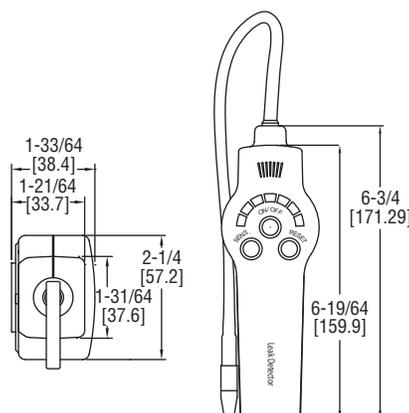




## Model RLD2 Refrigerant Leak Detector

### Specifications - Installation and Operating Instructions



The **Model RLD2** is the most dependable negative corona refrigerant leak detector. The responsive elements have a wide sensitivity range. This unit utilizes a five level alarm system to detect excessive refrigerant in areas where there could be a potential leak. The dual-color LED indicator lights provide visual indication of the refrigerant gas concentration, various audio pitches facilitate detection, and its portable design is convenient for the user. The refrigerant leak detector can be utilized in residential and commercial refrigeration systems, automotive, air conditioning, and quality control testing environments.

#### TECHNICAL FEATURES

This device consumes low power by utilizing an 8-bit microprocessor controller. Also equipped is dual-colored LED indicator light with progressive and real time display. The sensitivity is adjustable with seven level alarming indicated by the audio levels and LED display. The indicators are convenient for maintenance because of the modular sensor, battery voltage indication and auto rest testing when the detector is turned on.

#### OPERATION KEYS

- **ON/OFF Key:** Press it to turn on/off the detector.
- **SENS Key:** It is the sensitivity adjustment key, it can adjust the sensitivity level according to the detection demands (max level:7). LED light will indicate the level of sensitivity, meanwhile the frequency of audible alarm changes. The higher the sensitivity level, the faster the alarm frequency.
- **RESET Key:** Reset the background halogen level to "zero", any leak sources higher than "zero" level is considered to be a leak and trigger the alarm.

#### Before Operating the Leak Detector:

In order to detect leaks in a refrigerant system, the system must have normal operating pressure, or at least reach a minimum of 50 PSI. Low environmental temperature (lower than 59°F or 15°C) may lower the system required pressure and may make the leak less likely to be detected. No leak detected does not mean the system does not have a refrigerant gas leak. Check the pressure before making the conclusion. Leaking areas are usually covered with contaminants such as a compressor oil or dirt, be careful not to let the sensor tip touch with these contaminants. This product's function is to detect halogen's relative change at the sensor tip. Pinpointing the leak source needs to be done manually by adjusting the sensitivity and resetting the detector by the user.

#### SPECIFICATIONS

**Sensor Type:** Negative corona.

**Sensitivity:** 3g/yr.

**Sensitivity Levels:** 5.

**Response Time:** Less than 1 s (pump driven).

**Temperature Limits:** 32 to 125°F (0 to 52°C).

**Power Requirements:** (2) 1.5V AA alkaline batteries, included, user replaceable.

**Battery Life:** 30 hours.

**Warm Up Time:** 5 s.

**Pre-programmed gases:** Detects gases that contain chlorine, fluorine, bromine, ethylene oxide and SF-6, as well as: CFCs: R11, R12, R500, R503, etc.; HCFCs: R22, R123, R124, R502, etc.; HFCs: R134A, R404A, R125, etc.; Mixtures such as: AZ-50, HP62, MP39 etc.

**Alarm Setting:** Audio: Variable tick; Visual: Flashing LED.

**Probe Length:** 12" (30.48 cm).

**Duty Cycle:** Continuous.

**Weight:** 5.2 oz (147.4 g).

**Agency Approvals:** CE, RoHS.

## OPERATION

1. Turn the detector on by pressing the ON/OFF key. All LED indicator lights will be on for 3 seconds, and the detector will automatically reset. A rapid, steady beep will also be heard.
2. After the auto-reset, only the first LED indicator light on the left will be on. This is the power indicator light (see battery voltage indication section for more information).
3. Begin searching for leaks. When refrigerant is detected, an audible buzzer will sound with a different rate than the previous beeping sound. Also, the indicator lights will progressively turn on.
4. The sensitivity cap can be adjusted at any time during operation by pressing the SENS key. This adjustment will not interrupt detection. The default sensitivity level is level 5.
5. If an alarm occurs before the sensing tip touches the leakage source, press the RESET key to reset the current to zero until there is no alarm, then continue detecting.
6. When done using, press the ON/OFF key to turn off the detector.

