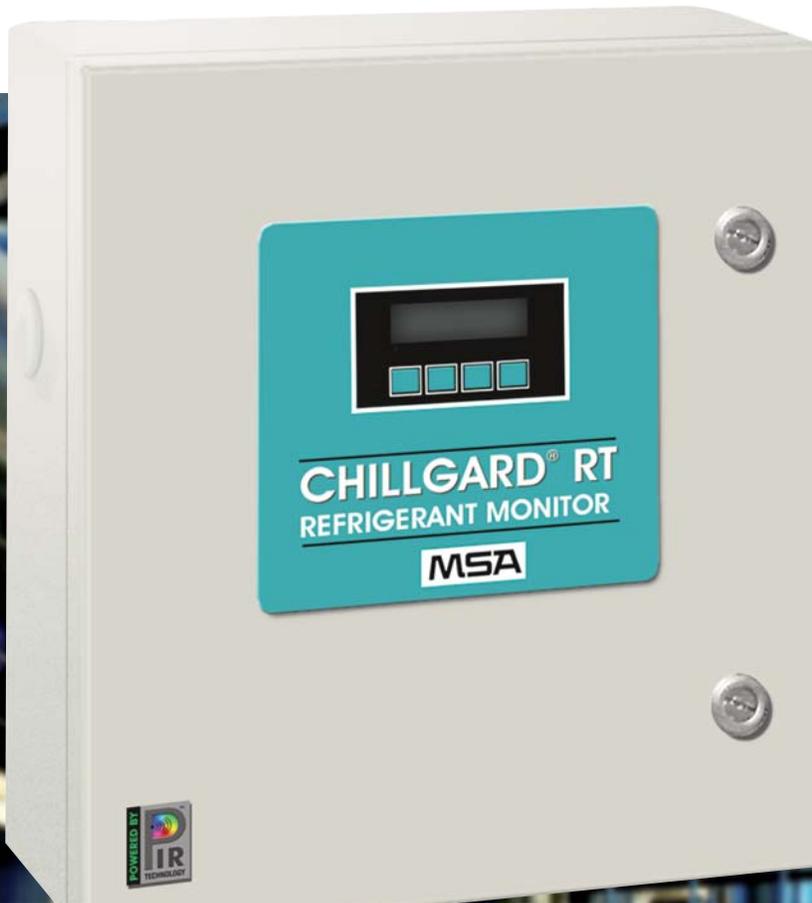


Chillgard® RT Refrigerant Leak Detector



The Chillgard RT Photoacoustic Infrared Refrigerant Monitor provides economical, low-level monitoring of refrigerant gases used in most refrigeration systems or chillers.



Why monitor refrigerants?

- Many chillers use refrigerant gases that have global warming and ozone depletion potential
- There is a Federally-imposed environmental tax on certain ozone-depleting substances that has driven up the replacement cost of refrigerants
- Gas monitors fulfill the requirements for equipment room emissions
- Replacement costs of refrigerants is expensive
- The Chillgard RT monitor saves operating costs by detecting a leak early enough to prevent a major loss of refrigerant gas

