

Peace of mind. Guaranteed.

Continuous monitoring of ammonia in cold storage or freezer rooms

The food and beverage industry commonly relies on ammonia refrigeration to provide consumers high quality, edible food and cold drinks. An ammonia leak in a cold storage or freezer room can pose a serious health threat and result in spoiled food and other expensive losses. If a leak is detected, you want the peace of mind that comes with a properly installed ammonia monitoring system.

Using Critical Environment Technologies' **FCS 4** channel Flexible Control System and one or more **CGAS-D** gas detectors is the solution. The **CGAS-D** gas detector(s) with an electrochemical ammonia sensor mounted inside the cold storage or freezer room provides continuous monitoring for leaks. The **FCS** Controller mounted outside the room door provides a status of the air quality conditions inside the room prior to entry.

The **FCS** Controller should be equipped with a top mounted strobe and a manual shut off switch (meets B52 code requirements). At specified alarm levels, the ventilation system can be activated as well as any remote devices such as the remote strobe & horn combo. The manual shut of switch can be used to shut off the chiller equipment.



Continuous Monitoring of Ammonia (NH₃) in a Cold Storage or Freezer Room

Cold storage and freezer rooms vary in size, height and layout. Generally, one fixed CGAS-D-NH3 gas detector will provide coverage for approximately 5,000 sq ft. However, the arrangement of the shelving units and the amount of food being stored can create walls that segregate areas that cannot be monitored by one transmitter.



In that case, multiple CGAS-D-NH3 gas detectors are recommended to ensure that the health and safety of employees is not jeopardized if an ammonia leak does occur. Ammonia gas is lighter than air and will accumulate at the highest point in the room. Therefore, the CGAS-D-NH3 should be mounted on the ceiling (regardless of how high the ceiling is) away from ventilation fans and any rapidly moving air. The CGAS-D-NH3 should be ordered with the low temperature package (Option -LT) which includes an OLED display and internal heater so the LCD display will function in the colder temperatures. LCD display on the CGAS-D-NH3 gas detector can be enabled or disabled.

The FCS Controller with a top mounted strobe and manual shut off switch (meets B52 requirements) should be mounted outside the

cold storage room entry door. It will communicate with the CGAS-D-NH3 transmitter(s) inside the room and will display the gas level readings for viewing prior to entering the room. If there is more than one entrance to the room, an RDM Remote Display Module with a side mounted strobe should be mounted outside the second entrance; it will display the same gas readings as the FCS Controller, indicating the conditions inside the room prior to entry.

The FCS is pre-programmed and field adjustable, offering 4 dry contact relays, priority settings, logic control, including time of day, data logging, audible alarm and a full colour, resistive touch screen. The FCS should be configured to set off alarms and activate the exhaust ventilation system, shut down the equipment or other alarm procedures as appropriate. The FCS-4 accepts Modbus® RS-485 digital communication or analog (4 - 20 mA) signal (must add Option -AI). Up to a maximum of four transmitters can be connected to the FCS-4. If more than 4 channels are required, other models of the FCS are available that offer 8, 32 or up to 128 channels.

Remote visual and audible alarm devices such as the Remote Strobe / Horn (RSH-24V-R or RSA-24V) should be mounted inside the room.