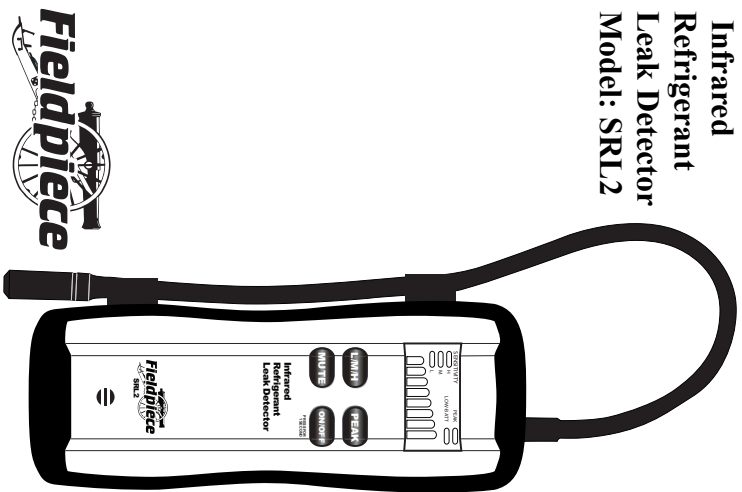


Infrared Refrigerant Leak Detector

Model: SRL2



OPERATOR'S MANUAL

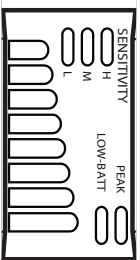
Description

The SRL2 uses infrared optics to create a portable refrigerant leak detector technology that has a superior combination of sensitivity, speed, sensor life, battery life, portability, and ease of use. Gas is pumped through the tip of the wand into the sensor within the SRL2 body. The sensor detects changes in concentration, not absolute concentration, making it easy to detect leaks even in areas with refrigerant in the air.

The SRL2 detects leaks as small as 0.1 oz/year, which exceeds the toughest SAE J1627 standards. The SRL2 comes with wall and car chargers for its ultra-compact Li-Ion polymer battery which powers the SRL2 for 8hrs of continuous operation before a recharge is needed. That's long enough to last your entire workday.

Unlike many leak detectors, oil vapor does not trigger the SRL2.

The SRL2 has variable sensitivity settings, keeping 'nuisance tripping' to a minimum. A quick and automatic 30 second self-calibration upon power-up ensures optimal performance. A built-in replaceable filter blocks moisture and harmful particulates. The SRL2 also has a mute button and a peak hold function.



Specifications

Sensing element: Enhanced infrared photo optics
Sensor life: 10 years
Refrigerants: HFC, CFC, HCFC, and blends
Sensitivity level (per SAEJ1627):
 HIGH: 0.1 oz/year and higher
 MED: 0.5 oz/year and higher
 LOW: 1.0 oz/year and higher
Response time: 0.5 to 1 second
Auto off: 10 minutes after no activity
Battery: 7.4VDC(nominal), 900mAh rechargeable lithium ion polymer (model H702550-2S) technician-replaceable battery.
Battery life: 8 hours continuous use prior to needing a charge. Degradation (10-5%) after 500 charge/discharge cycles or two years, whichever comes first.

Low battery LED: Illuminated when approximately 1 hour of battery life remains.
Charge time: Less than 4 hours with either supplied charger.
Operating environment: 32°F (0°C) to 122°F (50°C) at <75%RH
Storage environment: <80%RH meter and batt. For 80% battery recovery:
 -4°F (-20°C) to 140°F (60°C) less than 1 month
 -4°F (-20°C) to 113°F (45°C) less than 3 months
 -4°F (-20°C) to 68°F (20°C) less than 1 year
Patents: #6,791,088 and #7,022,993

Accessories Included:

wall charger, car charger, case, 10 extra filters, 5 spare O-ring rubber gaskets, battery (installed), and operator's manual.

⚠ WARNING ⚠

DO NOT open battery compartment or meter case. Battery must be replaced by Fieldpiece. DO NOT charge battery with any other charger than those that came with the instrument! DO NOT use the SRL2 without the proper filter correctly installed. Read and follow the Lithium Battery Care section in this manual.

Quick Tips

1. Keep the wand tip moving past suspected leak locations.
2. Once a leak is detected, sweep the wand back over to pinpoint.
3. To pinpoint larger leaks adjust sensitivity.

Warranty and Service

The product is warranted to the original purchaser against defects in material or workmanship for a period of one (1) year from the date of purchase. During the warranty period, Fieldpiece Instruments will, at its option, replace or repair the defective unit. This warranty does not apply to defects resulting from abuse, neglect, accident, unauthorized repair, alteration, or unreasonable use of the instrument. Any implied warranty arising out of the sale of Fieldpiece's products including but not limited to implied warranties of merchantability and fitness for purpose are limited to the above. Fieldpiece shall not be liable for incidental or consequential damages.

