

Elitech[®]

Innovation Preceding All



IR-200

Infrared & Heated Diode

Leak Detector

User Manual



Warning!

Please read and understand this manual thoroughly before operation and maintenance.

Please do NOT disassemble the detector.

If you have any technical questions, please contact us.

1. Please ONLY install clean filter before detection or it may damage the sensor.
2. Please charge the detector promptly to ensure sufficient battery level for the detection*.
3. Do NOT use the probe to touch or detect any charged objects.
4. Do not let water enter the air inlet of the probe.
5. Please protect your eyes and skin while using the UV LED accessory during detection.
DO NOT look directly to the UV ray.
6. Please avoid breathing in the refrigerant vapors. Inhalation of high concentration refrigerant is harmful and may cause unconsciousness or death.
7. The battery is hazardous. Be extra careful when using it. Never dispose of used batteries in regular trash can (but in the battery recycle box) to avoid danger or harm to environment.
8. Do not shock or vibrate the device excessively
9. Do not unplug the USB cable toughly
10. Do not use in the combustible gas environment

** The detector has built-in two 18650 rechargeable lithium batteries, Please do not change to other battery types.*

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Overview

IR-200 is a hand-held two-in-one leak detector that are developed by Elitech®. This new product combines infrared and heated diode sensor which can easily switch between two modes. Compared with traditional corona or heated diode detectors, this series feature a sensor which has higher accuracy and longer service life, detects more types of refrigerants and avoids damage by high concentration of refrigerants. Also, with exclusive ergonomic design and innovated large TFT LCD display screen, the detector optimizes the user experience and presents the detection results more intuitively and diversely.



1. Flexible Probe

2. UV LED

3. Filter Components

4. Headphone Jack

5. USB Port (Type-C)

6. Display Screen

7. Buttons

8. Buzzer

Technical Parameters

Refrigerants	CFCs, HFCs, HCFC series and HFO-1234YF
Sensor life	Infrared Sensor: 10 years; Heated Diode Sensor: 500hrs
Sensitivity	Infrared Sensor Max 4g/a;Heated Diode Sensor Max 13g/a
Sensors	Infrared & Heated Diode
Alarm Mode	Audible and visual alarm
Auto OFF	After 10 minutes of inactivity
Battery	2 x 18650 lithium battery (see Battery Replacement Diagram)
Working Hour	8hrs continuously (in a single charged)
Charging Time	Approx. 4hrs
Charging Voltage/Current	DC 5V, 1A
Storage Temperature	-20°C ~ 60°C (-4°F ~ 140°F)
Humidity	90%RH (non-condensing)
Operating Temperature	-10°C~ 52°C
Certifications	CE, EN14624:2012, RoHS, SAE_J1627, SAE_J2791, SAE_J2913
Dimensions	201 x 72 x 35 mm (7.9" x 2.8" x 1.4")
Weight	450g (15.9oz)

Button & Display

Button Functions



Press and hold for 2 seconds to turn on the detector; press again to turn it off.



Press to select preferred sensitivity level in Infrared interface.

Maximum Sensitivity Level: HIGH 4g/a
 MEDIUM 7g/a
 LOW 14g/a

heated diode interface: Press return to set zero.



Press to turn on/off the buzzer.



Press to switch between infrared and heated diode modes.

(30s warm up time switch to heated diode mode).

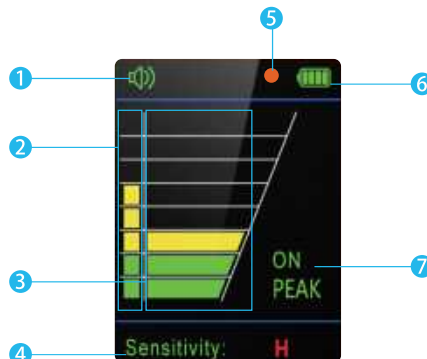


*(**Infrared Interface**) Press and release to mark or unmark the maximum leak. If unmarked, the peak value will be cleared.

(**Heated Diode Interface**) Press to record number of refrigerant leaks.

Display

Infrared Interface



1. **Buzzer:** Indicates buzzer status. Red icon: disabled; Green icon: enabled.

2. **Peak value:** Indicates the maximum detected leakage.

Note: PEAK functions must be ON or it will not show peak value.

3. **Leak value:** Indicates the current detected leakage. Higher leak concentration, higher the bars.

4. **Sensitivity level:** Displays current sensitivity level. 3 levels are available for different needs.

H: high sensitivity; M: medium sensitivity; L: low sensitivity.

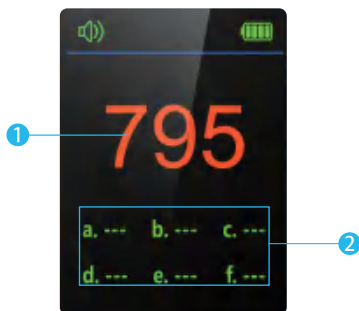
5. Battery charging status.

