Elitech LD-100+

Elitech LD-100+ Refrigerant Leak Detector User Manual

MODEL: LD-100+

Brand: Elitech

Introduction

This manual provides detailed instructions for the safe and effective use of the Elitech LD-100+ Refrigerant Leak Detector. The LD-100+ is an advanced halogen gas leak detector designed for identifying leaks in various refrigeration systems. It features a high-precision heated diode sensor and supports a wide range of refrigerants.

Product Overview

Key Features

- High-precision heated diode sensor for extended life.
- Detects R11, R22, R404a, R410a, R600a, R1234yf, and all halogenated refrigerants including CFCs, HFCs, HCFCs, HCs, HFOs, and blends.
- Two detection modes: Automatic and Manual, suitable for various environments.
- Fast response: Warms up in 30 seconds, responds in 3 seconds.
- Three adjustable sensitivity levels with a maximum sensitivity of 0.11 oz/yr.
- New pump-suction structure for increased sensitivity and anti-water absorption.
- Meets CE and EN14624 safety standards.

Product Components

The image below illustrates the main components of the Elitech LD-100+ Refrigerant Leak Detector.

Image: Labeled diagram of the LD-100+ showing the flexible probe, sensor, battery icon, buzzer icon, alarm icon, auto reset icon, sensitivity icon, auto reset button, On/Off button, mute button, sensitivity button, and battery base.

Supported Refrigerant Types

The LD-100+ is capable of detecting a wide range of refrigerants, including:

Image: Visual list of detectable refrigerants including HFCs (R134a, R410a, R407C, R417A, R404A, R507, R23, R508A, R508B, R152A, R32), HCFCs (R22, R123, R124, R141b, R142b, R402A, R402B, R408A, R409A), CFCs (R11, R12, R13, R502, R503), PFCs (PFC-14, PFC-116, PFC-218), HFO (R-1234YF), and HCs (R50, R170, R290, R600, R600A, R1150, R1270).

Setup

Unpacking and Initial Inspection

Carefully remove the leak detector and all accessories from the packaging. Inspect the device for any signs of damage. The packing list typically includes:

- 1 x Leak Detector with Heated Diode Gas Sensor
- 3 x AA Batteries
- 1 x Packing Case
- 1 x User Manual

Image: The Elitech LD-100+ leak detector, its packaging, and included accessories such as batteries and user manual.

Battery Installation

The LD-100+ requires 3 AA batteries (included). Open the battery compartment located at the base of the device and insert the batteries, ensuring correct polarity. Close the compartment securely.

Packing List

1 X leak detector W/ Heated Diode Gas Sensor
3 X AA Battery
1 X Packing Case
1 X User Manual

Image: Diagram showing the dimensions of the LD-100+ (10.4 inches length, 2.3 x 2.1 inches body, 16.5 inches probe length) and battery specifications (3 x AA Battery, ~7 hours battery life).

Operating Instructions

Familiarize yourself with the control panel before operation.

Detect Halogenated and HC Refrigerants

HFC: R134a, R410A, R407C, R417A, R404A, R507, R23, R508A, R508B, R152a, R32 etc.

HCFC: R22, R123, R124, R141b, R142b, R402A, R402B, R408A, R409A etc.

CFC: R11, R12, R13, R502, R503 etc.

PFC: PFC-14, PFC-116, PFC-218 etc.

HFO: R-1234YF

HC: R50, R170, R290, R600, R600A, R1150, R1270 etc.

Image: Close-up of the LD-100+ control panel showing the digital display, battery indicator, alarm indicator, and buttons for OFF/ON, RESET, SENS (Sensitivity), and MUTE.

Power On/Off

Press the **OFF/ON** button to power the device on or off. The device will undergo a brief warm-up period (approximately 30 seconds) before it is ready for use.

Sensitivity Adjustment

The LD-100+ offers three adjustable sensitivity levels to adapt to different leak detection scenarios. Press the **SENS** button to cycle through the sensitivity levels: High (Red), Medium (Orange), and Low (Green). Higher sensitivity is suitable for detecting very small leaks, while lower sensitivity helps pinpoint larger leaks without false alarms from ambient refrigerant.

Detection Modes (Automatic & Manual Reset)

The device supports both automatic and manual reset modes:

- **Automatic Reset:** Indicated by an 'A' icon on the display. In this mode, the detector automatically sets the current ambient refrigerant concentration as the reference point. This is useful for general scanning.
- **Manual Reset:** To enter manual reset mode, long-press the **RESET** button. The device will take the

current ambient concentration as the reference point. This mode is particularly useful for finding the exact leak point in an environment where there are already significant refrigerant concentrations.

Mute Function

Press the **MUTE** button to toggle the audible alarm on or off. The visual alarm will remain active regardless of the mute setting.

Leak Detection Procedure

1. Power on the device and allow it to warm up.
2. Select the appropriate sensitivity level using the **SENS** button.
3. Move the probe slowly (approximately 1 inch per second) around the suspected leak area.
4. When a leak is detected, the device will alarm (audibly and visually), and the display will show an increasing concentration reading.
5. To pinpoint the exact leak location, use the manual reset mode to re-zero the device in the vicinity of the leak, then move the probe closer to isolate the source.

