iAeris 3

Air Quality | Temperature | Humidity | Modular

Outdoor Air Detector

Guardians of Healthy Outdoors
Real-time Air Quality Mastery

The Aeris3 outdoor air quality detector is designed to measure and monitor various air pollutants and meteorological parameters in outdoor environments.

1. Particulate Matter Monitoring: Measures concentrations of PM2.5 and PM10, crucial particles linked to air quality and health.
2. Gas Detection: Monitors concentrations of gases such as carbon monoxide (CO), ozone (O3), nitrogen dioxide (NO2), sulfur dioxide (SO2), common air pollutants.
3. Temperature and Humidity Measurement: Measures temperature and humidity, vital parameters for understanding air quality and human comfort.
4. TVOC Detection: Monitors TVOC concentration from various sources, including industrial, traffic, and building materials.
5. Data Transmission: Capable of transmitting collected data to a central monitoring system for real-time monitoring and analysis.

Applicable in environmental monitoring, health research, urban governance, and air quality management.

Product Features

- With professional airflow design.
- Sensor module features proprietary algorithms and independent calibration for reliable accuracy.
- Multiple communication interfaces, including RS485, optional WiFi, NB-IoT, and 4G, meeting diverse needs.
- Supports various transmission modes like Modbus-RTU, Modbus-TCP, HTTP, MQTT, etc.
- Built-in memory for real-time data storage, optional cloud platform for easy management and analysis.
- Modular sensor design, with independent modules for diverse air factor detection needs.
- Certified by the Environmental Protection Administration for PM2.5 standards, quality assured by the ITRI.

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www.sysinnotec.com

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Application Fields and Achievements (More application achievements, please visit at www.sysinnotech.com)

Taiwan Power Company construction site

The outdoor air quality detector ensures construction site safety, prevents harmful substance spread, and complies with regulations and standards

Construction

Taipei City 5G Smart Poles

In smart cities, outdoor air quality detectors enhance sustainability, resident well-being, and streamline environmental management and emergency response.

Smart City

Luye Highlands

Outdoor air quality detectors measure concentrations of pollutants like nitrogen oxides, sulfur dioxide, ozone, and particulate matter, identifying various pollution sources

Environmental Monitoring

Pig Farm Weather Station

Outdoor air quality detectors monitor temperature, humidity, and air quality in agriculture, aiding farmers in timely actions for improved productivity.

Smart Agriculture

Specification

Measurement Index	Operating Range	Resolution	Accuracy (*)	Detection Method	Response time	Warmup time
Temperature	-40~125 ℃	0.1 ℃	±0.5℃	MEMS	30 sec	60 sec
Humidity	0~100% RH	1% RH	± 5% RH	MEMS	30 sec	60 sec
PM2.5	0~1000 μg/m3	1 μg/m3	±10ug/m3±10% of reading	Optical	10 sec	300 sec
PM10	0~1000 μg/m3	1 μg/m3	±10ug/m3±10% of reading	Optical	10 sec	300 sec
TVOC	0~60 ppm	0.01 ppm	±0.1ppm±10% of reading	MEMS	10 sec	300 sec
CO	0~1,000 ppm	0.1 ppm	± 5ppm±5% of reading	Electrochemical	60 sec	60 sec
O3	0~5 ppm	0.01 ppm	±0.1ppm±10% of reading	Electrochemical	60 sec	600 sec
NO2	0~20 ppm	0.01 ppm	±2% FS	Electrochemical	60 sec	600 sec
SO2	0~20 ppm	0.01 ppm	±5% FS	Electrochemical	60 sec	600 sec
CO2	0~5,000 ppm	1 ppm	±30ppm±3% of reading	NDIR	120 sec	600 sec
NH3	0~100 ppm	0.01 ppm	±2% FS	Electrochemical	60 sec	600 sec
H2S	0~100 ppm	0.01 ppm	±2% FS	Electrochemical	60 sec	600 sec

(∗) Testing conditions at 25°C environment

System Specification

Operating Environment	-10℃ ~ 50℃, below 90% RH
Storage Temperature	-20℃ ~ 70℃, below 90% RH
Communication Protocol	Modbus -RTU, Modbus-TCP/HTTP/MQTT
Transmission Interface	Support NB-IoT / 4G / WiFi / RS485

Power Supply	Optional AC 110~240V/DC 12~24V/DC 5V (optional)
Power Consumption	4W max. (excluding charging module)
Dimensions	180mm (L) x 265mm (W) x 125mm (H) (incl. pole hanging kit)
Weight	945g max. (excluding charging module)

Model

Model	Temperature	Humidity	PM2.5	PM10	CO	03	TVOC	NO2	SO2	CO2 (*)	NH3 (*)	H2S(*)
iAeris31	V	V	V									
iAeris32	V	V	V				V					
iAeris33	V	V	V	V	V	V	V					
iAeris35	V	V	V	V	V	V	V	V	V			

Hitma Instrumentatie
www.hitma-instrumentatie.nl
info@hitma-instrumentatie.nl
+31 (0)297 - 514 833

België / Belgique
www.hitma-instrumentatie.be
info@hitma-instrumentatie.be
+32 (0)2 - 387 28 64