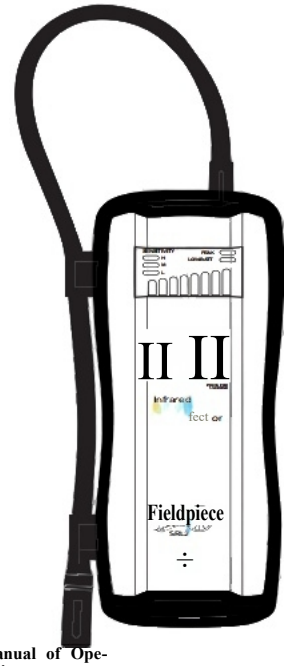
Infrared refrigerant leak detector model: SRL2



Manual of Operation

Product Description

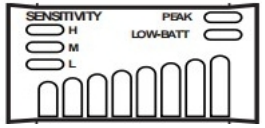
SRL2 portable infrared refrigerant leak detector adopts infrared sensing technology, integrating excellent sensitivity, response speed, sensor life, battery life, portability and ease of use.

SRL2 draws gas into the internal sensor through the probe head. The sensor detects changes in gas concentration, not absolute concentration, so that refrigerant leaks can be easily detected even where refrigerant is permeated in the air.

The SRL2 can detect refrigerant leaks as low as 0.1 (3 grams) ounces per year, surpassing the industry's most stringent SAE J 1627 standard. Equipped with both standard wall power and automotive chargers, its fully charged lithium battery delivers 8 hours of continuous operation − more than enough to sustain a technician throughout an entire workday.

Unlike many leak detectors, the SRL2 is not triggered by oil vapor.

The SRL2 features multiple sensitivity settings to minimize false triggers. It automatically calibrates within 30 seconds of pow detection performance. Tl effectively blocks moist Additionally, the device button and peak hold functionality for enhanced safety.



Quick Start

1. The mobile probe head passes through the suspected leak

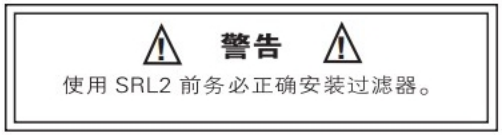
2. Once the leak is found, move the probe repeatedly at that point to determine the location of the leak.

3. To determine larger leakage points, sensitivity Settings need to be adjusted.

Filter Inspection and Replacement

The filter prevents moisture and impurities from entering the sensor. A damp filter will obstruct airflow, requiring immediate replacement. To replace the white filter, unscrew the sensor head and ensure the spherical end tightly adheres to the probe tip. Note: Filters must be provided by Fieldpiece.

You can order multiple Fieldpiece filter spare parts (RFL2) from the distributor. RFL2 spare parts The package contains 10 filters and 5 seals.



Comparison of Detectors

The Fieldpiece leak detector offers two models. The SRL2 employs an infrared (IR) sensor to monitor refrigerant concentration changes, requiring continuous probe movement. The primary advantage of the Fieldpiece IR sensor is its consistent sensitivity throughout the device's service life, matching the instrument's operational lifespan. It remains unaffected by oil vapor or moisture, ensuring uniform detection performance across various refrigerants. However, the sensor's main drawback lies in its susceptibility to mechanical interference during operation.

The SRL8 employs a heated diode sensor. This design allows for precise detection of refrigerant concentration, enabling continuous monitoring at leakage points. While initially demonstrating high sensitivity, the sensor's performance gradually deteriorates with prolonged use, ultimately requiring replacement. Additionally, its sensitivity varies depending on the specific refrigerant being monitored.

Operate

Power on/off protection

To turn on/off the SRL2 power supply, press the ON/OFF button for one second. This delay design prevents accidental shutdown. If you forget to shut down, the detector will automatically shut down after 10 minutes.

LED bar chart display

8 The root LED bar chart shows the change of refrigerant concentration. When the refrigerant concentration in the air increases, the number of bars on the display screen also increases.

L/M/H button (sensitivity)

Set the sensitivity by pressing the L/M/H button. Low (L), medium (M) or high (H) sensitivity is indicated by the corresponding LED indicator. The higher the concentration of refrigerant in the air, the lower the sensitivity setting of the leak detector should be, so as to minimize the phenomenon of accidental touch detection.

Mute button

Press the MUTE (mute) button to switch on/off the sound alarm function of SRL2.

Peak button

The PEAK (Peak) function is used to retain the maximum concentration change measurement during the detection process. Pressing the PEAK button, this function will be turned on or off. When the PEAK function is turned off, the peak of concentration change will be cleared. When the PEAK function is on, the PEAK LED indicator light will be on.

Supermodel

The TURBO (Super) function is an additional Level 4 sensitivity that enables the SRL2 to have maximum sensitivity. At high sensitivity (H), the TURBO function can be activated by pressing the PEAK button four times in succession.

