

# Draft Leak Detector Instructions

## INTRODUCTION

The TLD100 Thermal Leak Detector uses an infrared sensor to find leaks along walls, molding, ductwork and more. The auto color change feature provides quick, intuitive feedback, showing you where to caulk, insulate, etc. Once you have determined the location of these leaks, you can use the bonus booklet "5 Basic Steps to Seal Your Home". This booklet covers basic weather stripping and insulating tips.

### Safety Instructions

- Do not operate the Thermal Leak Detector in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.
- Use only with the specifically designated batteries (9V alkaline). Use of any other batteries may create a risk of fire.
- The Thermal Leak Detector measures surface temperature, not interior temperature. Do not use for medical purposes.
- Do not use to determine if meat is cooked enough to eat.

### Liquid Crystal Display (First Aid Measures)

- If liquid crystal comes in contact with your skin: Wash area off completely with plenty of water. Remove contaminated clothing.
- If liquid crystal gets into your eye: Flush the affected eye with clean water and then seek medical attention.
- If liquid crystal is swallowed: Flush your mouth thoroughly with water. Drink large quantities of water and induce vomiting. Then seek medical attention.

### Battery Warnings and Cautions

**WARNING:** Batteries can explode, or leak and can cause injury or fire. To reduce this risk:

- Carefully follow all instructions and warnings on the battery label and package.
- Always insert battery correctly with regard to polarity (+ and -), marked on the battery and the equipment.
- Do not short battery terminals.
- Do not charge batteries.
- Remove dead battery immediately and dispose of per local codes.
- Do not dispose of batteries in fire.
- Keep batteries out of reach of children.
- Remove battery if the device will not be used for several months.

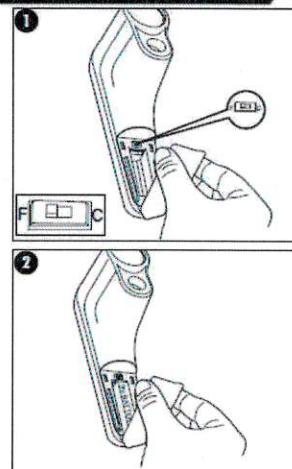
Transporting batteries can possibly cause fires if the battery terminals inadvertently come in contact with conductive materials such as keys, coins, hand tools and the like. The US Department of Transportation Hazardous Material Regulations (HMR) prohibits transporting batteries in commerce or on airplanes (i.e. packed in suitcases and carryon luggage) UNLESS they are properly protected from short circuits. So when transporting individual batteries, make sure that the battery terminals are protected and well insulated from materials that could contact them and cause a short circuit.

## ASSEMBLY/SET-UP

### Changing the Temperature Display and Installing the Battery

Note: The Thermal Leak Detector requires one 9V alkaline battery, not included.

- Open the battery compartment cover by pressing the tabs of the cover in towards the center and pulling the cover out.
- The factory setting for the temperature display is Fahrenheit (switch on left side "F" setting). If you would like the LCD screen to display the temperature in Centigrade, slide the switch shown in figure 1 to the right ("C" setting).
- Insert a fresh 9 volt battery (figure 2) making sure to match (+) and (-) terminals.
- Replace the battery compartment cover.



## OPERATION

### Switching On and Off

- Press the ON/OFF button to turn the unit on.
- Press the ON/OFF button a second time to turn the unit off.

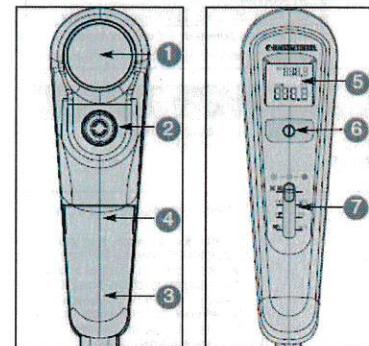
NOTE: The unit will automatically turn off after 10 minutes.

