THETA

Focus on the weather and the environment

THETA INSTRUMENTS

THETA CATALOGUE

AIR QUALITY + WEATHER IN ONE STATION

AQS Micro Air Quality Monitoring Station is designed to include weather and air quality, suitable for environment monitoring grid. Air quality including PM2.5, PM10, noise, gas parameters such as CO, NO, NO2, SO2, O3, H2S and volatile gas TVOC. Meteorological parameters such as wind speed, temperature, humidity and rainfall.

The equipment is built with module for flexible configuration, which is small in size and low cost, suitale for grid distribution requirements such as urban smart street lamp, urban environmental monitoring stations, campuses and research institutions.

FEATURES

- Monitors weather and air quality at the same time
- Aluminium alloy with teflon coating
- Compact design
- No moving parts
- Easy to install and dismount
- Compatible to multiple outputs
- Low power consumption
- Maintenance-free

MODEL SELECTION

5 meteorology parameters: wind speed, wind direction, temperature, relative humidity, air pressure

4 gas: CO、NO2、SO2、O3

* Parameters are customizable to actual application.

Model	4 gas	PM2.5/PM10	Noise	VOC	Rainfall / Solar Radiation	5 Meteorology Parameters
AQS100		√	√	√		
AQS200	√					
AQS-PRO	√	√	√	√		
AWS100		√	√	√	√	√
AWS200	√				√	√
AWS-PRO	√	√	√	√	√	√

General Conditions

IP Class	IP66
Dimensions(Hx Φ)	250x138mm(AQS) / 410x160mm(AWS)
Weight	1.6kg(AQS) / 2.7kg(AWS)
Power	100mA @12V DC(AQS) / 170mA @12V DC(AWS)
Digital outputs(RS-485)	Baud rate 9600(Default)
Operating voltage	12 ... 30VDC
Operating temperature	-40 ... +70oC
Operating humidity	5% ... 100%RH
Connector	4 Pin
Cable	PUR 5m

Wind Speed

Principle	Ultrasonic
Measurement range	0 ... 60m/s
Accuracy	±0.3 m/s or 3% of reading, whichever is greater
Resolution	0.1m/s

Wind Direction

Principle	Ultrasonic
Measurement range	0 ... 359.9°
Accuracy	±3°
Resolution	0.1°

Temperature

Principle	Diode voltage
Measurement Range	-40 ... +80 °C
Accuracy	±0.5°C
Resolution	0.1 °C

Relative Humidity

Principle	Capacitive
Measutement Range	0 ... 100 %RH
Accuracy	±3%RH
Resolution	0.1 %RH

Air Pressure

Principle	Piezoresistor
Measurement range	10 ... 1100 hPa
Accuracy	±0.5 hPa
Resolution	0.1 hPa

Rainfall

Principle	Piezoelectricity / Photoelectricity
Measurement range - Piezo	0 ... 200 mm/h
- Photo	0 ... 400 mm/h
Accuracy	±5%

Solar Radiation

Principle	Photoelectric
SpectralRange	300 ... 2100 nm
Measurement range	0 ... 2000 W/m²
Non-linear error	≤3%
Accuracy	±5%
Resolution	1 W/m²

CO

Principle	Electrochemistry
Measurement range	0 ... 1000ppm
Accuracy	±0.02ppm
Resolution	0.01ppm

NO_2

Principle	Electrochemistry
Measurement range	0 ... 20ppm
Accuracy	±0.001ppm
Resolution	0.001ppm

SO_2

Principle	Electrochemistry
Measurement range	0 ... 100ppm
Accuracy	±0.002ppm
Resolution	0.001ppm

O_3

Principle	Electrochemistry
Measurement range	0 ... 20ppm
Accuracy	±0.01ppm
Resolution	0.005ppm

CO_2

Principle	Electrochemistry
Measurement range	0 ... 5000ppm
Accuracy	±75ppm
Resolution	1ppm

PM2.5

Principle	Laser scattering
Measurement range	0 ... 1000ug/m³
Accuracy	±10%
Resolution	0.3ug/m³

PM10

Principle	Laser scattering
Measurement range	0 ... 1000ug/m³
Accuracy	±10%
Resolution	0.3ug/m³

TVOC

Principle	Electrochemistry
Measurement range	0 ... 1000ppb
Accuracy	±25ppb
Resolution	1ppb

Noise

Principle	Piezoelectric
Measurement range	30 ... 130db
Accuracy	±3%
Resolution	0.1db