In this mode, the first green LED on SRL2 will flash and the detection audio will be a continuous beeping sound.

To exit the TURBO mode, press the PEAK button four times in succession or switch the sensitivity from high (H) to any other sensitivity.

Note: In TURBO mode, the SRL2 is very sensitive and will be triggered by sudden or violent movements and slight changes in refrigerant concentration. Be careful when operating in TURBO mode.

Check leak operation steps

Before completing the preheat calibration, keep the SRL2 away from areas with potential refrigerant leaks. The preheat calibration process will run for approximately 30 seconds after powering on. Ensure the SRL2 is fully warmed up before use to prevent accidental triggering. By default, the leak detector operates in high sensitivity mode after startup.

The welds and changes in cross section or direction of the refrigerant pipe are the most likely places for refrigerant leakage.

The SRL2 detects changes in gas concentration rather than absolute levels. In environments where refrigerant is dispersed in the air—such as when refrigerant leaks into enclosed spaces—the SRL2 enables users to easily identify leakage points. Since it detects concentration variations, the SRL2 requires a specialized "secondary detection" method to pinpoint leaks.

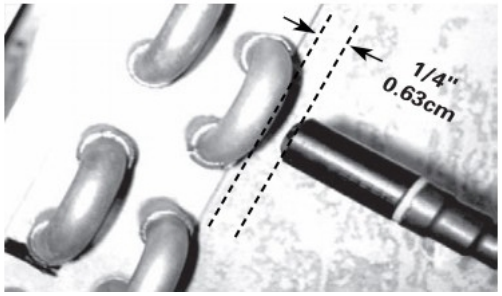
1. The probe head should be kept very close to the pipe. If detecting a small leak, the probe head should be less than 1/4 inch (0.63cm) from the pipe. In this case, move the probe head along the pipe with the other hand, which will help you quickly locate the leak.

2. The probe head is moved along the refrigerant pipe at a speed of 1 to 3 inches per second (2.5 to 7.5 cm).

3. When the SRL2 detects a concentration change, immediately mark the potential leak point on the pipeline and move the SRL2 away to allow it to be exposed to fresh air. (Note: If the SRL2 has passed through a high-concentration refrigerant leak point, it should be moved to a well-ventilated environment for 4 seconds to clear the refrigerant inside, then proceed with step 4.)

4. Move the probe back to the first leak point for a second test. When the SRL2 again indicates a change in concentration, mark this potential leak point on the pipeline. The source of the leak should be near the midpoint between these two marked points.

5. High refrigerant concentration may cause the leak detector to be overloaded, and it takes several seconds to clear the refrigerant in the leak detector.



SRL2 is testing the Type A coil in the evaporator, with the probe head 1/4 inch (0.63 cm) away from the coil.

Lithium battery maintenance

SRL2 contains a high performance lithium battery. In order to extend the service life and operation safety of the battery, please follow the following operating specifications: pay attention to

1. Do not leave the battery in a place where the temperature is higher than 140 °F (60℃).
2. Do not charge the battery inside or near a heating device, such as a stove, high-temperature vehicle or direct sunlight.
3. Do not solder the battery directly.
4. Do not allow the battery to be directly hit or thrown.
5. Do not wet the battery.
6. Do not change the shape of the battery or pierce the battery in any way.
7. Do not touch any leaking batteries. If the electrolyte accidentally enters the eyes, rinse with water, do not rub the eyes, and seek immediate medical attention at the nearest hospital
8. If the battery is deformed, odor, discoloration or other abnormal phenomenon, the battery should be replaced immediately.
9. Users should not replace the battery. If the battery fails, contact the authorized distributor of Fieldpiece.

charge

SRL2 is gifted with two chargers: an AC charger for wall AC power plug charging, and a car charger for car cigarette lighter DC power socket.

1. The battery in the new product package is not fully charged. The battery should be fully charged before first use.
2. When the battery is low, the red light LOW-BATT LED The indicator light is on. When the battery is in use, the battery viewing function can be used to check the battery power at any time. (See the operation section for details)
3. To charge the SRL2, insert one end of the charger into the charging port at the top of the SRL2 and the other end into the power outlet. During charging, the LOW-BATT indicator light will flash until it turns off when the charging is complete.
4. Charge under the working environment specified in the product specification section of this manual.
5. Avoid frequent complete discharge of the battery. Partial discharge and frequent charging is better for lithium batteries. Unlike nickel metal hydride batteries, lithium batteries do not have a charge memory effect and do not need to be discharged before charging.

keep in storage

When stored for over one month, lithium batteries should maintain 4 0 % -5 0 % charge capacity. For proper storage conditions, please refer to the Product Specifications section in this manual. If left fully charged or exposed to high-temperature environments, the battery's lifespan will be significantly shortened.

fittings of a machine

When inspecting a narrow space, such as passing through a condenser grid, select the RRE2 probe. The RFE2 extension tube extends the probe to 2 5 .5 inches (6 5 cm). The blow molding tool box accommodates accessories and chargers.

