

Ozone Monitor

APOA-380



For Your Needs in Air Quality Monitoring



Ultimate Performance

- Cross-modulation non-dispersive ultraviolet adsorption technology provides excellent sensitivity, stability and robustness
- Real-time continuous measurement
- Wide measurement range with up to 7 ranges selectable, minimum 0-0.1 ppm and maximum 0-10 ppm
- Enhanced stability and reliability of measurement by utilizing UV LED as a light source
- Enhanced Lower Detection Limit and response time



Connected & Intelligent

- Remote operation from various devices: PC, tablet or smartphone
- Modbus® TCP and RTU communication
- USB flash drive for data storage

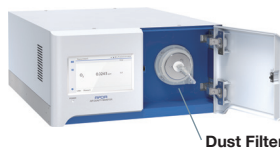
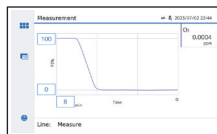
* Standard specification is wired LAN connection. For wireless connection, separate device is required.



User-Friendly Interface & Functionality

- Durable 7-inch wide color touch screen LCD with intuitive interface and trend graph
- Selectable metrics (ppb, ppm, mg/m³, µg/m³), response time (moving average value), and calculation method
- Programmable dilution ratio
- Dust filter accessible from the front panel for easy daily maintenance

Trend Graph Screen

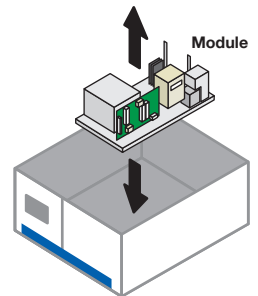


Dust Filter



Module Design for Various Needs & Customizations

- Each standalone module, powered by DC 24 V, is capable of providing measurement results
- Customizable for stationary, wall mount, mobile or portable installations
- Easy integration of multiple AP-380 measurement modules into air quality monitoring station or dilution continuous emission monitoring station (CEMS)



Reduced Operational Expense & Maximum Uptime

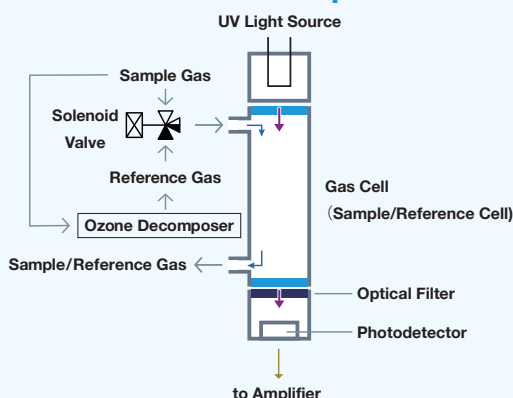
- Remote diagnostics allow fast and effective maintenance
- Internal parts timer with alarm facilitates timely parts replacement, optimizing parts stock
- Module design enables easy and fast replacement at field
- High-quality, long lifetime parts for maximum uptime



Environment-Friendly Design

- Utilization of UV LED instead of mercury lamp for environmental preservation and easier, timesaving disposal
- Remote operation reduces emission from transportation, contributing to the reduction of carbon footprint
- Catalyst free ozone decomposer for reduction of environmental load
- Long life parts reduce environmental load

Measurement Principle



Cross-Modulation Non-Dispersive Ultraviolet Absorption (NDUV)

Cross-modulation Non-Dispersive Ultraviolet Absorption (NDUV) is a measurement method that combines the principle of gas concentration measurement using NDUV with a modulation mechanism. NDUV relies on the principle that ozone absorbs ultraviolet radiation at a specific wavelength, enabling the measurement of ozone gas concentration. The cross-modulation mechanism involves alternating the introduction of sample and reference gases into the same gas cell by switching the solenoid valve at regular time intervals. The reference gas is generated from the sample gas using an ozone decomposer. The main advantage of this method is low drift for both zero and span. Span drift is typically caused by changes in the intensity of the light source. However, by utilizing the same photodetector for both gas concentration measurement and correction for light intensity variations, the span drift is further improved compared to adding an additional photodetector for the correction of light intensity variations alone. As a result, the APOA-380 analyzer achieves high measurement accuracy and long-term stability.

