



TELEDYNE INSTRUMENTS
Advanced Pollution Instrumentation
A Teledyne Technologies Company

MODEL **452**

Process Ozone Sensor



The Model 452 is a microprocessor-based gas sensor for measuring high concentrations of ozone in oxygen or air with accuracy and dependability. The measurement principle is based on the absorption of UV light at 254nm.

Readings are available in % by weight, or grams/Normal cubic meter. Temperature and pressure compensation up to 3 Bar Absolute is a standard feature (with pressure compensation up to 3 Bar Absolute dependent upon range).

Its compact size allows for easy installation in process applications. The flow pattern is a straight through design (eliminating turns and elbows), reducing exposed surface area. The 452 uses detectors that have a narrow band of spectral sensitivity, eliminating the need for UV band pass filters that are subject to deterioration by UV or humidity.

Two detectors are used: one for the ozone measurement, and the other to compensate for changes in UV lamp intensity. This unique design provides a sensor that will operate for extended periods without calibration or maintenance. The sensor offers both analog and RS485/RS232 outputs as well as 4 optoisolated status outputs to indicate sensor operation or failure modes.

Input/output and power input connections are made through the 15-pin D-sub connector. For high purity applications, the 452 manifold is available in 316L, 10Ra finish, and 1/4" VCR fittings.

- ▶▶ Compact design (12.3 in² footprint)
- ▶▶ Ranges from 0 - 5% to 0 - 20% w/w
- ▶▶ Temperature and Pressure Compensation
- ▶▶ Units of weight % or grams/Normal m³
- ▶▶ Narrow Band detector eliminates need for UV filters
- ▶▶ Analog and RS485/RS232 outputs
- ▶▶ Status outputs to monitor operation
- ▶▶ Available for high purity applications



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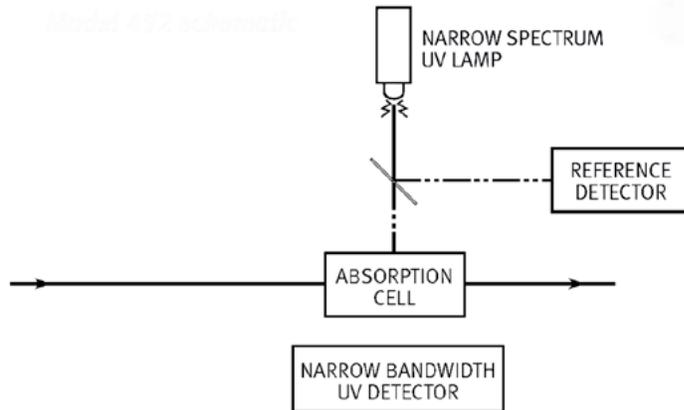
Process Ozone Sensor

Specifications

Range:	0 - 5, 0 - 10, 0 - 15, 0 - 20% w/w 0 - 100, 200, 300, 400 g/Nm ³
Pressure Comp.:	up to 3 Bar absolute
Proof pressure:	115 psia
Repeatability:	1% of Full Scale
Response Time:	2 sec. to 95%
Zero Drift:	1% Full Scale/month (non-cumulative)
Temperature range:	5°C to 45°C
Wetted Materials:	316 Stainless Steel, PTFE, Sapphire
Fittings:	1/4" stainless steel compression
Flow:	0.5 to 5 LPM
Power:	+15 volts @ 1.5A max
Analog Output:	0 - 5V Full Scale
Zero Cal:	Contact closure input

Digital Outputs:	Sensor OK, Lamp Low, Cell Dirty, Invalid Reading, (Opto-isolated)
Serial data Interface:	RS485 or RS232
Dimensions including fittings:	Length: 5.13" (130.3mm) Width: 2.13" (54.1 mm) Height: 6.69" (169.9 mm)
Weight:	2.8 lbs. (1.27 kg)
Options:	AC power adapter High purity (VCR fittings, 316L, 10 Ra finish) External Ozone Destructor External Particulate Filter

Schematic



How to Order

Model 452 Process Ozone Sensor includes:

- Wetted materials: 316SS, PTFE, sapphire
- 1/4" SS compression fittings
- RS485/232 interface
- Pressure/Temperature Compensation

Standard ranges (specify):

- | | |
|---|--|
| <input type="checkbox"/> 0 - 5% weight | <input type="checkbox"/> 0 - 100 g/Nm ³ |
| <input type="checkbox"/> 0 - 10% weight | <input type="checkbox"/> 0 - 200 g/Nm ³ |
| <input type="checkbox"/> 0 - 15% weight | <input type="checkbox"/> 0 - 300 g/Nm ³ |
| <input type="checkbox"/> 0 - 20% weight | <input type="checkbox"/> 0 - 400 g/Nm ³ |

Specifications subject to change without notice. M452/09.06

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