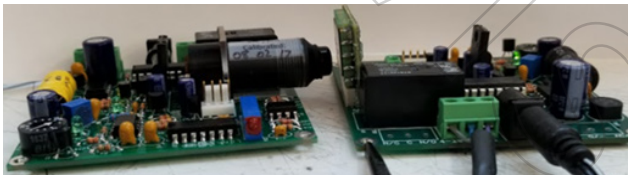


OEM-3 OZONE CONTROLLER WITH ELECTROCHEMICAL SENSOR Model OEM-3

Overview

The model OEM-3 is designed to control ozone generators and alarms based on an adjustable ozone concentration set point. It uses plug-in electrochemical sensor modules for 0- 0.1 ppm, 0-1 ppm, and 0-10 ppm with other set points available as customs. The desired set point is specified when ordering by putting the ppm range after the model number. For example: a 0.1 ppm OEM-3 board system would be OEM3@0.1 ppm, and the replacement sensor module for it would be OEM-03-0.1. The sensors modules can also be located at a distance from the OEM-3 boards by 2 m or 8 m (6 ft or 25 ft) cables. These are readily available -wire extension cables.

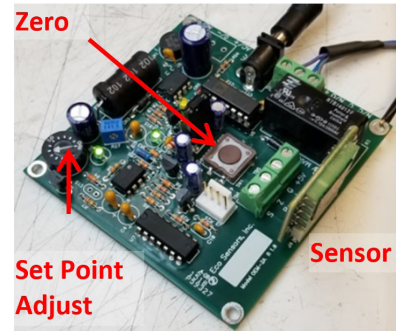
The design incorporates an adjustable set point, re-zero function and time delay on relay to accommodate system hysteresis (set at 8 seconds) to eliminate chatter and other excessive interactions between the sensor and generator. The SPDT relay contacts will handle up to 5 A at 250 VAC.



Features:

In addition to the basic switching function, the OEM-3 may be ordered with the following:

- **Analog Output:** A buffered output is provided as both 0-2V and 4-20mA, proportional to the sensor module's output. The factory set point concentration produces a signal of 1V and 12mA.
- **Alarm:** A driver circuit for an audible alarm, including an acknowledge switch input to silence this alarm. The alarm will turn on again after the ozone level drops below the switch threshold and then rises again.
- **Cables:** Both 2 m and 8 m extension cables are available for remote mounting of the sensor module. Note that the use of these cables unavoidably introduces a small offset voltage, which is added to the sensor output. This may affect the 'zero' point by an amount which is not usually significant.



Additional Features:

- **Zero Adjustment:** The OEM-3 includes a re-zero feature, to allow for periodic zero adjustment as needed. Place sensor in a known O₃-free environment, and when the signal is stable, press the zero button to set zero.
- **Set Point Adjustment:** User may adjust the set point threshold of the relay anywhere between 0- 100% of the factory calibrated set point.
- **Temperature Compensation:** The OEM-3 sensor has automatic temperature correction built in.

Compatibility:

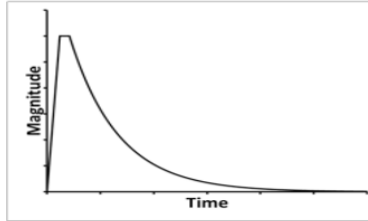
The OEM-3 was designed to facilitate an easy transition from the OEM-2:

1. The gas exposure inlet of the OEM-3 is located the same distance off the board as the tip of the SM-5 sensor on OEM-2.
2. The Relay activation lag is the same as in the OEM-2 product family.

OEM-3 Normal Startup Operation and Warm-Up Times

OEM-3 NORMAL STARTUP OPERATION

The OEM-3 sensor output has the typical startup profile pictured here. When powering the sensor, its output will rapidly increase followed by a gradual decrease. Once this process is complete, the sensor output will be most accurate and stable. The time and magnitude of this response depends on the length of time the sensor has been unpowered.



OEM-3 WARM-UP TIMES

Time Since Last Powered	Warm-Up Time
[New Instrument]	12 hours
≥ 24 hours	12 hours
1-24 hours	6 hours
10-60 minutes	30 minutes
< 10 minutes	10 minutes

Performance Specifications:

Sensor Technology:	Electrochemical (EC)		
Max Setpoint	0.1 ppm	1 ppm	10 ppm
Lower Detection Limit**:	0.03 ppm	0.03 ppm	0.3 ppm
Resolution*:	0.005 ppm	0.01 ppm	0.1 ppm
Accuracy*:	The greater of: ± 20% of reading or ± 0.03 ppm	The greater of: ± 10% of reading or ± 0.05 ppm	The greater of: ± 10% of reading or ± 0.2 ppm
Response Time*:	< 60 s to 90% Full Scale		
Turn-on, turn-off time delay:	8 seconds standard. Other times by request.		
Relay ratings:	SPDT non-latching. Contacts: 5 A at 250 VAC		
Data Update Rate:	1 second		
Temperature Compensation:	Yes		
Recommended Temperature Range:	50 °F to 86 °F (10 °C to 30 °C)		
Recommended Humidity Range:	25 - 75% RH		
Warm-up Time:	1 hour before testing; for best results allow 12 hours before continued use.		
Supply Voltage: **	12-24 VDC or AC, 250 mA.		
Size of board:	83 X 83 mm (3.25" X 3.25"). Requires 28 mm (1.125") clearance from top surface of board and 6 mm (.250") clearance from bottom surface of the board.		

* At ambient conditions: 25 °C, 50% RH

** For additional power and input/output specifications, please contact Customer Service www.ecosensors.com/support.