SR2K7 contains all the accessories shown in the diagram.

9 inch (23 cm) probe model: RFE2

9 inch (23 cm) flexible extension probe type No: RFE2

Blow molding tooling box with RRE2 and RFE2 model: ABMK3

Fieldpiece The Instrument of Independence

The SRL2 Cold Media Leak Tester is a HVAC/R (Heating, Ventilation and Air Conditioning) technical product. Below are more independent products developed by Fieldpiece Instruments Limited.

SRH2 (Diagnostic air hygrometer

SSX34 Air conditioning refrigeration overheat and supercooling meter

SC77 Multi- 合一扩展钳形表

size of product

Inductive element: enhanced infrared sensor
Sensor service life: 10 years
Cold media: CFC, HFC, HCFC and mixed gases
Sensitivity: Minimum (resting): 0.1 ounce/year (3 grams/year); maximum (resting):> 1.0 5 ounce/year (3 0 grams/year);
Minimum (movement): 0.1 8 oz/year (5 g/year);
Maximum (movement):> 1.0 5 mg/year (3 0 g/year); after testing (50 g/year): 0.1 mg/year (3 g/year);

In the polluted environment, 0.1 oz/year (3 g/year). Response time: 1 second
Recovery time: Approximately 4 seconds
Automatic shutdown: Wait for 1 0 minutes and then automatically shut down
Battery type: 7.4VDC (rated) rechargeable lithium battery, only technicians can replace the battery
Battery life: about 8 hours after full charge. After 5 0 0 charges or two years, the battery performance will be reduced by 3 0 % first.
Low battery LED indicator: When the battery is left about 1 hour of power, the low battery indicator will be lit.
Charging time: Use the charger included with the product, charging time less than 4 hours
Working environment: When the relative humidity is less than 7 5 % 3 2 °F (0°℃) Up to 1 0 4 °F (40℃) (non-cooling)
Storage environment: When the relative humidity is less than 8 0 %, the instrument and battery

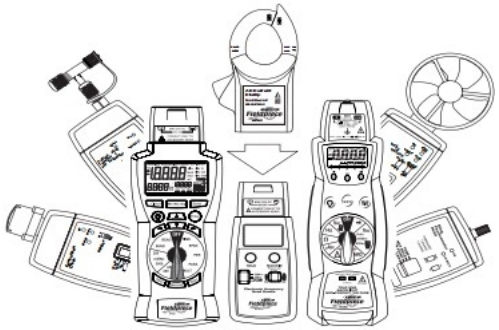
Battery 8 0 % function recovery:

-4F (-20℃) to 1 4 0 °F (60℃), less than 1 month
-4°F (-20℃) to 1 1 3F (45℃) less than 3 months
-4°F (-20℃) to 6 8F (20℃) less than 1 year

Patent protection: 6,791,088 and 7,022,993 infrared leak detectors

Declaration of Accordance

Based on the project manager of Deutsche Institut für Normung, A. Beatrix Alke, presented to the company under the assumption of the first 7 The speed specification of Part 2 is stated as "2.0 cm/s". This instrument complies with European standards EN 14624 and EN 14624. (2005) The provisions of the indicator type positioning leak detector.



From the Field (Fieldpiece) More Productivity

Modular expansion function

Modular expansion function is the ability of multimeter and appendix head to change configuration to meet the needs of HVAC/R technicians.

Appendix header (transmitter) sends to the connected multimeter A mV signal representing a single measurement value. The attachment head can be directly plugged into the tip of a rod-type measuring instrument, DL3 data logger, or EHDL1 measuring handle, or connected to any multimeter with an mV range via ASLS2 test cables.

Limited warranty and after-sales service

This measuring instrument is guaranteed for one year from the date of purchase, including material and process defects. According to the inspection results of repaired product defects, Fieldpiece has the right to choose to replace or repair the defective product for the user.

Defects caused by violations of operating procedures, negligence, accidents, unauthorized repairs, modifications, or improper use are not covered under this warranty. The implied warranties (including but not limited to suitability and specific purpose applicability) for Fieldpiece products sold herein shall have the same warranty period as specified above. Fieldpiece shall not be liable for any loss, incidental damage, indirect damages, expenses, or economic losses arising from the use of this instrument, nor shall it be held responsible for compensation for such damages, expenses, or losses. Due to varying state laws, the above restrictive or exclusionary clauses may not apply to certain users.

Contact Belgium when SRL2 is in question (Fieldpiece) is the authorized distributor.