

Elitech[®]

Innovation Preceding All

Inframate-ppm Infrared Leak Detector User Manual



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 **Warning!**

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

Please do NOT disassemble the detector by yourself.

If you have any technical questions, please feel free to contact us.

1. Please ONLY install a clean filter before detection or it may damage the sensor.
2. Please charge the detector promptly to ensure a 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 during detection. Never look directly to the UV ray.
6. Please avoid breathing 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.

* The detector has a built-in rechargeable lithium battery, please do not change to other battery types.

Overview

Inframate-ppm is a hand-held infrared refrigerant leak detector that Elitech® independently develops based on the infrared detection principle. It can not only detect whether the refrigerant leaks but also detect the concentration of refrigerant leakage. Compared with traditional corona or heated diode detectors, this series features a sensor with higher accuracy and much longer service life, detects more refrigerants, and avoids damage by a high concentration of refrigerants. Also, with an exclusive ergonomic design and innovative large TFT LCD screen, the detector optimizes the user experience and presents the detection results more intuitively and diversely.



1. Flexible Probe
2. UVLED
3. Filter Components
4. Headphone Jack

5. USB Port (Type-C)
6. Display Screen
7. Buttons
8. Buzzer

Specifications

Sensor life	10 years	Charging Time	Approx. 4h
Sensitivity	Maximum 3g/a	Weight	450g(15.9oz)
Display resolution (quantitative mode)	1 ppm	Display resolution (quantitative mode)	0 to 19999 ppm
Sensor Principle	Infrared (IR) absorption spectroscopy		
Mobile APP	Android 5.0 or above; IOS12.0 or above		
Alarm Mode	Audible and visual alarm; TFT indication		
Auto OFF	After 10 minutes of inactivity		
Battery	2 x18650 lithium battery (see Battery Replacement Diagram)		
Working Hour	8h continuous use on a single charge		
Storage Temperature	-20°C~60°C(-4°F~140°F)		
Operating	Temperature: -10°C~ 52°C;		
Environment	Humidity: Maximum 90%RH (non-condensing)		
Dimensions	201 x72x 35mm (7.9 " x 2.8 " x 1.4 ")		
Certifications	CE, EN14624:2012, RoHS, SAE_J1627, SAEJ2791, SAEJ2913		
Detectable Gases	CFCs, HFCs, HCFC Blends and HFO-1234YF		
Charging Voltage/Current	DC 5V, 2A		

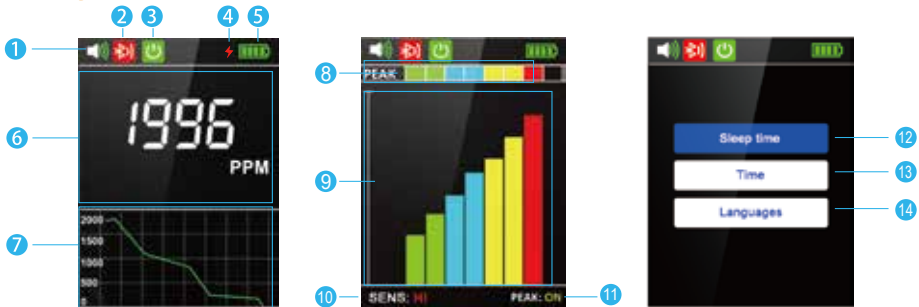
Button & Display

Button Functions



- ON/OFF** : Long press to turn on or off the instrument.
- MODE** : Short press to switch between quantitative and qualitative modes; long press to enter parameter setting, confirm the function in parameter setting.
- RESET SENS** : Press to select preferred sensitivity level among Low, Medium and High. Then, move down and move right function in parameter the setting.
- PEAK** : Press and release to mark or unmark the maximum leak. If unmarked, the peak value will be cleared. The function of increasing the value in parameter setting.
- MUTE** : Press to turn on/off the buzzer. Value down function in parameter setting.

Display



- 1 Buzzer: Red icon: disabled ; Green icon: enabled.
- 2 Bluetooth connection indication. Red icon: disabled.
- 3 Automatic shutdown sign.Green icon: enabled.
- 4 Battery charging status.
- 5 Battery level: Green : Full battery ; Yellow : Low battery ; Red : Extreme-low battery.
- 12 Sleep time
- 13 Time
- 14 Languages

- ⑥ Detection value PPM display.
- ⑦ Detection curve display.
- ⑧ Peak value: Indicates the maximum detected leak.
Note: PEAK function must be ON.
- ⑨ Leak value: Indicates the current detected leak. Higher leak concentration, higher the bars.
- ⑩ Sensitivity level: H: high sensitivity; M: medium sensitivity L: low sensitivity.
- ⑪ PEAK indication
- ⑫ Automatic shutdown time setting.
- ⑬ Time setting.
- ⑭ Language settings.

