TRADE PRO

TP-LD
Refrigerant Leak Detector
User Manual

OVERVIEW

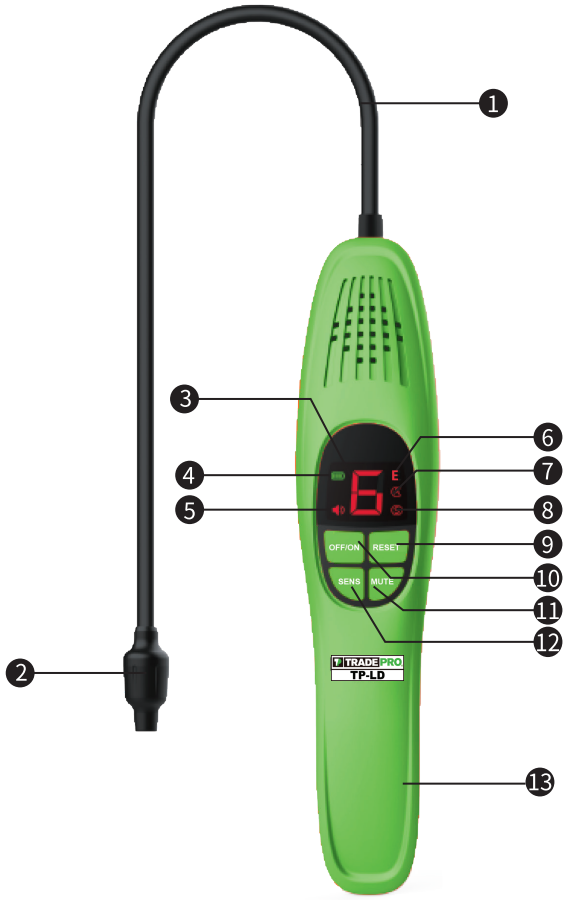
The TP-LD Heated Diode Leak Detector offers greater sensitivity and fast response speeds through the use of highly sensitive semi-conductive sensor combined with a sophisticated microprocessor-controlled circuits. In addition to the performance and functional advantages, it offers an ergonomic shape for ease of use and comfort.

WARNING: It is important to read the entire instruction manual carefully in order to gain a complete understanding of the tool's features, limitations and specifications before use. Trade-Pro products are designed and manufactured to be used by trained and licensed HVAC/R technicians. Incorrect application could result in accidents, injuries or death.

Safety Precautions:

To prevent personal injury, please read the operating manual carefully and operate only as instructed by following the guidelines listed in this user manual.

1. Wear safety glasses, gloves and all other recommended safety gear when working with refrigerants. Contact with refrigerants may cause injury. Please see any warnings associated with refrigerants.
2. Avoid the inhalation of refrigerant. High concentrations of refrigerants are harmful to humans and can cause serious injury.
3. Do not allow probe to come in contact with electrically charged objects or high voltage.
4. Do not allow any liquids to enter the probe tip; doing so will damage the unit.
5. Before each use, make sure the probe tip is clean.



1. Flexible Probe
2. Sensor
3. Display Screen
4. Battery Level Icon
5. Audio Mute Indicator
6. Alarm Icon
7. Auto Reset Icon
8. Sensitivity Icon
9. Auto Reset Button
10. On/Off Button
11. Mute Button
12. Sensitivity Button
13. Battery Base

TECHNICAL SPECIFICATIONS

Sensor Type:	Semi-Conductive Sensor (Heated Diode)
Sensor Life:	5 Years (Typical)
Maximum Sensitivity:	4 grams / year
Response Time:	≈ 3 Seconds
Warm-Up Time:	≈ 30 Seconds
Operating Environment:	32°F (0°C) to 104°F (40°C) at 75% RH (Non-Condensing)
Display Method:	LED Display
Notification Mode:	LED Display & Audio
Battery:	3 x 1.5V AA
Battery Saver:	Auto shut down after 30 minutes of inactivity
Working Time:	≈ 6 Hours
Certifications:	SAE J1627, SAE J2791, SAE J2913, EN14624:2012 It will detect to all halogenated (including Chlorine and Fluorine) refrigerants. This includes, but is not limited to: CFC's: R12, R11, R500, R503
Refrigerants Detected:	HCFC's: R22, R123, R124, R502 HFC's: R134a, R404a, R410a, R407C, R32 HC's: R600a, R290 HFO's: R1234YF
Weight:	14 oz.
Size:	27.10" x 2.25" x 2.25"

BATTERY VOLTAGE INDICATOR

The Battery Voltage Indicator allows the user to see the battery level. If the indicator is off, the batteries are in full power; If the indicator is on, the batteries have enough voltage for operation; If the indicator is flashing rapidly, replace the batteries.

SENSITIVITY ADJUSTMENT

Note: After warming up the leak detector, press the sensitivity button to adjust the sensitivity.