*Because every life has a **purpose...***

Chillgard RT Refrigerant Leak Detector

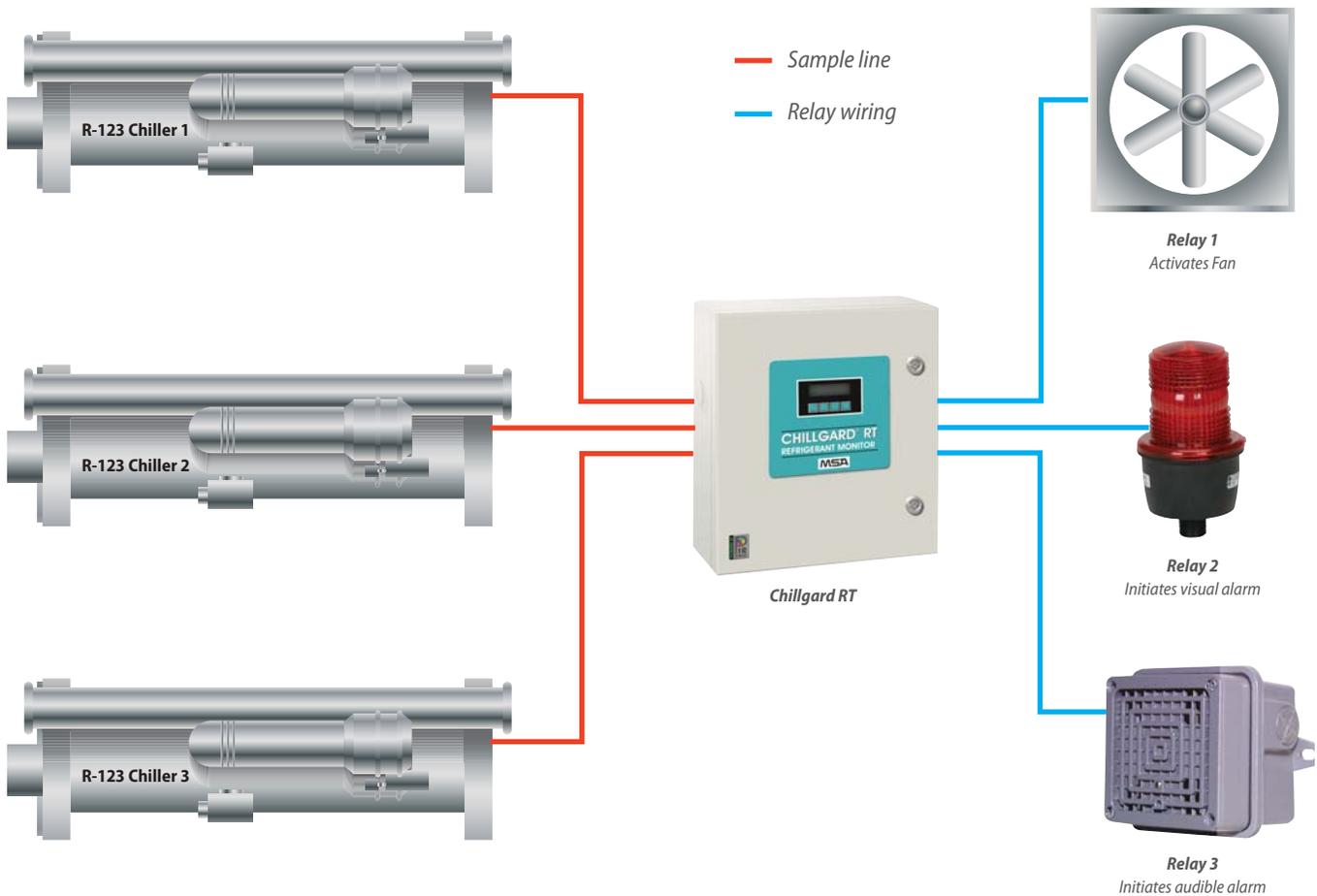
Personnel Safety inside Mechanical Rooms:

- The Chillgard RT is UL 2075 approved
 - This assures not only protection from fire and shock hazards, but also assures performance of the instrument to specifications listed on the following page
- ASHRAE states that a refrigerant monitor capable of detecting refrigerant concentrations of 1 ppm volume or less be used to provide early warning of leaks
- ASHRAE 15-2007 requires entry-way signaling at each entrance of a mechanical room
 - MSA offers a variety of devices to meet this requirement including: strobes, horns, and remote display

Sensor Technology:

The Chillgard RT Monitor utilizes very stable photoacoustic infrared (PIR) technology to sense refrigerant gases at levels as low as 1 part-per-million. This allows user to be in compliance with ASHRAE 147 and ASHRAE 15 standards.

The Chillgard RT Monitor operates for months with virtually no zero drift, a feature inherent to PIR technology. This stability eliminates the requirement of any auto-zeroing techniques which take the monitor "off-line" at regular intervals or the added maintenance requirement for insuring a clean constant zero air source. The Chillgard RT Monitor has a high immunity to interferants commonly found in mechanical equipment rooms such as cleaning agents and solvents. There is also no effect due to changes in humidity, a common problem with all other sensor technologies. Both are typical sources of false alarms when other sensing technologies are in use.



Features and Benefits:

- UL 2075 approval—assures performance of the instrument to the specifications listed
- Compliant with ASHRAE 147—Detectability down to 1 ppm
- Complies with ASHRAE 15-2007—Remote display option available for entry-way signaling needs and requirements
- HMI 2-line x 20-character vacuum fluorescent display—shows alarm indications and actual gas concentration
- Three alarm levels—shows caution, warning and high level alarms
- Programmable relay outputs for each alarm level
- Password protection—prevents unauthorized use
- Can be expanded with the Multipoint Sequencer to monitor up to 8 locations.
 - Refrigerant gas monitoring is now more cost effective
 - Fresh sample is pumped from locations up to 500 feet for each sample
 - Multi-gas capability can be installed to detect each type of refrigerant on a per location basis

Ease of Installation:

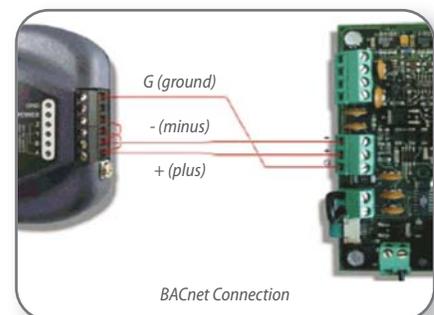
- The Chillgard RT Monitor is easy to install and operate as a Standalone System.
- Four (4) front-panel keys configure the entire system.
- The front mounted displays all gas readings, alarm conditions and diagnostic messages.