Operation

Warning!

- ◆ Please ensure the system pressure is above 340Kpa (50psi) before detection as many refrigerant leaks can't be detected at low pressure.
- ◆ Do not place the detector close to organic solvents, detergents or high voltage power supplies. Please wipe up the detectors with a clean towel.
- ◆ Before starting, please confirm the battery is sufficient for this detection (it usually takes about 30 minutes for one detection).
- ◆ Locate places where refrigerant leaks are most likely to occur, such as:
 - Joints in 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 as the likely leak points.

Steps

Introduction to Quantitative Mode Operation

1. Press and hold ON/OFF to start the machine, and after preheating for about 60S, enter the quantitative detection mode;
2. Move slowly in the suspicious area and observe the PPM reading; after finding the suspected leakage area, keep the probe for a few seconds and wait for the PPM value to stabilize, which is the leakage concentration in the current area;

3. The larger the PPM value indicates, the greater the leakage concentration, and the faster the buzzer will sound;
4. Through the leakage curve under the numerical value, the area with the highest leakage concentration can be determined, and the leakage point can be further found;

Introduction to Qualitative Mode Operation

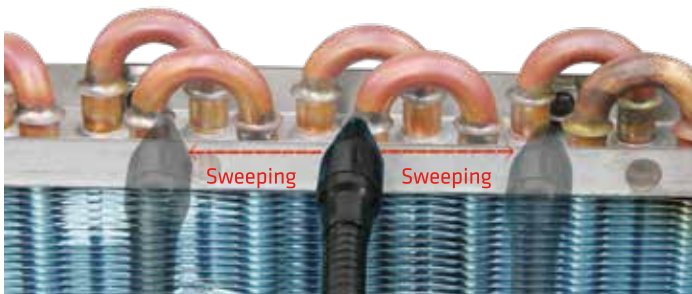
1. In the quantitative mode, short press the MODE button to enter the qualitative detection mode;
2. Press button to adjust to your preferred sensitivity level (default level is High).
3. Move the probe slowly (about 3ft/s or 75mm/s) at these suspicious places, moving back and forth but no more than 0.25 "/6mm away from the leak areas.

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

4. The buzzer and LCD display will indicate the detected leak at the same time :
Buzzer: The sound will increase in proportion to the leak intensity.
The faster the buzzer beeps, the higher the leak has been detected.
LCD display: The bar graph will increase from bottom to top in proportion to leak intensity.
The higher the bar graph rises, the higher the leak has been detected.
5. After the leak point is found, move the probe away for a few seconds and re-check the leak point to confirm the leak point;

Note: In this mode, the relative concentration of the gas is detected. If the instrument remains stationary and the concentration does not change, the leakage will not be detected. You can move the probe to an area with a lower leakage concentration for a few seconds to reset the zero point automatically.

See the illustration below for visualized detection method:



APP Operation Introduction

1. Download the "Elitech Tools" APP in the mobile application store;
2. Enter the APP homepage, turn on the Bluetooth of the mobile phone, and search for nearby devices;



3. Search for the Inframate-ppm device, click Available to connect, after the connection is successful, the Bluetooth logo will appear on the device side, indicating that the connection is successful;



4. When using the quantitative mode to detect leakage, operate the APP and click Start to display the real-time leakage value detected;



Battery & Filter

Battery Charging & Maintenance



Battery Replacement Diagram

Warning!

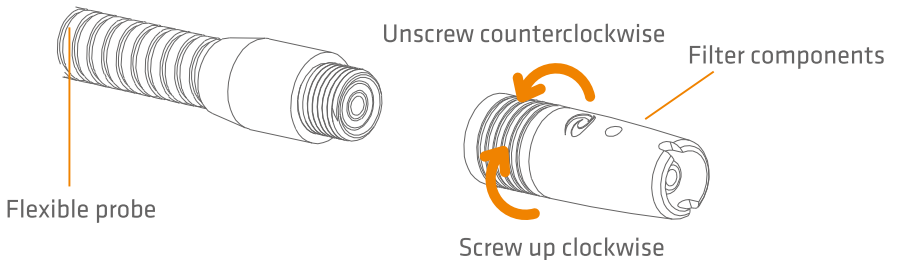
- ◆ Avoid complete discharging and frequent charging or it may affect battery life.
- ◆ Do not disassemble the built-in rechargeable lithium battery.
- ◆ If the detector will not be used for a long time, please charge it beforehand to prevent battery life reduction due to self-discharging. Do not store it for more than 6 months.
- ◆ Use DC 5V/2A power adapter to charge the detector.

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	x1
UVLED	x1
User Manual	x1
Plastic Case	x1
Charging Cable	x1
Extension Pole	x1
Filter Components	x5

Warranty Periods

One year since the date of original purchase.