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*Innovation Preceding All*

## WJL-6000S Corona Detector User Manual



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## Meet Standards: EN14624, RoHS, CE

### **Important!**

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

Please use 4 AAA alkaline batteries and never connect to external power source.

The detector will beep at fixed frequency after turned on. The frequency will only change after leaked refrigerant detected.

Do not touch the sensor during use to avoid minor electric shock.

When the detector indicates low battery, please change the batteries in time to prevent false alarm.

Remove the batteries if the detector will not be used for a long time. Store the detector in a dry place.

### **Warning!**

Do NOT disassemble the detector by yourself.

Do NOT repair any internal parts by yourself.

Do NOT operate the detector in liquid, high-concentration gasoline, natural gas, propane or other flammable gas environments.



## Contents

Overview	-----	3
Specification	-----	3
Functions	-----	5
Operation	-----	5
Detection	-----	6
Maintenance	-----	6

## Overview

WJL-6000S is a corona leak detector with high sensitivity and visualized alarm display. Its adjustable sensitivity ensures automatic and optimal detection status, locating leaks much more accurate. Its subtle structure, built-in high-precision stabilivolt IC and ultra-low power consumption circuit design enables much more stable operation and enduring batteries.

WJL-6000S detector applies to detecting the leak of cooling systems, stored refrigerants and recovered containers. The detector responds to all halogenated (containing chlorine and fluorine) refrigerants, including but not limited to

CFCs, e.g. R12, R11, R500, R503 etc.

HCFCs, e.g. R22, R123, R124, R502, etc.

HFCs, e.g. R134a, R404a, R125, etc.

Blends such as AZ-50, HP62, MP39.

Ethylene oxide leaks in hospital sterilizing equipment, leaked gases that carry halogens.

SF-6 in high voltage circuit breakers.

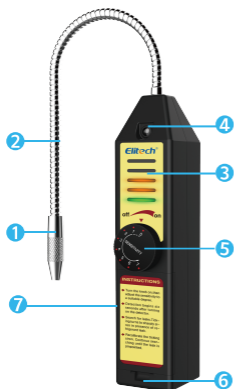
Most gases(halogen gases) containing chlorine, fluorine and bromine. Cleaning agents for dry cleaning equipment, such as carbon tetrachloride.

Halon gas used in fire extinguishing system.

## Specifications

<b>Operating Temperature</b>	0°C ~ 52°C (32°F ~ 125.6°F)
<b>Battery Life</b>	Approx. 20 hours for normal use
<b>Work Mode</b>	Continuous without limitation
<b>Reset Time</b>	2 to 10 seconds
<b>Maximum Sensitivity</b>	5g(0.2oz)/a for halogenated refrigerants
<b>Response Time</b>	Instant
<b>Probe Length</b>	20cm (7.8in)
<b>Warm-up Time</b>	Approx. 6 seconds
<b>Battery</b>	4 AAA batteries

## Structure



- ① Probe Tip
- ② Flexible Probe
- ③ Indicator
- ④ Buzzer
- ⑤ Rotary Knob for ON/OFF and Sensitivity Adjustment
- ⑥ Battery Compartment
- ⑦ Shell

## Functions

### Start-up Reset / Automatic Circuit

WJL-6000S is able to ignore the concentration of halogens in the environment owing to its following functions:

◆ **Start-up Reset:** After turned on, the detector can automatically adjust the circuit in 6 seconds to ignore the current refrigerant concentration at the probe, thus it can enter optimum detection status immediately. If turned on near the leakage source, the detector is very convenient to pinpoint the leak at higher concentration. You may also turn it on in fresh air and adjust it to maximum sensitivity so that any leak above zero will be detected.

◆ **Automatic circuit:** During detecting, the detector will adjust its automatic circuit to change slowly with halogen concentration in the environment, thus false alarm can be canceled.

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## **Sensitivity Adjustment**

The detector allows flexible adjustment of sensitivity level even during detecting. Rotate the knob clockwise, the sensitivity will be higher; Rotate the knob counterclockwise, the sensitivity will be lower. Please note higher sensitivity does not mean better detection experience. High sensitivity in harsh gas environment may cause false alarm.

## **Leak Alarm**

Once leaking gas is detected, the beep frequency will increase. The more gas leaked, the quickly the buzzer beeps. The first indicator will flash quickly meantime and other four LEDs will light up accordingly based on the concentration of leaked gases.

## **Battery Indication**

The first indicator indicates both leak and battery level.

