



**TELEDYNE INSTRUMENTS**  
*Advanced Pollution Instrumentation*  
A Teledyne Technologies Company

MODEL **452**

# Process Ozone Sensor



- ▶▶ **Standard one year warranty**
- ▶▶ **Compact design (12.3 in<sup>2</sup> footprint)**
- ▶▶ **Ranges from 0 - 5% to 0 - 20% w/w**
- ▶▶ **Temperature and Pressure Compensation**
- ▶▶ **Units in % w/w or g/Nm<sup>3</sup>**
- ▶▶ **Narrow bandwidth detector eliminates need for UV filters**
- ▶▶ **Analog and RS232/485 outputs**
- ▶▶ **Status outputs to monitor operation**
- ▶▶ **Available for high purity applications**

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.

***FREE Customer Support by telephone and email for the life of the instrument***

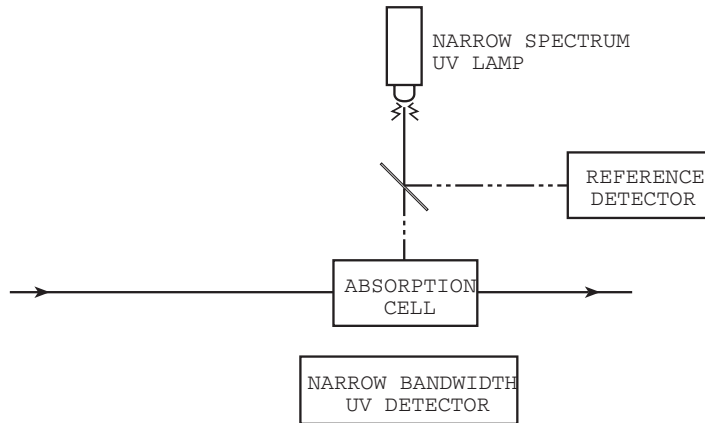


# MODEL 452 Process Ozone Sensor

## Specifications

Ranges:	0 - 5, 0 - 10, 0 - 15, 0 - 20% w/w, 0 - 100, 200, 300, 400 g/Nm <sup>3</sup>	Display:	4-digit LED readout
Pressure Compensation:	up to 3 Bar absolute	Analog Outputs:	0-5V full scale
Proof Pressure:	115 psia	Zero Calibration:	Contact closure input
Repeatability:	1% of full scale	Digital Outputs:	Sensor OK, Lamp Low, Cell Dirty, Invalid Reading, (Opto-isolated)
Response Time:	2 seconds to 95%	Serial Data Interface:	RS232 or RS485
Zero Drift:	1% full scale/month (non-cumulative)	Dimensions (HxWxD):	5.13" (130.3 mm) x 2.13" (54.1 mm) x 6.69" (169.9 mm) including fittings.
Temperature Range:	5° to 45°C	Weight:	2.8 lbs (1.27 kg)
Wetted Materials:	316 Stainless Steel, PTFE, Sapphire	Options:	AC Power Adapter High Purity (VCR fittings, 316L, 10 rA finish) External Ozone Destructor External Particulate Filter
Fittings:	1/4" stainless steel compression		
Flow:	0.5 to 5.0 LPM		
Power:	+15 volts @ 1.5A max		

## Schematic



## How to Order

### Model 452 Process Ozone Sensor includes:

- Standard one year warranty
- Wetted materials: 316SS, PTFE, sapphire
- 1/4" SS compression fittings
- Temperature and pressure compensation

### Standard ranges (specify):

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

Specifications subject to change without notice. Printed documents are uncontrolled. SAL000030 A (DCN 5058) M452/08/08/08.



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