6. **Battery level:** Displays current battery level.

Green: Full battery; Yellow: Low battery; Red: Extreme-low battery, please charge ASAP.

7. **PEAK ON/OFF:** Indicates PEAK function status. The display shows ON or OFF to indicate the peak function is enabled or disabled (Turn off PEAK will clear all recorded peak values).

Heated Diode Interface



1. Leakage reference value based on the detected concentration.

2. Record 6 reference value to locate the maximum leakage point.

Others

Alert: If the sensor is faulty, the display will pop up alert : “Error: Sensor”.

Warm-up countdown: Please wait for about 30 seconds after the detector is turned on until the warm-up finishes.

Operation



Warning!

- ◆ Before start, please confirm the battery is sufficient for this detection (it normally takes about 30 minutes for one detection).
- ◆ Please ensure the system pressure is at least above 340Kpa (50psi) before detection as many refrigerant leaks can't be detected at low pressure.
- ◆ (Infrared Mode) Please keep moving the detector during the detection as infrared sensor is designed to detect the relative concentration of gases. If the detected concentration remains unchanged in the stationary environment, it will not be able to pinpoint the leakages. (Heated Diode Mode) Please move slowly during the detection.
- ◆ Do not place the detector close to organic solvents, detergents or high voltage power supplies. Please wipe the detectors with a clean towel.

Steps

1. Turn on the detector. Wait for the warm-up countdown in order to reach the optimal detection status. It takes about 30 seconds before it enters the main interface.
2. Locate places that refrigerant leaks are most likely to occur, such as:
 - ◆ Joints in the refrigerant lines
 - ◆ Points that have changes in cross section
 - ◆ Points that have changes in vertical section
 - ◆ Visually trace the entire refrigerant system for all lines, hoses, fittings, couplings, service valves, etc. and signs of lubricant leak, damage and corrosion are the likely leakage points.
3. Move the probe slowly (about 3ft/s or 75mm/s) at these suspicious leak point, move back and forth but no more than 0.25"/6mm away from the leak areas.

Note: A closer probe position and slower "sweeping" movement usually improves the possibility of finding a leak.

4. The buzzer and LCD display will indicate the detected leak at the same time:

Buzzer: The beeping frequency increases in proportion to the leak intensity.

The faster the buzzer beeps, the higher the leak has been detected.

LCD display: The bar graph increases from bottom to top in proportion to leak intensity.

The higher the bar graph rises, the higher the leak has been detected.

5. Follow the operations above to detect the entire refrigerant system and mark every leak that has been found.

See the illustration below for visualized detection method:



Maintenance

Battery Charging & Maintenance



Warning!

- ◆ Avoid complete discharging and frequent charging or it may affect battery life.
- ◆ If the detector is not in used for a long time, please charge it beforehand to prevent battery life reduction due to self-discharging. Do not store it for more than 6 months.
- ◆ Use DC 5V/1A power adapter to charge the detector, Fully recharging time: 4hrs
Charging indicator in Orange: the battery is charging now;
Charging indicator in Green: the battery is fully charged.
- ◆ Device will display the charging status when the charging cable is connected. When the device is fully charged, it will prompt the full charging status. We do not recommend performing leakage detection during charging, which may cause false alarms.
- ◆ The device has two replaceable 18650 Li batteries. Reverse battery installation will cause irreversible damage.



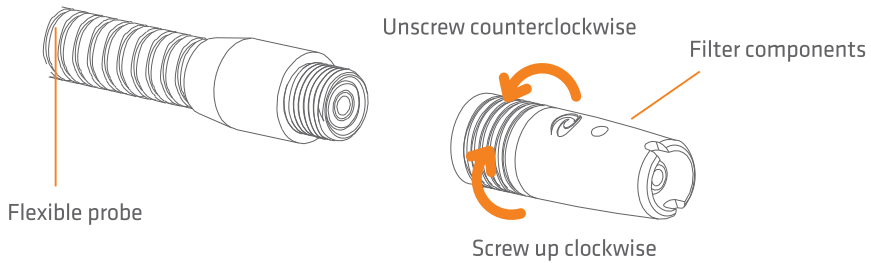
Battery Replacement

Filter Replacement

The filter can block large particle contaminants and moisture to reduce false alarms caused by excessive humidity. Please replace the filter in time when it is seriously polluted (black and clogged).

Follow the steps below:

1. Unscrew the filter components counterclockwise.
2. Screw filter components clockwise.



What's Included

Infrared Leak Detector	x 1
UV LED	x 1
User Manual	x 1
Plastic Case	x 1
Power Adapter	x 1
Charging Cable	x 1
Filter Components	x 5

Warranty Periods

One year since the date of original purchase.