**Blinks in Green:** Battery voltage is normal for operation.

**Blinks in Orange:** Battery voltage is too low. Please replace the batteries as soon as possible.

## **Operation**

1. Rotate the knob to turn on the detector and the buzzer beeps intermittently.
2. Check the indicator to ensure the battery voltage is not low (the LED blinks in green).
3. Adjust to proper sensitivity level or regulate it later during detection.
4. Start detecting after 6 seconds the detector is turned on.
5. Find the possible leak source where buzzer will beep quickly.
6. Adjust the sensitivity level and keep detecting until the leak source is pinpointed.

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## Note

- ◆ Adjust the sensitivity higher if the leak cannot be detected.
- ◆ During alarm, if the probe tip stays at the possible leak source for a long time, the automatic circuit may change with the sensitivity and cancel false alarm.
- ◆ It is difficult to find the leak source in windy area. Please shield such area before detecting.
- ◆ Protect the probe tip from touching moisture or solvent, otherwise, alarm may be triggered.

## Detection

1. Charge sufficient refrigerant in the air conditioner or cooling system to make sure its standard pressure keeps 340kPa (50psi) at minimum on shutdown status. Leak may not be detected when the temperature is below 15°C (59°F) due to insufficient pressure.
2. Please do NOT contaminate the probe tip when detecting a polluted part. If polluted heavily or covered with the condensed (such as water, vapor), the part should be wiped with industrial towel or blew off by industrial air. Do not use detergent or solvent to clean the part because the sensor may be sensitive to the cleanser elements.
3. Visually inspect the whole cooling system including pipelines, hoses and components to see whether there is lubricating oil leakage, damage or corrosion; Use the probe tip to detect the possible leak source, especially the fittings (e.g. hose to pipeline couplings), refrigerant control components, nut-sealed components, areas around copper pipe and welded joints, fasteners, etc.
4. Detect along with the pipeline of the cooling system for full inspection. If a leak source is detected, the rest pipeline must be detected. Move the probe tip around the possible leak source at speed of 25 to 50 mm/s (0.78 to 1.96in/s) within 5mm(0.19in) surface distance so that optimal detection effect can be obtained.

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5. Rapid beeps indicate a possible leak source. Remove the detector, adjust the sensitivity to proper position and detect the leak carefully again until the leak source is pinpointed.
  6. To verify a leak source, please follow the steps below (Repeat as necessary):
    - a. If necessary, blow industrial air into the possible leak area and detect again. It is very helpful to pinpoint the leak source in case of a large leak.
    - b. Turn on the detector in fresh air. Hold the probe tip to the alerted leak source as close as possible. Move the detector around the leakage until it is confirmed.

For automobile AC system

- ◆ To detect the possible leak of evaporator core in the air-conditioning module, first adjust the AC fan to its top speed for at least 15 seconds. Turn the fan off and wait for 10 minutes for the refrigerant to accumulate. Place the probe tip into fan resistor block or condenser water outlet (if no water), or evaporator heating/ventilation/AC opening (e.g. heat or vent pipe). If an alarm is triggered, the leak source is finally pinpointed.

Note:

1. Please shut off the engine before detecting leakage in automobile air-conditioning system.
2. It is recommended to detect all the maintenance and service parts after the cooling system is maintained.



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## Maintenance

It is very important to properly maintain your detector. Please follow instructions below to avoid misoperation and lengthen its service life.

- ◆ Keep the sensor clean in use, prevent dust and oil pollution and never touch it with water.
- ◆ Do not disassemble the probe randomly. If the probe tip and air duct are blocked by pollutants, the detector will not work normally. Please screw off the probe tip and clean it:  
Submerge the probe tip in soft solution (e.g. high-purity alcohol) for a few seconds and wipe it with compressed air and towel.

**Note:** Never place the detector in gasoline, turpentine or inorganic mineral solution, which may remain on the probe tip and reduce its sensitivity.

**Warning:** Before screwing off the probe tip, please turn off the detector first. Otherwise it may cause risk of electric shock.

- ◆ The probe life is determined by operating environment and frequency. If the sensitivity decreases while battery voltage remains high, please clean or replace the probe tip. If the detector cannot detect an obvious leak, please replace the probe tip.
- ◆ If the detector cannot work normally, please check whether the batteries are in place and battery voltage is low. If there is no problem with the batteries, please check whether the probe tip is polluted and in good contact with probe rod.
- ◆ Do not open the shell. Otherwise, your detector will not be out of warranty service.

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