

SCENTROID

FUTURE OF
SENSORY
TECHNOLOGY

US20 URBAN SCANNER

Smart City Air
Quality Monitor



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URBAN SCANNER US20

PRODUCT SPECIFICATIONS

The Urban Scanner™ is a complete platform that predicts detailed air quality information within urban landscapes. It achieves this by collecting and combining a variety of information such as air pollution concentrations, a 3D map of the city being sampled, traffic conditions, micro-weather patterns, and more.

Model
Scentroid Urban Scanner US20

Detected gases (with the use of optional sensors)
H₂S, NH₂, SO₂, CO₂, CO, CL, C₂H₄, H, HCl, HCN, NH₃, O₃, NO₂, PH₃, H₂S, O₂, SO₂, CH₄, NO, VOCs and more.

On-Board Data Storage
500 GB SSD hard drive

Ambient Temperature Range
-50 ° C to +50 ° C (Gas analyzer must be in A/C)

Communication protocol
3G/4G, LAN, Cloud Based Hosting

Decontamination
Automatic purging and decontamination

Dimensions/weight upon installation
110 × 62 × 110 cm, 36kg

Calibration
Auto-zero function + Manual span calibration, using calibration gas and on-board screen

Sensor Technology
Gas analyzers
Laser scattered particulate monitor
Ultrasonic anemometer
LIDAR (optional)
360° camera
High resolution compass
GPS Receiver
8T/RH probe
Noise Sensor
EMF detector

Power Requirements
12V 30W - 90W Based off of sampling

Perfect for High Density Urban Centers!

The intelligent model created by the Urban Scanner is a valuable tool that can be used to map urban air quality, predict pollutant concentrations, identify hot spots and emission sources, as well as determine the contribution of various air pollution sources.

- Fast and Accurate Data Collection Made Easy!**

Data is collected using a weather-proof, easily mountable device installed on the roof of a vehicle. As the vehicle advances through city streets, air pollutant concentrations are recorded along with secondary inputs such as GPS, FHD video/camera imagery, LIDAR 3D scanner imagery, noise data, as well as wind direction and speed. The data is then processed using sophisticated AI-based algorithms in order to extract key information and correlate them to an air quality value at any location within the sampling environment.

- Multi-dimensional Sensing**

The Urban Scanner uses multiple sensing technologies to provide a true measurement of urban pollution. Advance gas sensing technologies are used to measure NO₂, O₃, and CO₂ in a ppb (parts per billion) resolution. Additional pollutants such as H₂S, SO₂, and other VOCs can also be measured using the same platform. Other pollutants such as electromagnetic field (EMF) radiation, noise, and even odour can also be monitored using the Urban Scanner.

- Cloud-Based Software**

The Urban Scanner comes with intelligent cloud software which collects, analyzes, and visualizes the collected data. An advanced deep learning algorithm is used to generate geo-spatial predictions of urban pollution. This means that the system can provide pollution concentration values for locations that the Urban Scanner has not even sampled. The model can also be used to identify polluted zones and pinpoint the source of local pollution.

- Data-Collection and Transmission**

Urban Scanner collects data using a dedicated in-vehicle computer. The data is relayed in real-time to the operator. This includes live sensor readings, vehicle location, air quality map, as well as all alarms and notifications. The operator is able to instantly make decisions regarding the sampling route. The data is also transmitted via a 4G cellular network to Scentroid's cloud software for further processing. Since the data is transmitted to multiple reliable sources, its storage is ensured with nearly 100% reliability, even when connection to the server is unstable or lost.