

## AQM-09 Air Quality Monitoring System



### Description:

AQM-09 air quality monitoring system used to detect the pollutant gases(SO<sub>2</sub>, CO, NO<sub>2</sub>, O<sub>3</sub>, etc.) Particulate matter PM<sub>2.5</sub> and PM<sub>10</sub>, TSP, Noise, Meteorological parameters (Temperature, Humidity, Wind speed, Wind direction, Barometric pressure, rainfall, solar radiation). Combined with industrial imported sensor technology and unique heating dehumidification compensation device to make sure data accuracy.



### Features:

- Modular designed suitable for large scale grid layout;
- No need to change the sampling cutter, it can detect the PM<sub>10</sub>, PM<sub>2.5</sub>, TSP at the same time;
- The circuit adopts industrial embedded processor, suitable for the harsh outdoor environment;
- The unique function of automatic heating and dehumidification to avoid humidity influence on measurement data;
- Adopts long-life anti-jamming sampling system, quite and efficient; the sampling period is adjusted;
- Adopts the industrial transmission module to ensure the stability and reliability of the data transmission;
- The system with the two channel communication to ensure the data continuity;
- It can show 24 hours real-time data;
- Large size LED to display the data. Various installation modes, such as Pole, Tripod, etc.

## Technical Parameter:

Items	Description	Specification
<b>Particle Module</b>	Monitor method	Continuously, automatically and real-time
	Working principle	Light scattering technique
	Measurement data	PM2.5, PM10, TSP
	Measuring range	0~1000ug/m3 (Range can be extended)
	Response time	≤60s
	Resolution	1ug/m3
	Measurement accuracy / reproducibility	> 100ug/m3, ±20%
	Parallelism	< 10%
	Sampling flow	1.3L/min, ±0.15
	Sampling time	Adjustable(Default is 5munites)
	Dehumidification	With the automatic dehumidification function module
	Cutter	Cyclone cutter
Fault alarm	Real-time display the fault alarm	
<b>Gas Module</b>	Monitor method	Continuously, automatically and real-time
	Working principle	Electrochemical sensor, Infrared sensor, PID sensor
	Gas Monitoring	SO2, CO, NO2, O3, etc.
	SO2	Measuring range: 0~1000ppb Resolution: 1ppb Response time: <45s
	CO	Measuring range: 0~200ppm Resolution: 0.1ppm Response time: <45s
	NO2	Measuring range: 0~1000ppb Resolution: 1ppb Response time: <45s
	O3	Measuring range: 0~1000ppb Resolution: 1ppb

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	Response time: <45s
<b>Meteorological Parameters</b>	Temperature: Measuring range: -30°C~60°C, Precision: ±0.3°C (20°C) 0~45m/s
	Humidity: Measuring range: 0~95%RH, Precision: ±5%RH
	Wind direction: Measuring range: 0~360°, Precision: ±5° 0.1m/s
	Wind speed: Measuring range: 0~60m/s, Precision: ±0.3m/s 0~360°
	Barometric pressure: Measuring range: 600~1110hpa, Precision: ±0.5hpa
<b>Noise Meter</b>	Measuring range: 30~130dB (A)
	Sampling frequency: <1s
	Dynamic analysis range: ≥100dB (A)
	Frequency weighting: A, C,Z
	Time weighting: F, S



## System Specification:

Data Efficient Transmission Rate	≥95%
Remote Control	Support for remote setting
Interface	RS485 port, Network port
Transmission Network	Automatically and real-time upload data, optional 4G/ GPRS
Box Material	Q235 spray, Stainless box optional
Scaffold Material	Q235
Scaffold Height	Standard height is 4.5m, Flange connection(1m fixed underground, 2*1.5m+1*0.5m)
Lightning Arrester	Length 1.5~2m, Q235 Galvanized material
Working Environment	Temperature: -20~50℃ Humidity: 5%RH~95%RH Pressure: 65~108Kpa
Protection Grade	IP55
Power Supply	AC220V/50Hz/Solar power (optional)



# Application

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## Smart City

AQM-09 Ambient Air Quality Monitor can monitor the dust in the urban environment, aiming to understand the ambient air quality in real time. Real-time data can be transmitted to the city command and control center platform. The solution can also be integrated with street lights and other systems. Application: streets, airports, communities, schools, hospitals..., etc.

