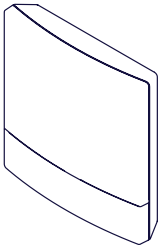


## About the device

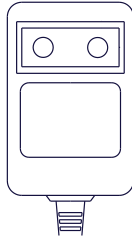
Senstate Urban Air Quality Monitor is a precision, industry grade device for air quality monitoring that is specifically developed for use in urban and outdoor environments. The device is equipped with high-class sensory components and advanced networking technologies for a wide range of applications in the public, education and the private sector.

The device, referred below as UAQM is a cloud-connected device that transmits the environmental parameters it measures to secured network services via a WiFi or a 2G/3G network. Common applications are monitoring of air quality parameters in urban environments, including point monitoring in industrial zones, heavy traffic zones, city parks or for background pollution monitoring. The device also could be used for monitoring of indoor air quality in a variety of industries, including for gas pollution monitoring in critical points of manufacturing facilities and many others.

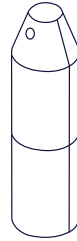
# What is included



**Senstate UAQM**



**Adapter**

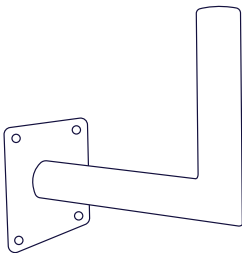


**Programming Stick**

Also, you will find this manual and a security card. Please keep the security card in a safe place, because it contains sensitive information which is used as a proof of ownership of your device in all software systems.

## Accessories

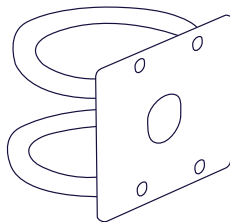
The Senstate UAQM device is compatible with a variety of optional accessories listed below. You can purchase the accessories directly by contacting us or by contacting our integration partners in your area.



**Wall Mount**

**UAQM-ACC-WM01**

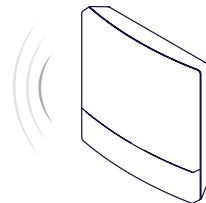
The wall mount is used for mounting on any type of wall or other vertical surface



**Pillar Stand**

**UAQM-ACC-PS01**

The pillar stand is used for mounting on pillars. In most cases, this accessory is combined with the Wall Mount



**Senstate Cloud Box**

**SCB-WIFI**

The cloud box is an electronic device used to transmit the parameters of a station to any TV, LCD or projector.

# How to use

The UAQM device requires an internet connection in order to work properly. Without internet connectivity, the device is not able to transmit the sensory data and thus, you will not be able to take advantage of any of the features.

The device has two options for connectivity. The first option is WiFi connectivity, which is incorporated by default in all UAQM devices. The second option is the 2G/3G modem, which is an optional feature that allows connectivity in 170 countries worldwide.

## First start

To start the device, you need to plug in the power connector. The power connector is also used as an on/off switch. Shortly said, if the power connector is plugged in, the **device is in operation mode, if it is plugged off - the device is in power off mode.**

Grid Power Availability	Plugged in connector	Plugged off connector
Grid power	Device is working and charging the batteries	Device is On
No grid power	Device is working on battery power	Device is Off

## Startup Beep Notifications

Long beep	Two short beeps	Very long beep
Device enters into semi-diagnostic mode. It might take between 10 and 20 seconds for WiFi connected devices and up to 5 minutes for 2G/3G enabled devices.	The internal diagnostics is completed successfully and the device enters into operation mode.	The device did not pass its internal diagnostics procedures and is not able to start properly. Please contact our support team.

## How to connect the device to a 2G/Mobile network

Connecting the device via 2G/Mobile is fully automated. It scans and finds all available mobile carriers and depending on the signal strength and other parameters of each available operator, it chooses the best option to connect to. If a carrier's coverage drops, it will automatically reconnect to another one with higher availability.

## Connectivity priority

If your UAQM device is equipped with the 2G/3G feature, the device will follow prioritisation of connectivity options.

If WiFi is properly connected to a network	If WiFi is not configured, or there is no internet connection
The device will always use WiFi connectivity instead of 2G/3G	The device will use its 2G/3G capabilities

# How to connect the device to WiFi

To connect the device to a WiFi network, first it needs to pass its internal diagnostics checks. Please refer to the previous point. After the device is initialized, please follow the below procedure.