### Setting Threshold for Color Change:

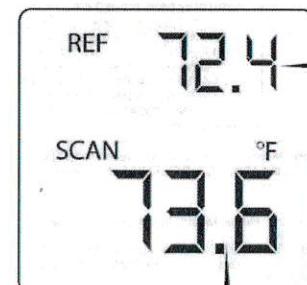
- For detecting small temperature changes of 1° F (0.5° C), move the slider to the 1° mark on the back of the detector. (figure 3)
- For detecting medium temperature changes of 5° F (3° C), move the slider to the 5° mark on the back of the Detector. (figure 4)
- For detecting large temperature changes of more than 10° F (5.5° C), move the slider to the 10° mark on the back of the Detector. (figure 5)
- If you do not want the LED spot to change color, move the slider to the top position where the color spots are X-ed out. (figure 6)

You can change the threshold setting while you are scanning. If the color is changing erratically, try increasing the threshold. If you see a temperature difference on the screen, but the light is not changing color, try reducing the threshold.

## FEATURES



- LED Spot Projector
- Infrared Sensor
- Battery Compartment
- Fahrenheit/Centigrade Switch (inside battery compartment)
- LCD Screen
- ON/OFF Button
- Threshold Setting



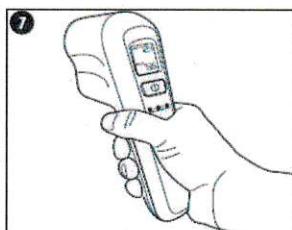
**Reference Temperature**  
Shows the temperature of the area where the instrument was initially pointed when you turned on the power. To reset the reference, turn the power off, aim at a new reference spot, and turn the power back on.

**The Thermal Leak Detector compares these two temperatures. When the difference exceeds the threshold you've set, the projected LED spot will change to red or blue.**

**Scan Temperature**  
Shows the average temperature across the area you're aiming at.

### Using the Thermal Leak Detector

- Hold the unit as shown in figure 7 and aim near the location you want to scan for a draft or thermal leak. This initial aim point will be your reference target.
- Turn on the power.
- Keep the unit aimed at the reference target until the green light shines on the target and a Reference Temperature appears on the screen.
- Slowly scan the Thermal Leak Detector across the area of interest. If the scanned temperature is hotter than the reference temperature by more than the threshold, the light will turn from green to red. If the scanned temperature is colder than the reference temperature by more than the threshold, the light will turn from green to blue.



### Examples of Use:

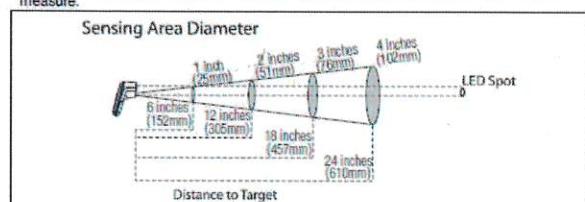
- Scan around a light fixture to determine if ceiling insulation was removed during installation.
- Scan along window and door sills to see where to add weather-stripping.
- Scan where a wall and the floor meet to find drafts that should be caulked.
- Scan an attic door to see if you need to add insulation.

### NOTES:

- Shiny or polished surfaces can give inaccurate readings. To compensate for this, cover the surface with masking tape or flat colored paint. When the tape or paint reaches the same temperature as the target underneath, measure the temperature of the item.
- The thermometer cannot measure through transparent surfaces such as glass or plastic. It will measure the surface temperature instead.
- Steam, dust, smoke, and other optical obstructions can prevent accurate measurement. Hold the thermometer back and at an angle for an accurate measurement.

### Field of View

The Thermal Leak Detector measures temperature over an area that may be larger than the LED spot, especially if you are far away from the surface you are measuring. The diameter of the measured area is 1.6 times the distance from the Detector. In other words, if you are 6 inches (152 mm) from the target, the Detector will measure the average temperature over a circle 1 inch (25mm) in diameter. As shown in the illustration below, the farther the distance from the target, the larger the measured area. If you are just looking for hot and cold areas, it's OK if the scanned area is larger than your target. However, if you want to accurately measure the temperature of an object, move the Detector close so that the scanned area is about half the size of the object you want to measure.



