

## Peace of mind. Guaranteed.

Continuous monitoring for refrigerant leaks in the mechanical/chiller room of hotels.

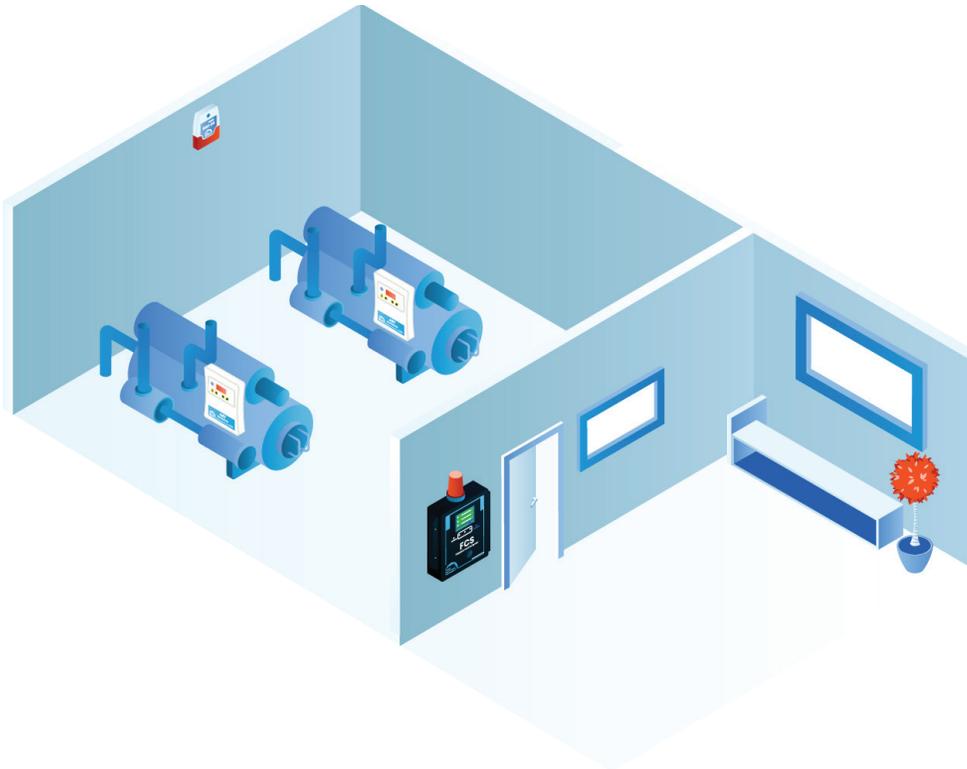
Hotels strive to be comfortable environments for their patrons, which includes among many things, maintaining appropriate temperatures throughout the facility. Typically, hotels have a mechanical equipment room where large chillers and pipes with refrigerant gas are tucked away to do their job cooling the establishment.

Chiller rooms should be continuously monitored in case leaks occur. Refrigerants can be toxic and in some cases flammable, deplete the ozone layer, cause global warming issues, and a cause concern for the health and safety of people. If gas leaks are detected early, unnecessary costs can be avoided such as, excess energy use, top ups to replenish refrigerants, preventable emergency service call fees and other expenses associated with inefficiencies in the air conditioning system.

Critical Environment Technologies' [ART](#) Infrared Refrigerant Transmitter is the solution. If a leak is detected, the relay in the [ART](#) will quickly switch off the air conditioner or turn on ventilation systems. If a central controller, such as an [FCS-4](#) Flexible Control System is used, the [ART](#) will send a signal back to the Controller to notify an alarm event has occurred. If multiple potential leak locations are of concern, using up to four [ART](#) transmitters connected to an [FCS](#) Controller will provide a complete leak detection system.



The ART Infrared Refrigerant Transmitter should be placed in an area where a refrigerant leak is most likely to concentrate. Refrigerant gases are heavier than air and will concentrate closer to the floor and in areas with less air current. The ART transmitter should be mounted 10" to 18" off the floor so it is at an appropriate height for leak detection, accessible for routine calibration and not likely to come in contact with water from flooding or minor wash down during routine cleaning of equipment. For added protection, there is an optional splash guard available for the ART. If there are multiple chillers in the room, an ART transmitter should be mounted as close as possible to each potential leak point.



The FCS Controller with a top mounted strobe and manual shut off switch (meets B52 requirements) should be mounted outside the mechanical room entry door. It will interface to the ART refrigerant 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 ART transmitters can be configured to

connect to the FCS using 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) should be set up inside the room and if there is another entrance to the room, an RDM Remote Display Module should be mounted outside the door of the additional entrances, to provide visual confirmation of gas level readings prior to entering the room.

Using infrared sensor technology will ensure the highest degree of sensor accuracy especially when the monitoring area may have other contamination gases or multiple refrigerants in the same area. Infrared refrigerant sensors should not be used in locations that have corrosive chemicals such as chlorine, ammonia and other oxidizers that are present, especially if there is a higher humidity level. Use as appropriate.

The FCS and ART 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 warm up period.