Applications:

- Meets requirements for all mechanical room applications
- Propellant filling operations
- Solvent cleaning stations
- Cold storage and transport facilities
- Meat packing plants
- Supermarkets and refrigerant storage locations

Accessories/Options:

- BACnet MS/TP Module—RT Series Refrigerant Monitors offer BACnet compatibility, achievable via an external Gateway. This connection outputs standard BACnet through both Chillgard Monitor RS-485 ports.
- Remote Relay Module—provides discrete relay outputs on a per-channel basis when the Multipoint Sequencer is in use. Relays can be utilized to provide a relay output for Caution, Warning, Alarm, or all of these conditions. These relay outputs are commonly used to activate horns, strobes, or ventilation equipment for separate areas that are monitored by the Chillgard RT Multipoint Sequencer.
- Multipoint sequencer—allows the user to select from a menu of refrigerants for each sample line. Any of the available selections from the menu can be applied to each line. If the particular refrigerant is drawn into the corresponding sample line, the ppm level and refrigerant type will be displayed.
- Remote Display ASHRAE 15-2007 requires remote entryway signaling at the entrance to mechanical equipment rooms. The Gas Monitor Remote Display is an ideal way to meet this requirement.



Common Refrigerants

- R134a
- R404a
- R410a
- R22
- R12
- R11

See specification on back page for complete list.

Specifications

Performance	
STABILITY	0-50 ppm \pm 1 ppm (ammonia \pm 2 ppm) 51-1000 ppm \pm 10% reading
LINEARITY	0-50 ppm \pm 1 ppm (ammonia \pm 2 ppm) 51-1000 ppm \pm 10% of reading
RESPONSE	Updated instrument reading every 7 seconds, T90 <70 seconds
OPERATING TEMPERATURE	0-50°C, 32-122°F
RELATIVE HUMIDITY	0-95% non-condensing, no effect on reading
SAMPLE FLOW RATE	0.75 liter/minute
Operating	
POWER REQUIREMENTS	120 VAC \pm 10% at 0.56 Amps, or 240 VAC \pm 10% at 0.3 Amps
ALARM RELAYS	3 relays @ 8 Amps resistive
AUDIBLE OUTPUT	Sonic Alert 75 db standard
ANALOG OUTPUT SERIAL OUTPUT	0-10V, and 4-20mA isolated sourcing RS-232
MAXIMUM SIGNAL LOAD	0-10V into 2kOhms, or 4-20mA into 1kOhms
SAMPLE TUBING CONNECTIONS	1/8" ID or 3/16" ID
FLOW SWITCH	Activates at flow < 0.5 liter/min.
Performance, Multipoint Sequencer	
MAXIMUM SAMPLED POINTS	Eight
MAXIMUM SAMPLED TUBE LENGTH	150 ft. (3/8" ID tubing) 500 ft. (3/16" ID tubing)
Physical	
DIMENSIONS	18" H x 16" W x 7" D
WEIGHT	45 lb.
Remote Relay	
COMMUNICATION	RS-485
WIRING AUDIBLE ALERT	Twisted-pair shielded Piezo electric 75 db @ 5'
OPERATING POWER REQUIREMENTS	120 VAC \pm 10% at 240 watts or 240 VAC \pm 10% at 120 watts
RELAYS-OPERATING TEMPERATURE	0-50°C, 32-122°F
PHYSICAL DIMENSIONS	12" H x 14" W x 6" D
WEIGHT	25 lb. (0.453 kg.)

Refrigerants Detected with the Chillgard RT Monitor

- Ammonia
- R-11
- R-12
- R-13
- R-22
- R-23
- R-32
- R-113
- R-114
- R-123
- R-1234yf
- R-124
- R-125
- R-134a
- R-141b
- R-142b
- R-143a
- R-152a
- R-218
- R-227
- R-236a
- HFE-7100
- HFE-347e
- FM-200
- Any 400 or 500 series refrigerant

Note: This Bulletin contains only a general description of the products shown. While uses and performance capabilities are described, under no circumstances shall the products be used by untrained or unqualified individuals and not until the product instructions including any warnings or cautions provided have been thoroughly read and understood. Only they contain the complete and detailed information concerning proper use and care of these products.



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