



# MSA Chillgard® L Series Refrigerant Monitoring Systems

[ The new wave of photoacoustic IR refrigerant leak detection monitors ]



# MSA Chillgard® L Series Refrigerant Monitoring Systems

Expanding the Chillgard line of refrigerant monitors, MSA now offers the new Chillgard L Series Monitoring Systems. These new products offer a wide range of choices and benefits and feature the utmost in detection and configuration flexibility. All units have been tested by Underwriters Laboratory to the applicable standard.

## The Products

### Chillgard LS Refrigerant Monitor

The Chillgard LS Refrigerant Monitor uses MSA's market-leading photoacoustic infrared technology to sense refrigerant gases. The LS Monitor is available in either single-point diffusion (no pump needed) or 4-point pumped versions for remote sampling. The monitor can work either as a stand-alone unit or in conjunction with the Chillgard LC Control Module.

For more information on the Chillgard LS Refrigerant Monitor, see Data Sheet #07-2042.

### Chillgard LC Control Module

The MSA Chillgard LC Control Module can communicate with up to eight sample points from Chillgard LS Refrigerant Monitors over an RS-485 communication line. The Chillgard LC Control Module can remotely display gas concentration, alarm status, calibration and fault diagnostics for the LS Monitors.

Features for the Chillgard LC Control Module are provided at the end of this data sheet.

### Chillgard LE Refrigerant Monitor

The Chillgard LE Monitor also uses photoacoustic infrared sensing technology to sense refrigerant gases. The Chillgard LE Monitor is available in single-point diffusion, single-point pumped and 4-point pumped versions. The LE Monitor contains the sensor and the control module in one enclosure.

For more information on the Chillgard LE Refrigerant Monitor, see Data Sheet #07-0008.

## The Applications

Refrigerant monitoring needs vary based upon chiller size, # of chillers, # of refrigerant gases to be detected, power availability, need for entry way signaling and budget. The L Series Refrigerant Monitoring Systems allow you to choose the right solution to meet your needs.

## Typical Chiller Configurations and the L Series Solutions

Figures 1-4 illustrate four possible configurations for the Chillgard L Series Systems. Other configurations are possible. Contact your trained MSA sales associate for help in configuring the system of monitors and controllers to meet your needs.

## Powering the L Series Systems

The L Series Systems provide the maximum flexibility available for powering. Each system can be configured through MSA's assemble to order process to meet your power requirements. The Chillgard LS and LE Monitors can be configured to accept either 24 V AC/DC or 110/220 VAC power. The Table below summarizes the possible powering configurations for the Chillgard LC Control Module.

Chillgard LC	
Input	Output
24 VAC	N/A
110/220 VAC	24 VDC (std) or 24 VAC Option*

\*powers up to 5 remote diffusion LS units or two 4-point LS pumped units

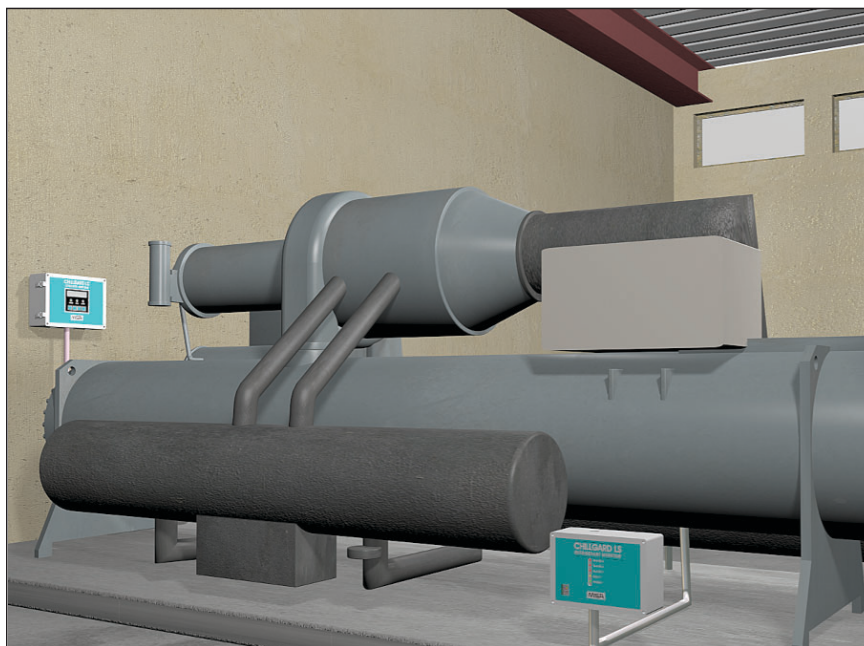


Figure 1: A single chiller located in the mechanical room. The Chillgard LS Monitor(s) is located near the floor for detection of the refrigerant gas. The LC Module is located at eye level providing gas concentration and alarm indication. (Chillgard LS Monitor can exist as a stand-alone monitor.)

