

# APOA-360CE

Ambient  $O_3$  Monitor



U.S.EPA Designation number: EQOA-0196-112

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## Features

- The APOA-360CE uses the cross flow modulation type, ultra-violet-absorption method in conjunction with the comparative calculation method. This permits continuous measurement with great stability and high sensitivity (F.S. 0.1 ppm)

- Horiba's innovative heated de-ozonizer provides reference gas by decomposing the O<sub>3</sub> found in the sample gas. This has the advantages of (1) reducing the influence from interference, (2) making the monitor insensitive to great changes in moisture content, and (3) prolonging the working life of the monitor.

- All gas connections are either Teflon or glass.

## Principle

### Ultra-violet-absorption method (NDUV)

The ultra-violet-absorption method works on the principle that ozone absorbs ultra-violet rays in the area of 254 nm. Measurements are taken from continuous, alternate injections of the sample gas and the reference gas into the measurement cell, controlled by a long-life solenoid valve. The cross flow modulation method is characteristically zero drift-free. All fluctuations in the mercury-vapor light source and in the detector are automatically compensated for by a comparative calculation circuit. This means that, in principle, the APOA-360CE makes it possible to carry out zero-span drift-free, continuous measurements. In addition, HORIBA'S unique de-ozonizer for the comparison gas line is unaffected by interference elements or moisture retention, prolonged, stable measurement is possible.

## Specifications

**Principle:** Ultra-violet-absorption method (NDUV)

**Application:** O<sub>3</sub> in ambient air

### Range:

Standard ranges: 0-0.1/0.2/0.5/1.0 ppm; auto range • manual range selectable; can be operated by remote switching.

Optional (measurable) ranges: 4 ranges selectable from 0-10 ppm, within 10 times range ratio; auto range • manual range selectable; can be operated by remote switching.

**Lower detectable limit:** 0.5 ppb (3 sigma)

**Repeatability:** • ±1.0 • % of F.S.

**Linearity:** • ±1.0 • % of F.S.

### Zero drift:

<LDL/day at lowest range

<LDL/week at lowest range

### Span drift:

<LDL/day at lowest range

<LDL/week at lowest range

### Response time (T<sub>90</sub>):

Within 75 sec at lowest range

**Sample gas flow rate:** Approx. 0.8L/min

**Indication:** Measured value, range, alarm, maintenance screen

**Alarms:** During AIC, zero calibration error, span calibration error, temperature error in ozone separator, light intensity error, etc.

**On-screen messages are available in four languages:** English, German, French, and Japanese.

### Input/output:

- 0-1V/0-10V/4-20 mA, to be specified (2 systems: either (1) momentary value and integrated or (2) moving average value)
- Contact input/output
- RS-232C

**Ambient temperature:** 5-40 • •

**Power:** 100/110/115/120/220/230/240

VAC, 50/60 Hz (to be specified)

Dimensions: 430(W) • 550(D) • 221(H)mm

**Mass:** Approx. 20 kg,