Sensitivity Icon	Sensitivity Grade
Red	High
Orange	Medium
Green	Low

AUDIBLE / VISUAL ALARMS – MUTE FEATURE

The unit features two notification indications – an internal speaker audible alarm and LED screen data visual alarm. When a leak is detected the LED screen displays the leakage level. When the device is powered ON, the audible indication is deactivated by default. The audible alarm may be enabled by pressing the MUTE button, allowing the audible as well as visual indication. Press the MUTE button again to disable the audible alarm.

Alarm Code	Alarm Reason
1^E	Probe power failure
2^E	Probe missing or faulty
3^E	Fan shutdown

Note: 1) The warm-up failure of the probe is detected, and it needs professional technicians to repair it.
2) After the problem of the probe missing or failure is solved, the detector needs to be re-warmed up.
3) When there are more than one faults simultaneously, the fault priority is $1^E>2^E>3^E$.

AUTOMATIC CIRCUIT/RESET FEATURE

Upon initial power-on and completion of the warm-up, the unit automatically sets itself (automatic circuit) to ignore the level of refrigerant present at the tip. Only a reading greater than this level will cause a notification.

NOTE: Since this feature causes the unit to ignore any refrigerant present at the sensor tip after warm-up is complete, the unit should be powered on and allowed to warm up in fresh air, to achieve maximum sensitivity.

RESET FEATURE

Resetting the unit during operation performs a similar function; it programs the circuit to ignore the level of refrigerant present at the tip. Each time the RESET button is pressed, as you move closer to the leak, the unit sets its threshold for detection to a level above the current concentration being detected. By moving closer to a large leak and pressing RESET each time a full detection is indicated, the user can pinpoint the source of the leakage. Similarly, the unit can be moved to fresh air and reset for maximum sensitivity. Resetting the unit with no refrigerant present (fresh air) causes any level above zero to be detected. Each time the RESET button is pressed, the LED displays “8” for about five (5) seconds to provide a visual confirmation of the reset action.

OPERATING INSTRUCTIONS

Keep the device away from moisture and high voltages.
To detect leakage in a system, the system must operate at a minimum of 50 PSI. Environmental temperatures lower than 59°F (15°C) may further reduce a system’s operating pressure, causing a leak to become more difficult to detect. In such cases, “No Leak” may be falsely indicated, requiring an alternate diagnostic means.

1. Turn on the unit by pressing and holding for 2 seconds then release ON/OFF button.

2. The unit warms up and calibrates for approximately 30 seconds, during which the middle LED will flash “-”, and “gas flow indicator”, “and warm-up”, indicators will be on. Keep the TP-LD away from any areas of potential refrigerant leakage until the warm-up and calibration period is over to achieve maximum sensitivity.

3. After warm-up, it displays a blinking “0” and the device is ready for use. Press MUTE button to enable audible indication if desired, and the device will emit a stable beeping.

OPERATING INSTRUCTIONS (CONT.)

4. Set the sensitivity level by pressing the SENS button according to user's demand, as described in the Sensitivity Adjustment Section.

5. Begin searching for refrigerant. Move the probe tip toward the suspected leak. The flexible probe may be shaped to provide access to hard-to-reach areas. The tip of the probe may need to be within 1/4 in. (0.64 cm) of a small leak to detect it.

NOTE: If the device has previously been used, make sure that the probe tip is not obstructed with dirt, grease, etc.

6. If refrigerant is detected, the device will begin to notify – the audible tone will quicken and it displays number of leakage level. As the concentration of the leak increases, the audible tone will increase in cadence and the number on the display will begin to increase. Leaking areas are usually covered with contaminants such as compressor oil or dirt. Be careful not to contact such contaminants with the probe tip.

7. If notification occurs before the leak source is pinpointed, the RESET button may be used to pinpoint the leak, as described in the Automatic Circuit/Reset Feature section, page 7. The unit may be reset as many times as necessary to pinpoint the leak source. It is suggested to wait for about five (5) seconds to detect the leakage after pressing RESET. Likewise, in areas where the atmosphere is contaminated with refrigerant, press reset key to "ignore" the leakage in the background. Make sure not move the sensor tip away from the contaminated background while resetting the detector.

BATTERY INSTALLATION

Hold the device tightly with two hands. Press the battery cover, drag outward and remove it. Install the batteries into to the compartment and close the cover. Note the proper battery orientation (polarity) of the batteries during installation.

CLEANING PROBE TIP

Warning: Turn off device before cleaning the sensor.
Warning: The sensor may be hot after use. Please wait until sensor is the same as the environmental temperature.

Keep the sensor tip clean: Remove probe tip by unscrewing it. Use cotton cloth or dry air to clean the shield on the sensor tip if it gets contaminated. If the probe tip itself is contaminated, soak the tip in absolute alcohol for a few minutes, and then use compressed air to blow it dry, or dry it with a clean cloth.

NOTE: Never use strong solvents such as gasoline, mineral oil, or turpentine, as these solvents may coat the sensor with a thin film and reduce the sensitivity of the detector. DO NOT clean sensor!

STORAGE

Store the detector and the sensor in a dry (less than 80% RH) and clean location. Remove the batteries if the detector is not used for more than a month.

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