## OUTPUT SPECIFICATIONS

| Parameter                          | Specification  |
|------------------------------------|--|
| Functional Temperature Range       | -22°F to 302°F (-30°C to 150°C)  |
| Temperature Resolution             | 0.1°F (0.1°C)  |
| Temperature Accuracy               | ±5°F (2.8°C) at 32°F (0°C)<br>±2.5°F (1.3°C) at 73°F (23°C)<br>±4°F (2.2°C) at 212°F (100°C)<br>accuracies at a distance of 5.9 inches (150mm) |
| Response Time                      | <1 second  |
| Field of View                      | 6:1 ratio, distance to sensing diameter  |
| Threshold for LED color transition | Adjustable between 4 fixed settings:<br>(1°F, 5°F, and 10°F, and no color change)  |

## TROUBLESHOOTING

### Problem

• The display is hard to read, the LED light becomes dim, or the BAT symbol appears on the LCD screen.

### Possible Solution

• Replace battery.

• The LED spot color changes erratically.

• First, try increasing the threshold level.  
• If that doesn't work, turn the Detector off. Aim the Detector at a different reference target and turn the Detector back on. Keep the Detector aimed at the reference target until the green spot appears and the LCD screen shows a reference temperature.

• The LED spot immediately turns red or blue before I have a chance to scan the area.

• You may have moved the Detector before it had a chance to lock in the reference temperature. Turn the Detector off, aim it at the reference target, then turn it back on. Do not move the Detector until the green spot appears and the LCD screen shows a reference temperature.

For assistance with your product, visit our website [www.blackanddecker.com](http://www.blackanddecker.com) for the location of the service center nearest you or call the BLACK & DECKER help line at 1-800-544-6996.

### Maintenance

Use only mild soap and damp cloth to clean the tool. Never let any liquid get inside the tool; never immerse any part of the tool into a liquid.

**IMPORTANT:** To assure product SAFETY and RELIABILITY, repairs, maintenance and adjustment should be performed by authorized service centers or other qualified service personnel, always using identical replacement parts.

## SERVICE AND WARRANTY

### Service Information

All Black & Decker Service Centers are staffed with trained personnel to provide customers with efficient and reliable power tool service. Whether you need technical advice, repair, or genuine factory replacement parts, contact the Black & Decker location nearest you. To find your local service location, refer to the yellow pages directory under "Tools-Electric" or call: 1-800-544-6996 or visit [www.blackanddecker.com](http://www.blackanddecker.com)

### Full Two-Year Home Use Warranty

Black & Decker (U.S.) Inc. warrants this product for two years against any defects in material or workmanship. The defective product will be replaced or repaired at no charge in either of two ways.

The first, which will result in exchanges only, is to return the product to the retailer from whom it was purchased (provided that the store is a participating retailer). Returns should be made within the time period of the retailer's policy for exchanges (usually 30 to 90 days after the sale). Proof of purchase may be required. Please check with the retailer for their specific return policy regarding returns that are beyond the time set for exchanges.

The second option is to take or send the product (prepaid) to a Black & Decker owned or authorized Service Center for repair or replacement at our option. Proof of purchase may be required. To find your local service location, refer to the yellow pages directory under "Tools-Electric" or call: 1-800-544-6996 or visit [www.blackanddecker.com](http://www.blackanddecker.com)

This warranty does not apply to accessories. This warranty gives you specific legal rights and you may have other rights which vary from state to state or province to province. Should you have any questions, contact the manager of your nearest Black & Decker Service Center. This product is not intended for commercial use.

**FREE WARNING LABEL REPLACEMENT:** If your warning labels become illegible or are missing, call 1-800-544-6996 for a free replacement.



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701 E. Joppa Rd.  
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