Any defective SRL2 should be returned to Fieldpiece Instruments for warranty service along with proof of purchase. Call Fieldpiece for a return material authorization (RMA). For out of warranty service, send the SRL2 meter with battery installed along with an RMA number. Your SRL2 will be repaired or replaced at Fieldpiece's option. Repair price for SRL2 meter is \$155. Repair price for SRL2 battery is \$45.

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Operation

ON/OFF Protection

To turn on/off the SRL2 press and hold the ON/OFF button for one second. This slight delay protects against inadvertent pressing. If you forget to turn it off, it will automatically go off in 10 minutes.

LED Bar Graph Display

The eight segment LED display indicates the degree of change in refrigerant concentration. As the concentration of refrigerant in the air increases, so does the number of lit bars on the display.

LM/H Button (Sensitivity)

Set the sensitivity level by pressing the LM/H button. Low(L), medium(M), or high(H) sensitivity will be indicated by their respective LED.

Use the highest sensitivity that will not give you false indications of a leak. The higher the concentration of refrigerant in the ambient air, the lower the sensitivity setting should be to minimize false trips.

Mute Button

Pressing the MUTE button toggles the sound of the SRL2 on and off.

Peak Button

The PEAK function holds the highest change in concentration achieved while continuing to detect

leaks. Press PEAK to toggle this function on and off. Turning the PEAK function off will clear the peak change. The PEAK LED will light when PEAK function is on.

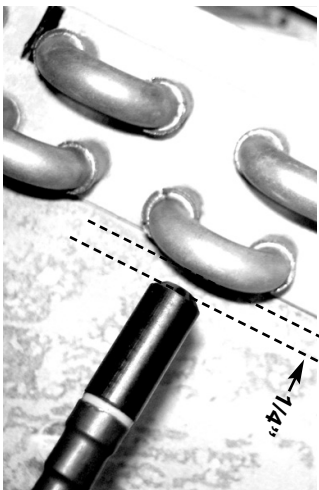
Leak Detection Procedure

Keep the SRL2 away from any areas of potential refrigerant leakage until the warm-up and calibration period is over. The warm-up and calibration sequence lasts about 30 seconds after ON/OFF is pressed. On startup, meter defaults to high sensitivity.

The most likely points for refrigerant leaks are at the soldered joints in refrigerant lines and changes in cross section or direction of these lines.

The SRL2 detects changes in concentration of refrigerant, not the absolute concentration of refrigerant. This lets the user easily detect leaks in places that may have refrigerant in the air, such as a refrigerator leaking into an enclosed space. Because the SRL2 detects change, there is a specific "double-pass" method used to find leaks.

1. The tip of the wand should be fairly close to the line. You may need to be within 1/4" of a small leak to detect it. In this case, using a second hand to guide the tip along refrigerant lines may be helpful.
2. Keep the tip moving along refrigerant lines at a rate of 1-3 inches per second.



SRL2 testing an A-coil in an evaporator, 1/4" from the line.

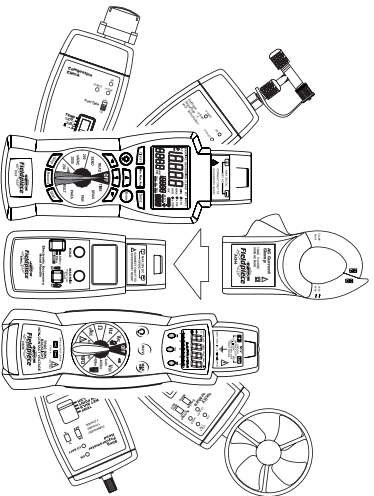
Lithium Battery Care

The SRL2 contains a very powerful two-cell lithium ion polymer battery. For a long battery life and safe operation you must observe the following:

Cautions

1. Charge only while battery is inside the SRL2 with a Fieldpiece supplied charger. Do not charge externally.
2. Do not expose the battery to temperatures higher than 140°F.
3. Do not charge the battery in or nearby heated places, such as fire, hot vehicles, or direct sunlight.
4. Do not directly connect the battery to any battery charger. The included chargers connect to the SRL2, not the SRL2 battery.
5. Do not solder directly on battery.
6. Do not use the battery for unspecified equipment.
7. Do not expose the battery to direct impact or throw it. If the protection circuit on the battery is broken, do not continue to use the battery.
8. Do not get the battery wet.
9. Do not deform or pierce the battery in any way.
10. If there is any battery leakage, do not touch the battery. In the case that electrolyte gets into the eyes, flush with fresh water, do not rub, and see a physician immediately.
11. Send in for replacement immediately if there is

More Products From Fieldpiece



Modular Expandability

Modular expandability is ability for accessory heads and meters to change configurations to match the various needs of an HVAC/R technician.

Accessory heads (the sensors) send out a mV signal, to whatever meter is attached to it. Heads can attach directly to the top of a Slick meter, DL2 data logger, or EHDL1. They can also plug into any meter with mV ranges using ASLS2 leads.

any deformity, bad smell, color change, or other abnormality.