■ APOA-380 Specifications

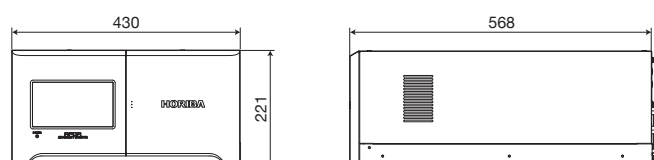
Component	Ozone (O ₃)
Measuring principle	Cross-Modulation Non-Dispersive Ultraviolet Absorption (NDUV)
Measurement ranges	0-0.1/0.2/0.5/1.0/2.0/5.0/10 ppm (up to 7 ranges selectable, auto-range)
Lower Detection Limit	< 0.3 ppb*1*2
Measurement units	ppb, ppm, mg/m ³ , ug/m ³
Sample gas flow rate	Approx. 0.6 L/min
Repeatability	±1.0% of full scale
Linearity	±1.0% of full scale
Zero drift	< 0.5 ppb (24 h)
Span drift	< 0.5% of full scale (24 h)
Response time (T₉₅)	< 60 s from the inlet*1
Display	7-inch color LCD with touch panel
Communication	Ethernet × 2 (Modbus [®] TCP), RS-232C × 1 (Modbus [®] RTU), USB flash drive × 1
Analog output (option)	Maximum : 3 channels (insulated) DC 4-20 mA, DC 0-0.1 V, DC 0-1 V, DC 0-5 V or DC 0-10 V
Digital output (option)	Relay contact output for range 3 channels, relay contact output for other 6 channels
Digital input (option)	Maximum : 4 channels, non-isolated input
Installation environment	Operation temperature : 0-40°C (32°F to 104°F), relative humidity : 85%RH or less
Sampling pump and filter	Internal
Power requirements	AC 100-240 V±10% (max. voltage: AC 250 V), 50/60 Hz, consumption 80 W
Dimensions, weight	430 (W) x 568 (D) x 221 (H) mm, Approx. 15 kg
Compliance	CE, UKCA, KC, FCC, China RoHS

*1 : Digital filter *2 : For ranges less than 1 ppm

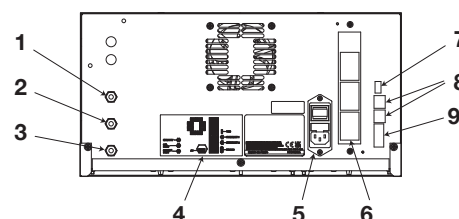
• If there is other measurement range requirement than shown above, please consult HORIBA

• Modbus is a trademark of Schneider Electric USA

■ Dimensional Outline (Unit: mm)

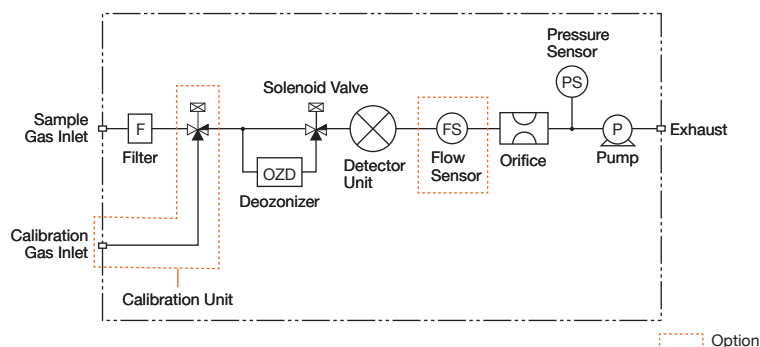


■ Rear Panel Configuration



1. Exhaust
2. Calibration gas inlet
3. Sample gas inlet
4. Guide label
5. AC power connector
6. I/O terminal block
7. USB flash drive connector
8. Ethernet connector
9. RS-232C connector

■ Flow Sheet



■ Options

- I/O terminal block (Analog input/output, digital input/output)
- Calibration unit
- Flow sensor
- USB flash drive
- Mounting parts (rubber feet, brackets and slide rails, brackets for slide rails)

Under Certification: TÜV, US EPA, MCERT, CAEPI, KTL, JMOE



The HORIBA Group adopts IMS (Integrated Management System) which integrates Quality Management System ISO9001, Environmental Management System ISO14001, and Occupational Health and Safety Management System ISO45001. We have now integrated Business Continuity Management System ISO22301 in order to provide our products and services in a stable manner, even in emergencies.



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