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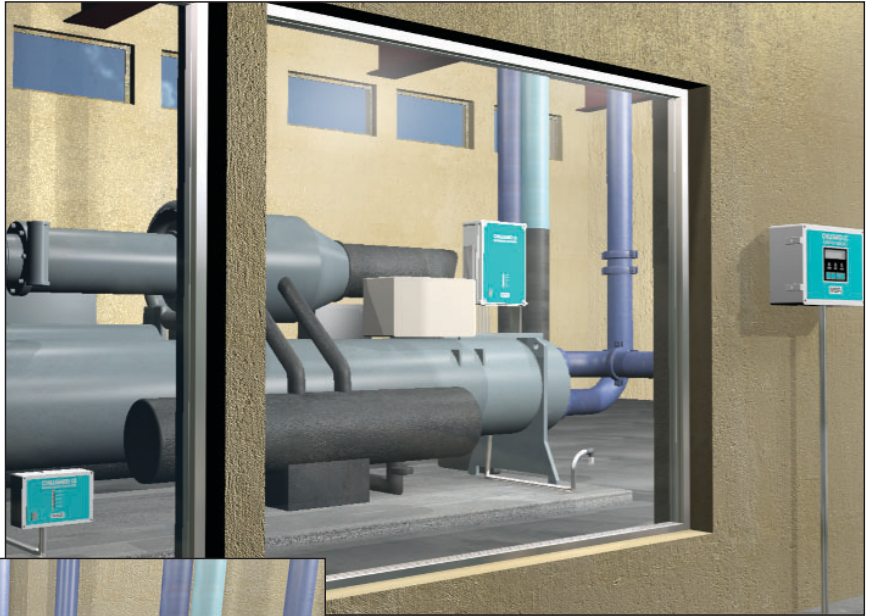


Figure 3: The Chillgard LC Control Module is located outside of the mechanical room providing entry way signaling and control of the Chillgard LS Monitor(s) located inside of the room.

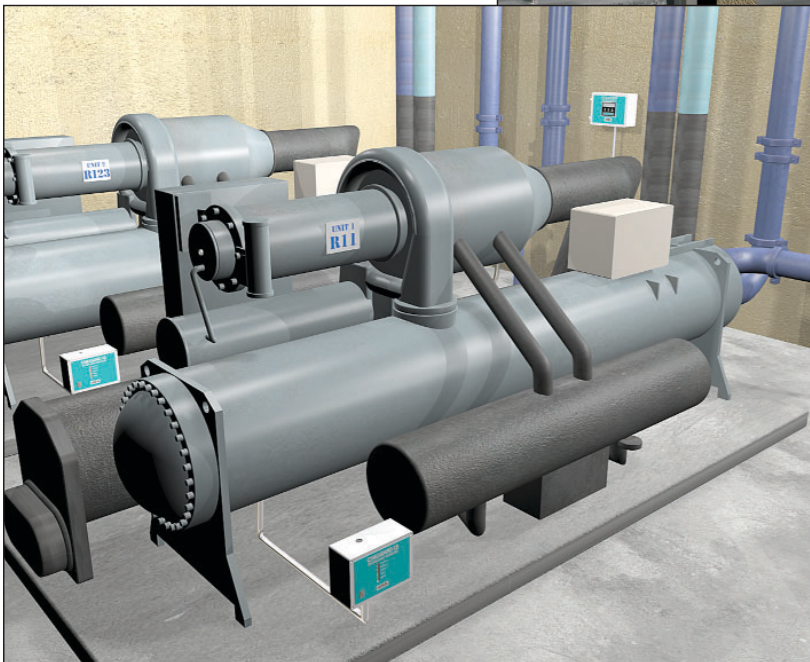


Figure 2: Two chillers containing different refrigerants requiring only one sample point each. The refrigerant-specific Chillgard LS Monitors are located near the chiller with the refrigerant of interest. The LC Control Module provides monitor-specific information for both Chillgard LS Monitors.