### Detecting Method

1. Visually examine the refrigeration system. The oily and dirty spots, node valves, coils, connectors, or pipelines are the areas most likely to leak gases.
2. Start leak detecting at the joint at a distance of about 1 to 3 cm, moving at a speed of about 1 cm/s.
3. When an alarm is triggered, it may indicate a leak is close by. Detect around that area again and see if the alarm is repeatable. If a leak is confirmed, pinpoint the leak source by moving slowly from the non-leaking to the leaking area from different directions. Another method to pinpoint the leak is to move the detector away from the leaking area, reset the unit, and repeat the above process. Once confirmed, mark around the leak and continue detecting the whole line of the system.
4. Additional work may be needed to eliminate possible ambiguity, such as other contaminants in the area of the leak. Clean the leaking area with a dry cloth and blow with clean, dry air, and repeat step 3 to confirm the leak.

### Recommendations Based on Environment

Depending on the environment around the leak, different methods may need to be used to detect properly.

1. In areas where the atmosphere is contaminated with the refrigerant, press the RESET key to make the detector ignore the leak in the background. Make sure not to move the sensor tip away from the contaminated background while resetting the detector.
2. In windy areas, the leaked halogen refrigerant may be quickly diluted or removed from the leak source. The user may use a wind shield to isolate the leak area or temporarily turn off the fan.
3. To avoid false alarm, prevent the sensor tip from touching any moisture or other solvent.

### BATTERY INSTALLATION/REPLACEMENT

 **WARNING** To reduce the risk of igniting flammable gases in a closed atmosphere, batteries must only be replaced in an open area or closed space without flammable gas.

#### Battery Voltage Indication

Users can check the battery level in the standby mode from the battery level indicator light. The color of the power indicator light will change according to the battery level. The indication of the colors are:

**Green** Meets requirement for normal work.

**Orange** Low battery working voltage.

**Red** Below the permitted working voltage. Please replace the batteries as soon as possible.

#### Battery Replacement

1. Push open the battery door located at the bottom of the detector, then remove the door.
2. Install two AA batteries into the detector, paying attention to the polarity marking on the side of the case, and then place the battery door back.

## TROUBLESHOOTING

Problem	Reason	Solution
The detector could not turn on.	The energy of batteries is too low to turn on.	Please replace new batteries.
	The pole piece of the battery connector has been oxidized.	Scrape the oxidization layer.
The detector could not respond to a confirmed leak.	Sensor tip has aged.	Change a new sensor as soon as possible.
The detector gives false alarm when there is no halogen present.	Atmospheric composition has changed.	Press RESET key to set the background to "Zero" level. Try to avoid the change of temperature or humidity.

## MAINTENANCE

Proper maintenance is important and may extend the service life and improve the performance of your detector.

 **WARNING** Turn the power off before replacing the sensor tip. Voltage across the tip may pose an electrical hazard.

**Keep the sensor tip clean:** Use cotton cloth or dry air to clean the shield on the sensor tip if it gets contaminated. If the sensor tip itself is contaminated, soak the tip in absolute alcohol for a few minutes, and then use compressed air to blow it dry or dry it with cloth. **Note:** Never use strong solvents such as gasoline, mineral oil, or turpentine, as these solvents may coat the sensor with a thin film and reduce the sensitivity of the detector making the detector slow to respond to a leak. Put the detector and the tip in a dry and clean place; remove the batteries if the detector is not used for a long time.

## REPAIR/WARRANTY

Model RLD2 is not field serviceable and should be returned if repair is needed. Field repair should not be attempted and may void warranty. Refer to "Terms and Conditions of Sale" in our catalog and on our website. Contact customer service to receive a Return Goods Authorization number before shipping the product back for repair. Be sure to include a brief description of the problem plus any additional application notes.