



# OZONE GAS DETECTION SYSTEMS

## WHERE MIGHT HAZARDOUS LEVELS OF OZONE OCCUR?

- |                                    |  |
|------------------------------------|--|
| Swimming pools                     | Ozone generator rooms                      |
| Drinking water purification plants | Perishable food handling plants            |
| Water and sewage treatment plants  | Water bottling facilities                  |
| Supermarkets                       | Fish hatcheries/farms                      |
| Aquariums                          | Hospitals and medical treatment facilities |
| Perfume manufacturing plant        | Pulp and paper plant                       |

## WHAT OZONE GAS DETECTORS ARE AVAILABLE FROM CETCI?

Product	Part Code	Sensor Type	Sensor Range	Default Factory Alarm Setpoints
cGas Detector Digital Transmitter <small>Digital, LCD display, 4-wire, 24V, optional relay and RH &amp; Temp</small>	CGAS-D-03	Electrochemical	0 - 1 ppm	Low: 0.1 ppm Mid: 0.2 ppm High: 0.3 ppm
LPT Low Power Transmitter <small>Analog, LED indicator, no alarm, no relay, 2, 3 or 4-wire, 24V</small>	LPT-03			
LPT-A Analog Transmitter <small>Analog, LCD display, alarm, relay, 3 or 4-wire, 24V</small>	LPT-A-03			
LPT-M Modbus® Transmitter <small>Digital, LCD display, alarm, relay, 4-wire, 24V</small>	LPT-M-03			
LPT-B BACnet® Transmitter <small>Digital, LCD display, alarm, relay, 4-wire, 24V</small>	LPT-B-03			

For a complete Ozone Gas Detection System, add a QCC Quad Channel Controller with a top strobe, manual shutoff switch and a QCC-RDM remote display.

## WHERE SHOULD THE GAS DETECTOR BE LOCATED?

The ozone gas detector should be mounted in the ozone generator room near the equipment between the ozone generator and the destructor. More sensors may be required for additional destructors that are more than 5 m / 16 ft apart. Another ozone gas detector (or an ozone detector tube) should be positioned to monitor the exhaust air stream. The goal is to be alerted of an ozone leak as soon as possible so safety measures can be taken to stop and repair it and keep people safe.

## AT WHAT HEIGHT SHOULD THE GAS DETECTOR BE MOUNTED?

Pure ozone is heavier than air, but it doesn't necessarily settle to the floor because it easily mixes with the air. The gas detector/sensor should be mounted approximately 0.6 m / 2 ft from the floor between the ozone generator and the destructor.



## **HOW MANY GAS DETECTORS ARE REQUIRED?**

CETCI's ozone gas detectors have a sensor range of approximately 465 m<sup>2</sup> / 5,000 ft<sup>2</sup>. The number of gas detectors will depend on the size of the ozone room, the number of generators/destructors there are inside the room and whether you are using a gas detector or a detector tube to monitor the exhaust air stream. Our knowledgeable Sales Managers can help you determine what is suitable for your application.

## **WHAT IS A BUMP TEST AND WHY SHOULD THEY BE DONE?**

A bump test is a brief exposure of the sensor to the target gas. A bump test verifies if the sensor is responding and the alarm is functioning.

## **HOW OFTEN SHOULD AN OZONE GAS DETECTOR BE BUMP TESTED?**

At a minimum, the ozone gas detector should be bump tested once a month as part of the monthly maintenance plan for the device. There is no limit on the number of bump tests; they may be done more often depending on application and the comfortability/confidence level one has in the device and how it responds. If a bump test fails, a full calibration should be done. Bump test dates and results should be written down in a log book.

## **WHAT IS CALIBRATION AND WHY SHOULD IT BE DONE?**

Calibration is the exposing of the sensor to a certified concentration of gas for a particular length of time. Calibration verifies that the gas detector is providing an accurate reading.

## **HOW OFTEN SHOULD AN OZONE GAS DETECTOR BE CALIBRATED?**

At a minimum, the gas detector should be calibrated every 6 months. More frequent calibrations may be required depending on application, regulatory laws, sensor response and exposure levels to the gas. If a bump test fails, a full calibration should be done. Calibration dates and results should be written down in a log book.

## **WHAT IS THE LIFESPAN OF AN OZONE SENSOR?**

The lifespan of an electrochemical ozone sensor is approximately 2 years (application dependent).

## **ADDITIONAL INFORMATION ABOUT OZONE SENSORS**

Ozone is a sticky gas, meaning it adheres to surfaces like calibration tubing. Use a Teflon lined tube no longer than 1 m / 3 ft during calibration so the gas doesn't saturate and adhere to the tubing, weakening the concentration of gas that reaches the sensor.

A CETCI ozone gas detector will never have a splash guard installed on it. The splash guard would interfere with the sensor being able to accurately read the gas levels because ozone is a sticky gas.

When calibrating an ozone sensor, you can use a chlorine gas generator or an ozone gas generator.

## **WHERE DO I FIND MORE INFORMATION ABOUT OZONE SAFETY STANDARDS AND REGULATIONS?**

Check your local/provincial/state's:

- Safety Standards Act for gas safety regulations
- WorkSafe regulations

Canadian Standards Association (CSA Group) <https://www.csagroup.org/>

Canadian Center for Occupational Health and Safety (CCOHS) <https://www.ccohs.ca/>

WorkSafe BC <https://www.worksafebc.com>

American Society of Heating Refrigeration and Air Conditioning (ASHRAE®) <https://www.ashrae.org/>

Occupational Safety and Health Administration (OSHA) <https://www.osha.gov/>