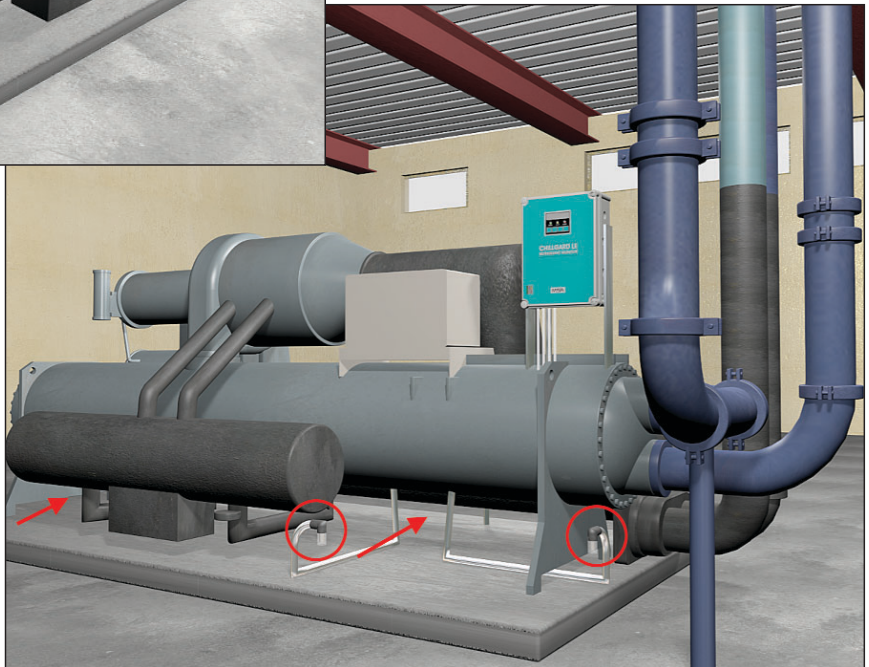


Figure 4: A Chillgard LE Monitor is located in the mechanical room providing integrated sensing and controlling. Up to four points of monitoring provide for maximum protection around the chiller.

## Chillgard L Series Communication

- \* Chillgard LC and LS Modules communicate over a twisted pair RS-485
- \* Chillgard LC Control Module recognizes each sensor module communicating to Chillgard LC Module and the gas type being monitored by each sensor module
- \* System is expandable-more sensor modules can be added to the RS-485 network later
- \* Chillgard LC Module detects communication loss with sensor modules
- \* Low voltage power and signal wiring can be run together from the Chillgard LC Module to the LS Module

- \* Output options of Chillgard LC, LS and LE Modules give tremendous flexibility when used in conjunction with a building automation system.

## Chillgard LC Module Features

- \* Expandable: Configurable with up to 8 LS sensor module points of detection
- \* Easy to use: 20-position LCD display with 4-button keypad
- \* Display software provides gas concentration, alarm status, calibration and fault diagnostics
- \* 3 LEDs-POWER, FAULT and ALARM-give a quick visual indication of monitor status
- \* 4 internal relays: FAULT and 3 ALARM levels
- \* 24 VDC output can power remote

"L" Series sensor module up to 100 feet

- \* 24 VAC output option can power up to five remote "L" Series sensor modules
- \* Beacon option
- \* 85 db piezo horn; with 100 db option
- \* Analog outputs: 0-10 V and 4-20 mA
- \* Serial output: RS-232 with datalogging and RS-485 modbus
- \* Water- and corrosion-resistant enclosure
- \* Power:  
24 VDC (0.1A min.) standard  
24 VAC (0.6A) (when powering remote sensors)  
110 VAC (0.15A) 50/60 Hz  
220 VAC (0.15A) 50/60 Hz

**Note:** This Data Sheet contains only a general description of the product shown. While uses and performance capabilities are described, under no circumstances should the product be used except by qualified, trained personnel, and not until the instructions, labels or other literature accompanying the product have been carefully read and understood and the precautions therein set forth followed. Only they contain the complete and detailed information concerning this product.

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