

# RLD1 REFRIGERANT GAS LEAK DETECTOR

# OPERATING INSTRUCTIONS

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Stock No: 17054

## **WARNING!**

Turn the unit off before cleaning or replacing sensor. Failure to do so may result in mild electrical shock.



**Protection Against Electric Shock**  
**(in accordance with EN 61010-1 : 1993)**

This instrument is designated as Class III equipment and should only be connected to SELV circuits. The battery charger is designated as:

Class II equipment

Installation category II

Pollution degree 2

Indoor use only

Altitude to 2000m

Ambient temperature 0°C-40°C

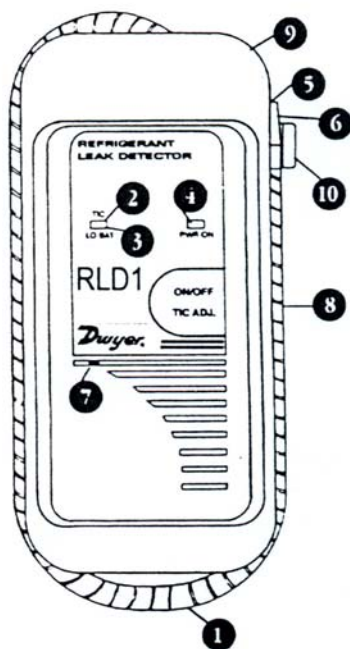
Maximum relative humidity 80% for temperatures up to 31°C decreasing linearly to 50%RH at 40°C

Mains supply fluctuations not to exceed 10% of the nominal voltage.

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## PRODUCT FEATURES



- |                               |  |
|-------------------------------|--|
| 1. Flexible gooseneck         | 6. Sensor protector                          |
| 2. Visual leak indicator      | 7. Audible leak indicator                    |
| 3. Low battery indicator      | 8. Tick adjustment (located on side of unit) |
| 4. Power on light             | 9. Protective boot                           |
| 5. Advanced ionisation sensor | 10. Gooseneck clip                           |

## **GENERAL DESCRIPTION**

The RLD1 is an advanced technology refrigerant gas leak detector. This detector is capable of locating any of the current halogen based gases such as refrigerants. These gases include CFCs, HCFCs and HFCs.

A partial list of these gases include:

CFCs - R11, R12, R13 etc

HCFCs - R22, R502, R500 etc

HFCs - R134A, R123, R125, R33 etc

This unit will detect other halogen compounds such as SF<sub>6</sub>, Perchloroethylene and Halon.

This instrument is not to be used in combustible environments.

## **OPERATION**

- 1 Turn the instrument on by rotating the thumbwheel toward the 'ON' position in a non-contaminated environment.
- 2 The green Power light will be illuminated when the unit is turned on. If there is insufficient power, the red low battery indicator will be steady and the tick rate will not be adjustable.
- 3 Adjust to a slow uniform tick rate with the use of the thumbwheel. The red leak indicator will flash in correspondence with the tick rate.
- 4 To pinpoint a leak source, move the sensor tip along the area to be checked. The tick rate will increase as you approach a leak. To easily locate changes in concentration and to find the leak source, adjust the tick rate slowly as you approach the leak. The tick rate will decrease when you move away from the leak source.

- 5 When this instrument is used in noisy environments, look at the red leak indicator light that flashes more rapidly as the tick rate increases.
- 6 If the tick rate becomes uncontrollable, it may be necessary to change the sensor filter or the sensor. The sensor filter can be removed and cleaned using alcohol and compressed air (see page 10).
- 7 We recommend that the sensor should be replaced at least once a year.

## **ELECTROMAGNETIC COMPATIBILITY**

The European Council Directive 89/336/EEC requires that electronic equipment does not generate electromagnetic disturbances that exceed defined levels and has an adequate level of immunity to enable it to be operated as intended. The specific standards applicable to this product are detailed in the appendices.

Since there are many electrical products in use that pre-date this Directive and may emit electromagnetic radiation in excess of the standards defined in the Directive there may be occasions where it would be appropriate to check the analyser prior to use. The following procedure should be adopted:

Go through the normal start up sequence in the location where the equipment is to be used.



Switch on all localised electrical equipment that might be capable of causing interference.

Check that all readings are as expected. (A level of disturbance in the readings is acceptable). If not adjust the position of the instrument to minimise interference or switch off, if possible, the offending equipment for the duration of the test.

At the time of writing this manual (Dec 1995) Dwyer are not aware of any field based situation where such interference has ever occurred and this advice is only given to satisfy the requirements of the Directive.

## **BATTERY REPLACEMENT**

- 1 Remove the protective boot from the unit by pulling the boot from the bottom of the instrument and then sliding the gooseneck through the exit hole provided in the boot.
- 2 Access the battery by removing the case screws and lifting the back cover of the instrument.
- 3 Replace the 9V power cell. A lithium or alkaline battery should always be used.
- 4 Reverse the above procedure to reassemble the instrument.

## **SENSOR FILTER AND SENSOR REPLACEMENT**

To replace the sensor filter, simply slide the filter off the sensor by pulling the black tip away from the gooseneck assembly. For best results, hold the back portion of the sensor when removing the filter assembly.

To remove the sensor:

- 1 Turn the unit off.
- 2 Remove by turning the sensor counter clockwise until removed.
- 3 Replace with new sensor by turning the sensor clockwise until finger tight.



### **WARNING!**

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## SPECIFICATIONS

Power Supply:	One 9V power cell
Sensor:	Advanced ionisation detection
Sensitivity:	11gms per year 134A based on LS-20 leak standard
Indicators:	Audible: Adjustable tick rate Visual: Flashing LED
Warm-up:	10 seconds
Response Time:	Instantaneous
Duty Cycle:	Continuous
Battery Life:	Approx 16 hours
Dimensions:	184mmH x 83mmW x 35mmD
Weight:	510gms
Probe Length:	460mm
Ambient Conditions:	0-40°C, 0-80% RH (non- condensing)
Sensor-tip output voltage/current:	A. No load high voltage 2400V±100V B. Current - 14µA C. Loaded high voltage (loaded with 80.680MΩ) 1280V±50V

### Replacement Parts

Sensor Filter .....	PRD0120
Sensor with Filter .....	PRD0110
Protective Boot .....	PRD0130
Case .....	AC501
14grm/year calibration vial .....	S0143

## **WARRANTY**

All Dwyer instruments include batteries and carry a 12 month warranty, covering any manufacturing defects and component failures.

In line with our policy of continuous development we reserve the right to alter any part of our product specification without prior notice.

## APPENDIX

# ELECTROMAGNETIC COMPATIBILITY



This product has been tested for compliance with the following generic standards:

EN 50081-1

EN 50082-1

and is certified to be compliant

Specification EC/EMC/KI/RD95 details the specific test configuration, performance and conditions of use.