

Cold Storage and Freezer Rooms

FCS Controller & LPT-A-NH3 Gas Detector

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 **LPT-A** Analog Transmitters is the solution. The **LPT-A** transmitter(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.

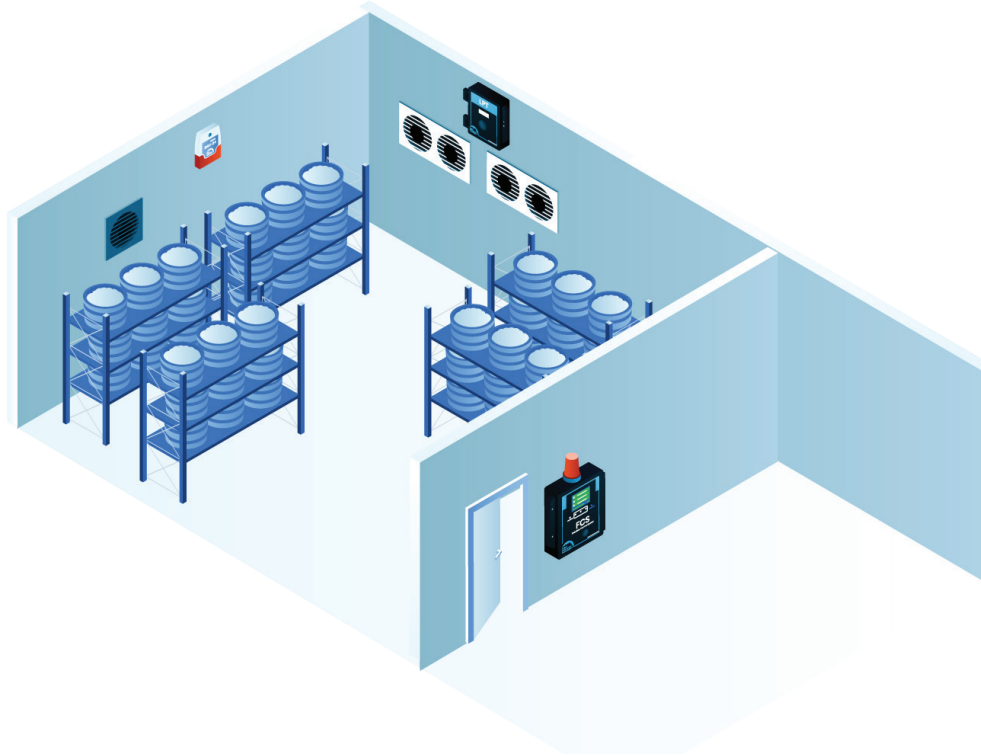
The **FCS** Controller should be equipped with a top mounted strobe and a manual shut off switch (meets B52 code requirements). At specified alarm levels, the ventilation system can be activated as well as any remote devices such as the remote strobe & horn combo. The manual shut of switch can be used 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 LPT-A-NH3 transmitter 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 LPT-A-NH3 transmitters 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 LPT-A-NH3 should be mounted on the ceiling (regardless of how high the ceiling is) away from ventilation fans and any rapidly moving air. The LCD display on the LPT-A-NH3 transmitter can be enabled or disabled, as can the audible alarm. If the temperature of the room is below -20°C (-4°F), an optional heater can be added to the LPT-A-NH3 so the LCD display continues to function in the colder temperatures. Gas measurement readings will be transmitted from each LPT-A to the FCS controller and will be viewable on its display prior



to entering the room. If there is more than one entrance to the room, the RDM Remote Display Module can be mounted outside the second entrance, providing the same information prior to entry as the FCS Controller.

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 interface to the LPT-A-NH3 transmitter(s) inside the room and will display the target gas levels for viewing prior to entering the room. 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 outside the entrance to the room.