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## Construction Site

AQM-09 Ambient Air Quality Monitor can monitor the dust during the construction process, aiming to understand the dust concentration and noise level at the project site, and connect with sprinkler equipment to reduce the dust concentration on the project site, and ensuring the activity does not violate the local environmental protection policy.



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## Tourist Attractions/ Parks

AQM-09 Ambient Air Quality Monitor can monitor tourist attractions and park environments, aiming to monitor the air quality in relevant areas and ensure that tourists have a comfortable experience. The data can be transmitted to the control center in real time to understand the environmental quality in real time. Application: tourist attractions, communities, parks..., etc.



## Landfill Plant

People's living standards are constantly improving, and the output of urban domestic waste is increasing. Not only does it occupy a large amount of land, but also mosquitoes and flies breed in the garbage piles. The garbage ferments to give off odor and biogas. It has serious impacts on surface water, groundwater, and the ecological environment.

The monitoring of pollutant gases is increased more and more.



## Quarry/Surface Mining

AQM-09 Ambient Air Quality Monitor can monitor dust particles in dust-raising areas such as quarries, the relevant personnel can view real-time data from the cloud platform, aiming to understand the impact of activities on the environment in real time, implement effective dust reduction measures in time, and protect the environment to the greatest extent





## Cement Plant

AQM-09 Ambient Air Quality Monitor can monitor the dust concentration in the cement plant in real time, aiming to control the dust concentration within a certain range in real time. Whenever the concentration of particulate matter exceeds the threshold, the alarm function can be directly triggered to remind the staff to carry out dust reduction treatment. Ensure that the dust concentration in the cement plant complies with relevant regulations



## Road Safety

AQM-09 Ambient Air Quality Monitor can monitor dust, noise, weather parameters (rainfall, temperature...) at key locations on the road, and can understand the road conditions in real time, and execute relevant road traffic safety commands to ensure the safety of drivers. Application: high-speed, street, railway..., etc.

# Customers Cases



## Kazakhstan City's Air Quality Monitoring

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From 2019, Oceanus company has cooperated with Kazakhstan partner regarding the city's air quality projects. In the past three year, They have done this project by 41 units within several cities. Under government evaluation, we have established long term cooperation with them.

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## Cambodia Environmental Ministry Air Quality Monitoring Project

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After visiting Oceanus company from 2019, Cambodia Environment Ministry decided to cooperated with Oceanus company to deploy the network of Dust Monitor System around their capital and airport.

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## Australia Dust Fall Project

People long-term exposure to dust pollution, especially dust less than  $5\mu\text{g}/\text{m}^3$ , it will affect respiratory diseases. According to Australia local regulation, we used laser scattering principle to monitor the dust surrounding Australia. The safety level is at least IP55 or above, which has the functions of windproof, waterproof, lightning protection, etc.



## KSA Refining Project

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Some of the refining factory pollution has made the IAQ is serious. More and more people's awareness of environmental protection has increased, and the demand for air quality control has become increasingly strong. So Government has published regulation of control the air pollutants of refining factory.

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## UAE Quarry Project



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Quarry factory park will generate a lot of dust after the quarry activities. But it will influence the city IAQ and worker's healthy. By comparing, UAE partner has choose us for cooperation about monitoring the particle pollutants.

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## Oceanus Air Quality Monitor



## Myanmar Yangon To Mandalay Railway Upgrading Project

Myanmar railway construction project. During the construction, it will generate dust pollutants. In order to protect people's healthy and Yangon city air quality, Oceanus company has cooperated with Myanmar customer to deploy the monitoring site.

## Fujairah Government Exhibition Air Quality Monitor System

On 2019 UAE Exhibition, Fujairah has shown Air Quality Monitor System on their booth for recently environmental protection. Local TV also reported it and looked for potential market.



انظموا إلينا في اليوم الثالث لمشاركة مؤسسة الفجيرة للموارد الطبيعية في القمة العالمية لطاقة المستقبل ضمن فعاليات أسبوع أبوظبي للاستدامة

## Colombia Bogota City Air Quality Monitor

The capital of Colombia Bogota has awareness of city's air quality protection. Oceanus team has cooperated with Colombia partner to install air quality monitor System surrounding the Bogota city. The total project needs 40units AQM-09 Ambient Air quality monitor system.



# Oceanus Air Quality Monitor



## Market Area

