Critical Environment Technologies™

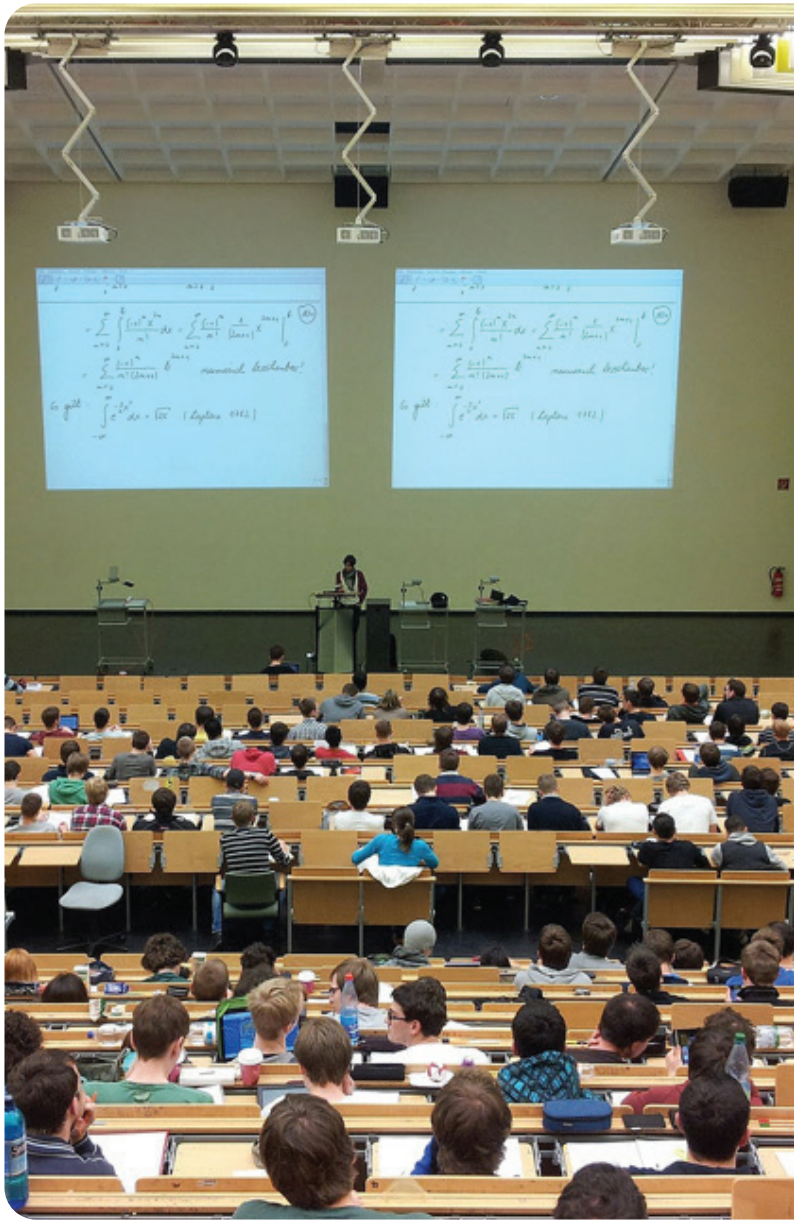
APPLICATION GUIDE

Boiler Rooms

cGas-SC Controller & ESH-A Remote Methane Gas Sensor

Peace of mind. Guaranteed.

Continuous monitoring of natural gas and carbon monoxide in forced air central heating systems



Natural gas is a flammable gas that is predominantly Methane and it is commonly used in building heating systems. The source of the natural gas is usually in the boiler room, an enclosed area that is not frequented very often, which increases the risk of a leak going undetected. A leak not only wastes expensive fuel but could result in an explosion causing loss of life and structural damage.

When natural gas doesn't combust properly, carbon monoxide is produced. Carbon monoxide easily travels around through the air and can migrate to other areas of the building through vents, ducts and other openings.

The design of a building's heating system, including the location of additional natural gas heaters in more frequently occupied areas such as classrooms, can vary widely. Determining all the sources of potential leaks and what gas detection system components to install to ensure the safety of the occupants and property is important to health and safety.

Critical Environment Technologies (CET)'s cGas-SC Self Contained Controller with an internal carbon monoxide sensor and an ESH-A remote methane gas sensor is the solution. The remote sensor provides continuous monitoring of the methane levels near the ceiling and is connected to the cGas-SC Controller that has an internal CO sensor and can be configured to control equipment to alert and mitigate the hazard.

