



TELEDYNE INSTRUMENTS
Advanced Pollution Instrumentation
A Teledyne Technologies Company

MODEL **454**

Process Ozone Monitor



- ▶ Ranges from 0 - 1000 ppmv to 0 - 20% w/w
- ▶ Available in standard DIN panel mount or NEMA 4X (IP-65)
- ▶ High visibility, 4-digit display
- ▶ Temperature and Pressure Compensation
- ▶ Units in ppmv, weight % or grams/Normal m³
- ▶ Narrow Bandwidth detector eliminates need for UV filters
- ▶ Analog and RS232/485 outputs
- ▶ Status LEDs to monitor performance
- ▶ Auto zero (NEMA 4X only)
- ▶ Internal pump (mid-level units only)
- ▶ 316 stainless steel cell
- ▶ Optional sample drier

The Model 454 is a microprocessor based gas monitor for measuring mid to high concentrations of ozone in oxygen or air.

Available in a standard DIN panel mount or a NEMA 4X configuration with a 4-digit LED display, the compact design provides ease of mounting and installation.

The 454 Series is available in full scale ranges from 0-1000 ppm to 0-20% weight, and is factory calibrated in accordance with International Ozone Association standards. The measurement principle is based on the absorption of UV light at 254nm. As the sample containing ozone flows through the absorption cell, it is exposed to UV light at the 254nm wavelength. The amount of absorption by ozone is measured by a narrow bandwidth UV detector.

A reference detector measures the lamp output to compensate for changes in light intensity. This method, using a narrow spectrum UV source and a narrow bandwidth detector, provides excellent performance and stability without requiring additional UV filters.

The 454 Series' temperature and pressure compensation normalizes readings to weight/volume. A front panel keypad displays concentration or cell pressure, while LEDs indicate monitoring status. The units employ a state-of-the-art microprocessor design to provide accurate, dependable monitoring of the ozone process.



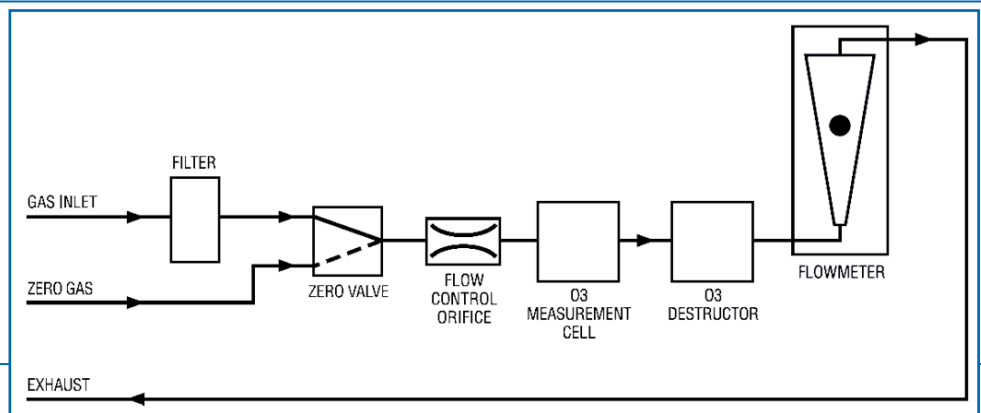
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Process Ozone Monitor

Specifications

Range:	0-1000 ppmv, 0-5000 ppmv, 0-10,000 ppmv 0 - 5, 0 - 10, 0 - 15, 0 - 20% w/w; 0 - 25, 0 - 100, 200, 300, 400 g/Nm ³	Analog Output:	0 - 5V Full Scale; 4-20mA or 0-20mA isolated outputs optional
Pressure & Temp Compensation:	Standard	Zero Calibration:	Front Panel Keypad, Contact Closure Input, or Auto Zero (NEMA only)
Inlet pressure:	3 to 30 psig	Digital Outputs:	Sensor OK, Lamp Low, Cell Dirty, Invalid Reading, (Opto-isolated)
Proof pressure:	100 psig	Serial data Interface:	RS485 or RS232
Accuracy:	1% of Full Scale	Dimensions (HxWxD):	DIN High Level: 3.83" (97 mm) x 7.61" (193 mm) x 7.63" (194 mm) NEMA 4X High Level: 12.64" (321 mm) x 11.19" (284 mm) x 6.08" (154 mm) NEMA 4X Mid Level: 16.5" (419 mm) x 15.3" (389 mm) x 8.45" (214 mm)
Repeatability:	0.5% of Full Scale	Weight:	DIN High Level: 4.0 lbs. (1.8 kg) NEMA 4X High Level: 9.4 lbs. (4.27 kg) NEMA 4X Mid Level: 16.0 lbs. (7.28 kg)
Response Time:	< 30 sec. to 95%		
Zero Drift:	1% Full Scale/month (non -cumulative)		
Temperature range:	5° to 45° C		
Wetted Materials:	316 Stainless Steel, PTFE, Sapphire, AlO ₃		
Fittings:	1/4" stainless steel		
Flow:	0.5 to 2.0 LPM		
Power:	90-265VAC, 50/60Hz		
Display:	4 digit LED readout		

Schematic



How to Order

Model 454 Process Ozone Monitor includes:

Standard ranges:

High Level models

- 0 - 5% weight 0 - 100 g/Nm³
- 0 - 10% weight 0 - 200 g/Nm³
- 0 - 15% weight 0 - 300 g/Nm³
- 0 - 20% weight 0 - 400 g/Nm³

Mid Level models

- 0 - 1000 ppmv
- 0 - 5000 ppmv
- 0 - 10,000 ppmv

Configuration for High Level models:

- NEMA 4X Housing
Including:
 - Ozone Destructor
 - Particulate Filter
 - Integral Flowmeter
 - Auto zero
- DIN Panel Mount Housing
Including:
 - External Ozone Destructor
 - External Particulate Filter
- Isolated 0-20mA or 4-20mA output (option)

Configuration for Mid Level models:

- NEMA 4X Housing
Including:
 - Ozone Destructor
 - Internal Pump
 - Particulate Filter
 - Integral Flowmeter / Needle valve
- DIN Panel Mount Housing
Including:
 - External Ozone Destructor
 - External Particulate Filter
- Isolated 0-20mA or 4-20mA output (option)
- Sample drier (option)

Specifications subject to change without notice. M454/09.06



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