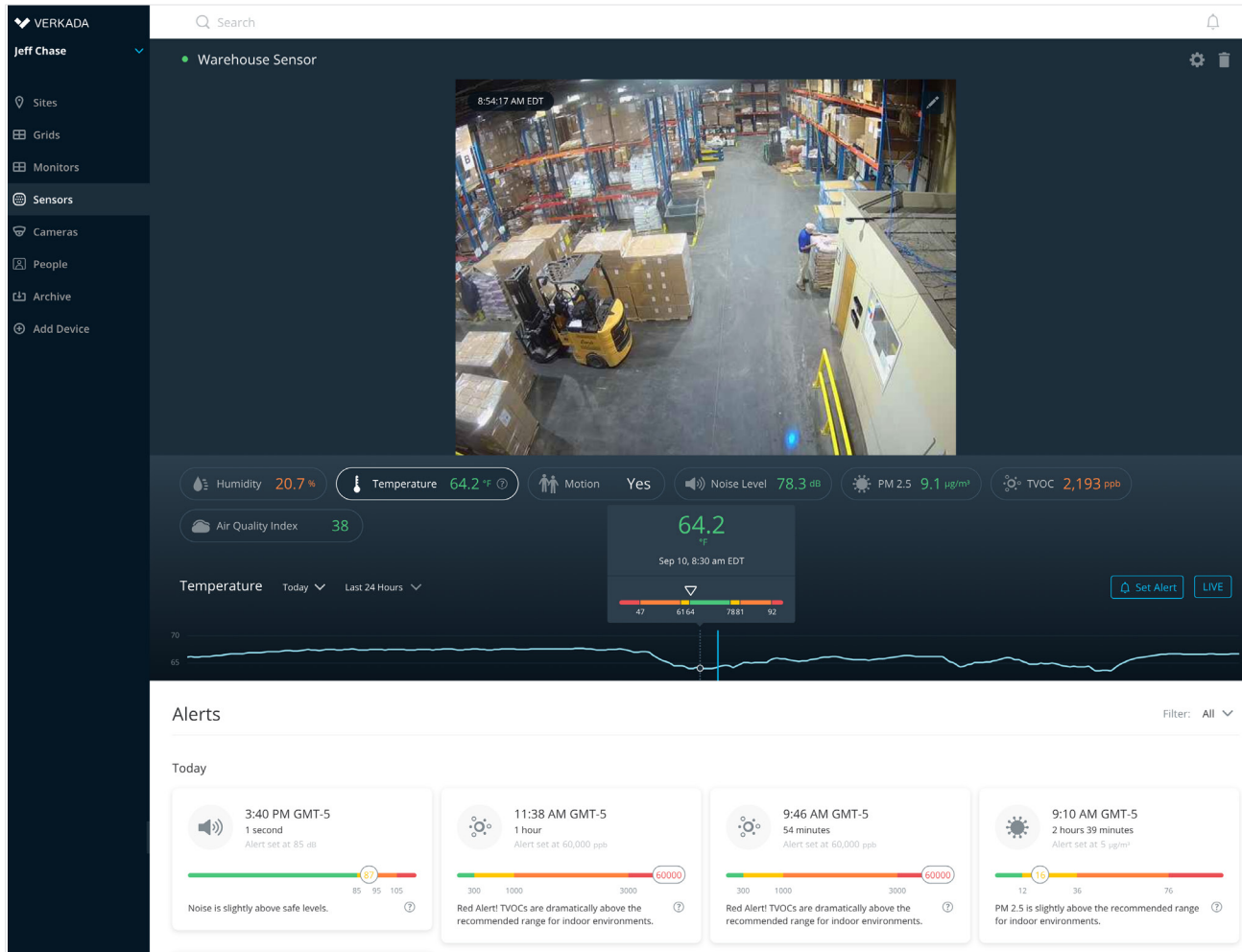
Advantages of Cloud-Managed Solution

- Secure remote access and alert management on any device anywhere
- SAML-based integration with single sign-on (SSO) solutions
- Continuous updates with new features



Sensor Software Overview

Customizable dashboards for real-time environmental monitoring of your sites



Command, Verkada's cloud-based management software, provides all-in-one monitoring and management of sensors deployed across your organization.

Sensor Management

- Customize the data displayed for each SV11 sensor
- Set alerts based on user-defined thresholds for each data stream
- Configure notification recipients and scheduling
- Filter data by sensor, date and time

Video Integration

- Associate Verkada cameras with sensors for increased visibility
- View historical or live video synced with sensor data
- Click on sensor alert to see sensor data alongside video footage of the incident



Sensor Overview

Verkada created recommended sensor value ranges based on data from the Environmental Protection Agency (EPA), the World Health Organization (WHO), the Occupational Safety and Health Administration (OSHA), and the American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE).

Color-coded sensor ranges are aligned to these government and industry standards for healthy indoor environments.

The SV11 can show the following data streams in Command

Temperature

<47°F 47-61°F 61-64°F 64-78°F 78-81°F 81-92°F >92°F

SV11 temperature measurements are accurate from 23 °F - 122 °F. As with other data streams, users can customize temperature alerts if a space is kept at a temperature outside of the recommended green zone.

Humidity

<20% 20-25% 25-35% 35-51% 51-61% 61-80% >80%

Relative humidity is the amount of moisture in the air compared to what the air can hold at that temperature.

TVOC

<500 500-2000 2000-5000 >5000

A total measure of Volatile Organic Compounds, which are chemicals that evaporate into the air and are emitted by cleaners, paints, varnishes, fragrances, and hundreds of other products. Examples include benzene, ethylene glycol, and formaldehyde. VOCs are measured as a group because of their cumulative effects, with high TVOC values associated with negative health impacts.