## ● Step 1

Bring the magnetic stick between the two LED's on the bottom of the device. Short beeps will start as well as both LED's blinking. Do not move the magnetic stick until you hear a long beep after around 5 seconds.

## ● Step 3

The device is now visible by other WiFi enabled devices. Use a tablet, smartphone or PC to find the UAQM device in the WiFi networks list. It should appear as Senstate XXXX, where XXXX are the last symbols of your device token.

## ● Step 5

From the configuration page, please choose the WiFi network which you would like the device to be connected to, type the password and click save. You are all done. Your device is now connected to a network.

## ● Step 2

After step 1 is completed, the red LED will start blinking slowly. This means that you are in WiFi setup mode. The setup mode has timeout of 60 seconds. If you do not connect within the timeout period, the device will exit the setup mode.

## ● Step 4

Connect to the UAQM device that appears in the list. You will be redirected to the configuration page. Some smart phones do not support automatic redirection. In such a scenario, you should manually open a browser and type <http://senstate.link> to be redirected to the configuration page.

**You are all done.**

**Your device is now connected to a network.**



## LED signals

On the bottom side of the device, you can find two LEDs. The red LED shows the availability of connection to the internet and the blue LED shows the connection to the Cloud services.

	Slow blink	Fast blink	LED on
Internet LED (red)	WiFi configuration mode	Connecting to internet	Successfully connected to internet
Cloud LED (blue)	Connecting to the Cloud Services	Authenticated to the Cloud Services	Successfully transmits data

If both LEDs are blinking together, this means that WiFi is not configured and the device is waiting for you to configure the WiFi connectivity.

Please refer to **“How to connect the device to WiFi”** from this manual.

## Cloud System

The UAQM device is a cloud-connected device that requires an account in our Senstate.Cloud system, where it will be assigned to. After you assign the device in your account, you will be able to see all data coming from the device and take advantage of many other features of the system.



**Cloud system registration steps**

## ● Step 1

To create an account in the system, please visit <https://senstate.com> and follow the steps of the Signup procedure. If you already have an account, you can just add the device to your existing one.

## ● Step 3

Give your device a short name. **Congratulations, your Senstate Device is added to your account.** If you decide to stop using the device or would like to transfer the ownership to someone else, you can un-assign it from your account and give the security card to the new person. Having the information in the card, the device can be assigned to any other account in **Senstate.Cloud**.

## ● Step 2

After your account is created and you have successfully signed in, please click on **"Assign device"** and type the Assigning Secret and Assigning Token provided with the security card that comes with your device. Please keep your security card in a safe place as it contains sensitive information.

**Congratulations!**

**Your Senstate Device is added to your account.**

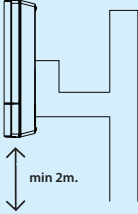
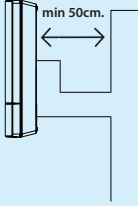
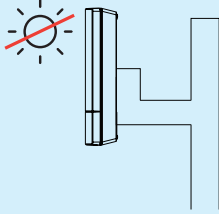


## Mounting Guide

Choosing a location for monitoring of Air Quality is an important aspect to be considered before mounting the device. Depending on the specific purpose you would like to achieve, there might be background monitoring or point-based monitoring principles. In some countries, there is even a regulatory framework as to how the Air Quality Monitoring stations should be positioned in order to comply with the regulations.

If you are going to use the station for precise measurements where regulatory compliance needs to be achieved, we strongly recommend contacting a consultant of Air Quality Monitoring. We also provide consulting services for that matter and you can contact us via the contact details listed in this manual.

**Below are listed basic recommendations for mounting the station.**

Recommended Height	Recommended Distance to near-by objects and walls	No Direct Sunlight Exposure
		
It is recommended to mount the device at least 2m (meters) above the surface	It is recommended to mount the device at least 50cm (centimeters) from the nearest wall or vertical objects.	It is recommended to avoid direct sunlight exposure. Try to install the device under shade conditions.

## Limited Warranty

**Senstate Technologies SC (Senstate)** warrants that the product furnished hereunder (the Product) shall be free from defects in material and workmanship for a period of one (1) year from the date of shipment by Senstate or an official distributing partner under normal use and operation. Senstate's sole and exclusive obligation and liability under the foregoing warranty shall be for Senstate, at its discretion, to repair or replace any Product that fails to conform to the above warranty during the above warranty period. The expense of removal and reinstallation of any Product is not included in this warranty. The warranty period of any repaired or replaced Product shall not extend beyond its original term.