12. Do not disassemble or try to repair battery or protective circuitry.
13. The battery is technician-replaceable and must be sent to [Fieldpiece Instruments](#) if a replacement is needed. It is not user-replaceable.

Charging

Two chargers are included with the SRL2. The AC charger plugs into a wall outlet (110-120 VAC, 60Hz) and the car charger plugs into a car cigarette lighter DC plug.

1. The battery is partially charged when packaged. Fully charge the battery before first use.
2. The LOW-BATT LED will light red when the battery is low.
3. To recharge the SRL2, plug one end of the charger into the top of the SRL2 and the other into the power source. LOW-BATT will blink while charging until the battery is fully charged. When the SRL2 battery is fully charged, LOW-BATT turns off.
4. Charge within operating environment specified in the Specifications section in this manual.
5. Avoid frequent full discharges. Several partial discharges with frequent recharges are better for lithium-ion batteries. Unlike nickel-based batteries they have no charge memory, and do not need to be discharged before charging.

Slick Meter

This is the heart of modular expandability. In addition to being a full functioning multimeter, any accessory head can be used with it.

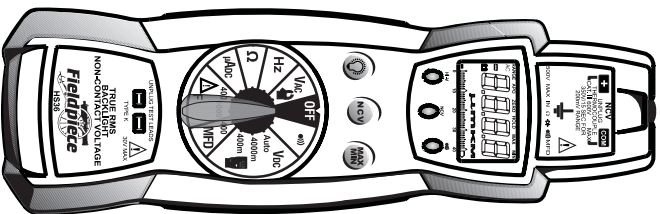
Model HS36

Non contact voltage
Magnetic hanger
Autoranging
Backlight

Temperature
Volts, amps, ohms
Frequency
Microfarads

Includes:

- HS36 Meter
- ACH4 Current Clamp
- ATB1 K-type TCouple
- ADLS2 Deluxe Leads
- ANC1 Case



Storage

The battery should have a 40%-50% charge during prolonged storage of a month or longer. See Specifications section in this manual for proper storage environment.

Battery life is dramatically reduced if the battery is stored fully charged and/or at high temperatures.

Carrying Case

While both chargers fit in the included case, the carrying case is intended to carry the leak detector alone. Most users leave the chargers near the power supply and carry around just the meter. Larger cases, to hold both chargers plus extra accessories, are available such as the ANC8 (see Optional Accessories).

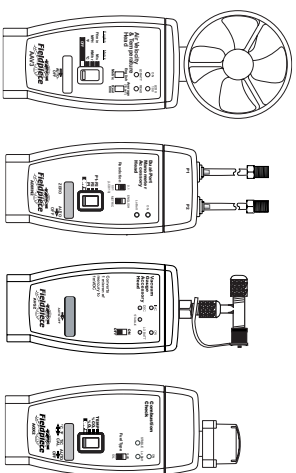
Filter Assessment & Replacement

The filter blocks moisture and other contaminants from the sensor. When it gets wet, it constricts flow of air and it will have to be replaced. Unscrew the sensor tip and replace the white filter so that the rounded end is closest to the tip of the wand. Use only the Fieldpiece supplied filter.

Extra bags of replacement parts (model REL2) are available from Fieldpiece which contain 10 filters and 5 O-rings.

Accessory Heads

Accessory heads are the sensors of multiple parameters measured by technicians every day. They plug into a mV range (depending on the head) of a multimeter. The multimeter will display whatever the head is measuring. Instead of having to purchase and carry a separate instrument for each parameter, a technician can use multiple heads and a single multimeter to do the job.



Here are four of the many heads available:

- AAV3 Air Velocity and Temperature
- ADMN2 Dual-Port Manometer
- AVG2 Digital Vacuum Gauge
- AOX2 Combustion Check

Optional Accessories

Use model RRE2 when detecting in tight spaces, such as through a condenser grille. Model RFE2 extends the wand to 25.5". The midsize case, model ANC8, holds everything with room to spare.



9" Flex Extension
model RFE2

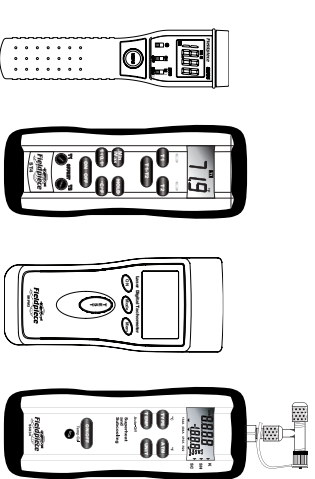
9" Needle Tip Probe
model RRE2

4 Pocket Midsize Case
model ANC8



Standalone Instruments

The SRL2 is a standalone instrument for leak detection. Accessory heads do not hook up to it. Below is a sampling of other standalone (non-modular) instruments available from Fieldpiece.



- SMG5 Megohm Meter
- ST74 Dual Temperature Thermometer
- SRP/M2 Optical Laser Tachometer
- SSX34 Superheat and Subcooling for AC & Ref.