PM 2.5

<12 µg/m³ 12 µg/m³ - 36 µg/m³ 36 µg/m³ - 76 µg/m³ >76 µg/m³

Particulate Matter 2.5 (PM 2.5) refers to tiny inhalable particles or droplets in the air that are less than 2.5 microns in width. These particles can have negative health effects, and are caused by dust, vehicle exhaust, burning fuels, cooking, smoking, and vaping.

Air Quality Index

< 50 50-100 100-150 150-200 200-300 > 300

The U.S. AQI measures total air pollution and provides benchmarks for healthy values. When AQI exceeds 100, air quality is unhealthy - at first for certain sensitive groups of people, then for everyone as AQI values get higher.

Vape Index

0-10 10-50 50-80 > 80

Verkada's Vape Index is a score derived from multiple sensors that is strongly correlated with vaping and/or smoking activity. Vape Index measurements outside of the green zone indicate suspected vaping/smoking activity, but could also reflect smoke or fumes from other sources. Smoke from cooking, burning fuel or wildfires may register highly on the Vape Index.

Noise Level

< 85 dB 85 - 95 dB 95-105 dB > 105 dB

A measure of total noise level at the sensor. OSHA regulations state that noise levels cannot exceed 90 dB over an 8 hour period, or 95 dB over a 4 hour period.

Motion

A measure of changes in infrared light absorption caused by the motion of warm bodies, as measured by a passive infrared sensor. Powered by the same technology as motion sensors for intrusion detection, a motion event indicates human/animal motion or other large changes in infrared activity.



Sensor Overview

Photochemically Etched Stainless Steel

Volatile Organic Compound Sensor

Particulate Matter Sensor

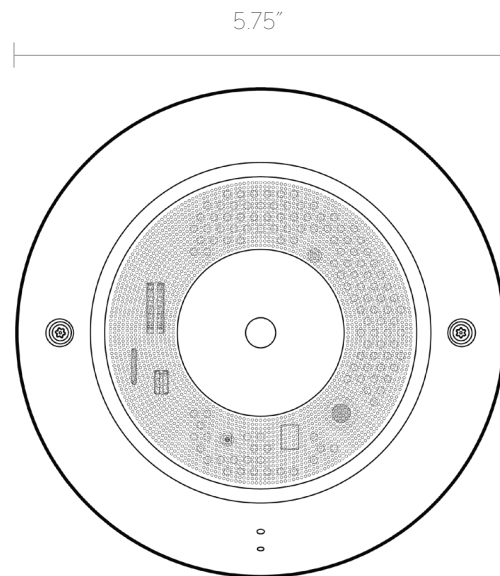
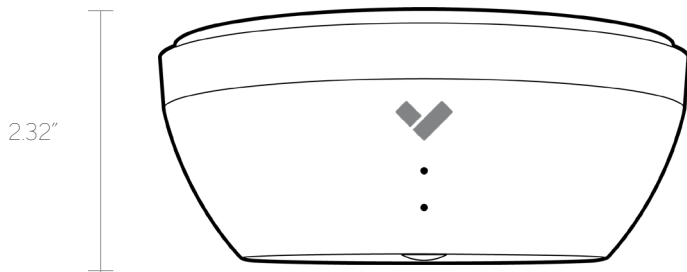
Motion Detection Sensor

Temperature & Humidity Sensor

Noise Sensor



Dimensions



Tech Specs

Temperature	Relative Humidity
Sensor: CMOS Operating Range: -5° C to 50° C (23° F to 122° F) Typical Accuracy: ± 2° C Units: ° F	Sensor: CMOS Operating Range: 0-80% non-condensing Typical Accuracy: ± 5% Units: %
PM 2.5	TVOC
Sensor: Laser Scattering Optical Sensor Range: 0 - 1000 µg/m ³ Typical Accuracy (0 - 100 µg/m³): ± 10 µg/m ³ Typical Accuracy (100 - 1000 µg/m³): ± 10% Units: µg/m ³ (micrograms / cubic meter)	Sensor: CMOS Range: 0 - 60,000 Index Typical Accuracy: ± 15%
Noise	Air Quality Index
Sensor: Microphone (not recording) Range: 20 - 120 dB SPL (A-Weighted) Typical Accuracy: ± 5 dB Units: dB (decibels)	Sensor: U.S. Air Quality Index, derived from multiple sensors Range: 0 - 500
Motion	Vape Index
Sensor: Passive Infrared Sensor	Sensor: Proprietary formula derived from multiple sensors Range: 0 - 100 index

Dimensions & Weight	Power
Dimensions: Ø: 146mm H: 59mm Weight: 720g / 25.4oz	Power Consumption: 4W Power Input: IEEE 802.3af PoE
Connectivity	LED Indicator
RJ-45 cable connector for Network/PoE connection	System power and status indicator
Operating Temperature	Compliance
-5° C to 50° C (23° F to 122° F)	FCC, CE, IC
Included Accessories	
Setup guide, T10 security Torx screwdriver, screw pack, paper mounting template	



Pricing

Product Name	Description	Price (MSRP)
<div> SV11-HW</div>	SV11 Environmental Sensor Hardware	\$999
LIC-SV-1Y	1 Year Sensor License	\$249
LIC-SV-3Y	3 Year Sensor License	\$599
LIC-SV-5Y	5 Year Sensor License	\$999
LIC-SV-10Y	10 Year Sensor License	\$1,999