Image: An overview of the LD-100+ features, highlighting 3 sensitivity levels, 1 year sensor life, audible & visual alarm, anti-water absorption probe, 2 reset modes (Auto & Manual), and detectable HFCs/HCs.

Image: Illustrates the IP65 waterproof level and the new suction structure design of the LD-100+, which enhances sensitivity and prevents water absorption.

Maintenance

Sensor Replacement

The heated diode sensor has a limited lifespan and may need replacement if the device consistently provides inaccurate readings or fails to detect refrigerants. Refer to the video below for instructions on how to replace the sensor.

Video: This video demonstrates how to replace the heated diode sensor on the Elitech LD-100+ Refrigerant Leak Detector. It shows the process of unscrewing the old sensor and installing a new one.

Cleaning

Wipe the device with a soft, dry cloth. Do not use abrasive cleaners or solvents. Ensure the sensor tip is free from debris for optimal performance.

Storage

Store the leak detector in its protective case in a cool, dry place when not in use. Remove batteries if storing

for extended periods to prevent leakage.

Troubleshooting

Device Alarms Continuously or Fails to Detect Refrigerant

If your leak detector is constantly alarming or not detecting refrigerant as expected, consider the following:

1. **High Refrigerant Concentration in Environment:** The ambient refrigerant concentration might be too high, leading to false alarms. Try moving to a clean air environment and resetting the device.
2. **Sensor Issues:** The sensor may be faulty or at the end of its lifespan. Consider replacing the heated diode sensor as shown in the maintenance section.

The following video provides guidance on self-checking your leak detector for these issues:

Video: This video explains common reasons why the leak detector might alarm continuously or not detect refrigerant, and suggests self-check methods including using the reset button and considering sensor replacement.

If problems persist after performing these checks, please contact Elitech customer support with photos and videos of the issue for further assistance.

Specifications

Attribute	Value
Brand	Elitech
Model	LD-100+
Power Source	Battery Powered (3 x AA Lithium Metal batteries included)
Item Weight	12.32 ounces
Product Dimensions	2.3 x 2.1 x 10.1 inches
Alarm Type	Audible
Operating Humidity	80 percent
Upper Temperature Rating	52 Degrees Celsius
Sensor Type	Heated diode
Max Sensitivity	0.11 oz/yr (3g/yr)
Response Time	≤3s
Preheating Time	30s
Reset Time	10s
Battery Life	~7 hours
Working Temperature	0°C ~ 50°C

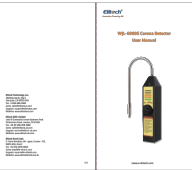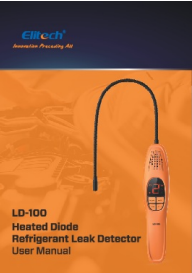## Warranty and Support

Warranty Information

The Elitech LD-100+ Refrigerant Leak Detector comes with a manufacturer's warranty for 365 days from the date of purchase. Please retain your proof of purchase for warranty claims.
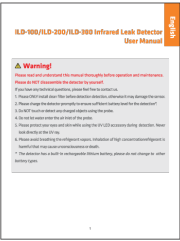
Customer Support

For technical assistance, troubleshooting, or any product-related inquiries, Elitech offers 24/7 US Technician Support via email and phone. Please refer to the contact information provided with your product or on the official Elitech website.

Related Documents - LD-100+

	[Elitech WJL-6000S Corona Detector User Manual](#) User manual for the Elitech WJL-6000S Corona Detector, providing detailed instructions on operation, detection, troubleshooting, and maintenance for refrigerant leak detection in various systems.
	[Elitech ILD Series Infrared Refrigerant Leak Detector User Manual](#) Comprehensive user manual for the Elitech ILD series infrared refrigerant leak detectors (ILD-100, ILD-200, ILD-300), covering specifications, operation, maintenance, and features. Learn how to effectively detect refrigerant leaks with this advanced device.
	[Elitech LD-100 Heated Diode Refrigerant Leak Detector User Manual](#) User manual for the Elitech LD-100 Heated Diode Refrigerant Leak Detector, detailing its features, operation, and maintenance.
	[Elitech IR-200 Infrared & Heated Diode Leak Detector User Manual](#) Comprehensive user manual for the Elitech IR-200, a dual-sensor leak detector featuring infrared and heated diode technology. Learn about its specifications, operation, maintenance, and features for detecting refrigerant leaks.

[Elitech ILD-100/ILD-200/ILD-300 Infrared Leak Detector User Manual](#)

User manual for the Elitech ILD series infrared refrigerant leak detectors (ILD-100, ILD-200, ILD-300). Provides detailed information on operation, specifications, features, and maintenance for accurate refrigerant leak detection.

[Elitech MS-100 Digital Manifold: User Manual and Specifications](#)

Comprehensive guide to the Elitech MS-100 digital manifold, covering its features, technical specifications, operation, safety instructions, and troubleshooting. Learn how to use the device for pressure and temperature measurements, leak tests, vacuum processes, and data logging with the Elitech Tools app.