**Warranty Conditions**

# Warranty Conditions

## The above warranty does not apply if the Product:

- Has been modified and/or altered, or in addition made thereto, except by Senstate, or Senstate's authorized representatives, or as appointed by Senstate in writing;
- Has been painted, rebranded or physically modified in any way;
- Has been damaged due to errors or defects in cabling;
- Has been subject to misuse, abuse, negligence, abnormal physical, electromagnetic or electrical stress, including lightning strikes, or accident;
- Has been damaged or impaired as a result of using third party firmware;
- Has no original Senstate label, or missing any other original labels;

**In addition, the above warranty shall apply only if: the product has been properly installed and used at all times in accordance, and in all material aspects, with the applicable Product documentation.**

## Returns

No product will be accepted for replacement or repair without obtaining a Return Materials Authorization (RMA) number from Senstate during the warranty period, and the Product being received at Senstate's facilities freight prepaid in accordance with the RMA process. Products returned without an RMA will not be processed and will be returned freight collected or subject to disposal.

**For more information about returns or warranty conditions, please use the contact details below:**

## Service Processing Center

**Senstate Technologies SC, 5300 Gabrovo, Bulgaria**

Email: [support@senstate.com](mailto:support@senstate.com)

Phone: +359 66 817 403

## Message from Senstate

**Thank you for choosing our  
Air Quality Monitoring device!**

We take great care about the quality of our devices and software systems we build. But most importantly, we care about the environment, as we think each person on the planet should do at all times.

By purchasing this device and using it to monitor a specific area, you contribute to achieving the goal of our generation which aims to track the environmental pollution and inform authorities and regulators in a collaborative way, for the deep problems our world is facing with the balance of humans and nature.

We would like to thank you again for becoming a part of the greener and healthier future for all of us.

**Green regards,  
The Senstate team**

**WE CARE ABOUT  
THE ENVIRONMENT!**



# Technical parameters

## Basic parameters

Dimensions (mm)	220 x 220 x 50
Weight	2.90 kg
Protection class	-30 °C to +50 °C
Operation humidity	IP54
Power supply	DC 5V $\approx$ 3.0A
Independent power supply	Internal Lead-Acid Battery
Device operation under internal power supply	Maximum 6h

## Communication

WiFi	IEEE 802.11 b/g/n WiFi
GPRS/Mobile Data*	Nano SIM card GMS850, EGSM900, DCS1800 and PCS1900, 2G SIM





## \*Optional 2-year free data plan with coverage in 170 countries

For more information and list of supported countries, please contact the vendor.  
After plan expiration, there might be additional charges applied.  
Data plan and included SIM card are an optional feature.

## Sensor Module

Temperature (°C)	-40 to +85
Temperature typical accuracy (°C)	$\pm 0.4$
Humidity (% RH)	0 ... 100
Humidity typical accuracy (% RH)	$\pm 3.0$
Pressure (hPa)	300-1100
Pressure typical accuracy (hPa)	$\pm 0.6$
Particulate matter ( $\mu\text{g}/\text{m}^3$ ) PM1.0, PM2.5, PM4.0, PM10	1 to 1000
Particulate matter resolution	1 $\mu\text{g}/\text{m}^3$
Particulate matter typical accuracy	$\pm 10 \mu\text{g}/\text{m}^3$ @ 0 to 100 $\mu\text{g}/\text{m}^3$ $\pm 10 \%$ @ 100 to 1000 $\mu\text{g}/\text{m}^3$
Particulate matter lower limit of detection	1 $\mu\text{g}/\text{m}^3$

## Gases pack is only included in UAQM-1200-HYBR

 O3 – Ozone	15ppb to 11ppm (-30 °C to +40 °C, 15% to 85% rH, 800 to 1200 hPa)
 NO2 - Nitric Dioxide	15ppb to 15ppm (-30 °C to +40 °C, 15% to 85% rH, 800 to 1200 hPa)
 CO - Carbon Monoxide	20ppb to 12ppm (-30 °C to +50 °C, 15% to 90% rH, 800 to 1200 hPa)
 SO2 - Sulfur Dioxide	15ppb to 13ppm (-30 °C to +50 °C, 15% to 90% rH, 800 to 1200 hPa)