

# MRLDS

## Photoacoustic Infrared Refrigerant Leak Detection Sensor

As government regulations become increasingly demanding and refrigerant continues to become more and more expensive, investing an effective refrigerant leak detection system is critically important – both from a code compliance and a financial perspective. Emerson's Modular Refrigerant Leak Detection Sensor (MRLDS) continuously monitors your facility for low levels of the refrigerants most commonly used in commercial refrigeration systems.

Using ground breaking new photoacoustic infrared technology, this diffusion based sensor detects concentrations as low as 25 ppm and allows you to meet or exceed all specifications of ASHRAE Standard 15. With the ability to interface to the E2 Facility Management System via 0-5V signal or networked communication bus, a world of monitoring, maintenance, and dispatch capabilities are enabled. These capabilities safeguard refrigeration systems by notifying you of leaks and potential issues as they occur, enabling immediate response before a small problem becomes critical one.



### Benefits

- Diffusion technology means no pumps to break , no pneumatic tubing to install, and no filters to change
- No pumps means water can no longer be induced into the system
- Photoacoustic infrared technology practically eliminates false alarms
- Leak detection as low as 25 ppm enables you to cost effectively meet ASHRAE and local code requirements
- Uses the same signal as many metal oxide sensors for easy retrofits
- Networkable capabilities minimize first cost
- Low temperature model available, enabling use down to -20 degrees Fahrenheit (-30 degrees Celsius)
- UL and CE recognized

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## New technology for tomorrow

MRLDS uses diffusion based photoacoustic infrared technology – a first for Emerson Climate Technologies. This means the sensor is sensitive enough to measure refrigerant concentrations from normally circulating air. To accurately determine a gas concentration, an air sample enters into a special chamber. Once inside, the air is exposed to an infrared source which has been specifically calibrated to the frequency of the desired refrigerant. Finally, a highly advanced microphone listens to the noise generated in response to the infrared source, and an accurate refrigerant concentration level is produced.

As a result, there are no pumps to wear out, no pneumatic tubing to get pinched, clogged or cut, and no filters to replace. Also, with state of the art software on board, regular calibrations are a thing of the past!

## State-of-the-art technology

Emerson knows your refrigeration systems don't exist in a perfectly dustless, air conditioned paradise. That's why the MRLDS is designed to work with vibration, dust, heat, cold, dirt, and grime. With an operational range of -20 to +150 degrees Fahrenheit, MRLDS is at home in virtually any environment.



	Technology	Sensitivity	Response Time	Temperature Range	Part Number
IRLDS II	Infrared	1 ppm	1-15 min	32 - 122 F 0 - 60 C	808-1610
MRLDS	Photo-acoustic	25 ppm	< 4 min	-20 - 150 F* -30 - 65 C	809-1000
Metal Oxide	Solid State	80 ppm	< 5 min	32 - 122 F 0 - 60 C	809-1550

\* Low temperature model with heater available

Part Number	Description
809-1000	Voltage Output, No Heater
809-1001	Voltage Output, With Heater
809-1010	Networkable, No Heater
809-1011	Networkable, With Heater

## Intelligent Store™ Architecture

The MRLDS is a component of Emerson's Intelligent Store™ architecture. The architecture creates an integrated suite of products and services that provide retail operators a new level of sophistication and insight into their operations. When integrated or linked together, these innovative products and services can provide maintenance, energy, and reliability gains. Also included in the Intelligent Store architecture are the E2 Facility Management System, Control Link™ device controller, Intelligent Store Discus® Compressor, select Lennox HVAC units, and other third party devices. For more information on Emerson's Intelligent Store architecture, or any of our innovative products and services, visit [www.EmersonRetailSolutions.com](http://www.EmersonRetailSolutions.com)



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