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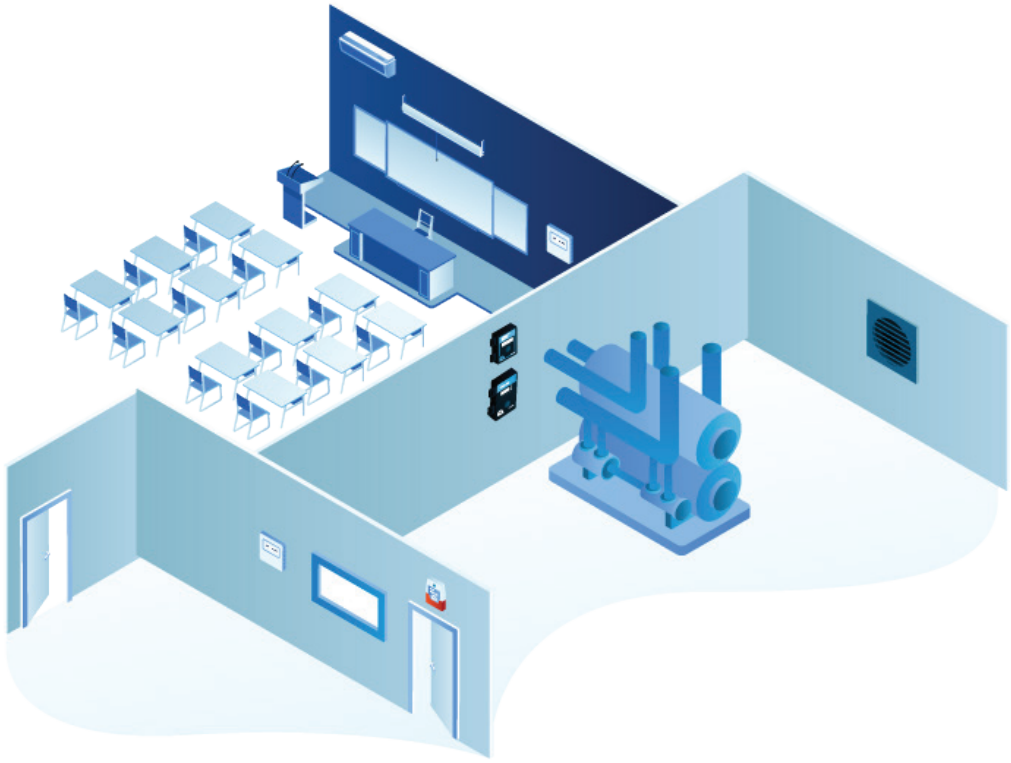
Continuous Monitoring of Natural Gas and Carbon Monoxide in Boiler Rooms

Two gas detectors should be mounted inside the boiler room - one for monitoring potential leaks in the pipes supplying the natural gas to the boiler and the other monitoring carbon monoxide levels generated by the boiler. A well maintained, efficiently functioning boiler produces very small amounts of CO, but an improperly maintained one can create deadly amounts. To monitor the CO levels, a cGas-SC should be mounted inside the boiler room at the "breathing zone" (4 -6 ft from the floor). Connected to the cGas-SC should be an ESH-A-CCH4-100 remote sensor with an internal methane sensor mounted 6 inches from the ceiling above the pipes supplying the gas. Outside the room, above the door, there should be an audible/visual alarm device such as the RSA-24V Remote LED Strobe Light. If there are additional entrances to the room, each should have a remote visual/ audible alarm device outside the door.



One of the two internal relays of the cGas-SC can be used to trigger the Remote Strobe / Horn device in the event either gas level reaches or exceeds the alarm setpoints. The second relay can be used to activate the mechanical ventilation system or trigger another set response as required.

The cGas-SC can be ordered with two user configurable analog outputs (Option -2AO) that can be used for VFD control and/or interface with a Building Automation System (BAS) which in turn can trigger alarms and other safety procedures as appropriate.The gas level readings will show on the display of the cGas-SC for easy viewing. It comes standard with an internal audible alarm and is available with an optional extra loud buzzer that can be ordered and installed at the time of purchase. If enabled, the external OK button can be used to temporarily silence the internal alarm and any remote horns/strobes temporarily and clear any latched relays.

This system can be configured using an CGAS-A with a methane sensor instead of the ESH-A. The CGAS-A can be ordered with one 2A SPDT dry contact relay.

The cGas-SC fixed system is fully set up, programmed, calibrated and tested prior to being shipped from the factory. It is ready to install upon arrival and operate following the appropriate warm up period.

NFPA and/or local building codes may require that the gas detection system have the ability to shut off the boiler in the event of a CO alarm.

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