

## 1. SAFETY RULES

- This Instrument is designed for indoor use at temperatures between 32°F to 122°F (0°C to 50°C), altitudes up to 6500 ft. (2,000 m), and 10% to 90% relative humidity.
- To ensure that the instrument is used safely, follow all safety and operating instructions in this manual. If the instrument is not used as described in this operation manual, the safety features of this device might be impaired.
- To avoid personal injuries and damage to the instrument use extreme caution when working around hot machine or engine parts, like radiators, exhaust manifolds, catalytic converters, etc.

## 2. INTERNATIONAL SYMBOLS



### Important information

Refer to the User's Manual



**CAUTION:** Laser Radiation  
AVOID DIRECT EYE EXPOSURE  
1mW Output at 630-670 nm  
Class II Laser Product

## 3. TECHNICAL SPECIFICATIONS

### 3.1 General Specifications

<b>Display:</b>	3½ digits LCD, Max. of 1999 display with measuring units, laser on and backlight indicators.
<b>Resolution:</b>	0.1 to 1 (°C or °F)
<b>Operating Temperature:</b>	32°F to 122°F (0°C to 50°C)
<b>Response time:</b>	<500 ms (approx.)
<b>Target Size/ Field of View:</b>	10:1 optics ratio with a 1" min. target
<b>Repeatability:</b>	0.5% of reading, plus one digit
<b>Emissivity:</b>	Fixed at 0.95
<b>Laser Pointer:</b>	Laser Diode, < 1mW output wavelength 630-670 nm, Class II
<b>Power Source:</b>	9-volt battery type NEDA 1604, IEC6F22 IEC 6LR61
<b>Battery life:</b>	Approx. 20 hours (w/alkaline batteries)
<b>Power Saving:</b>	Automatic shut off after 7 seconds
<b>Wavelength:</b>	7 to 14 µm
<b>Dimensions:</b>	3.13"x 1.88"x 7.0" (80 x 48 x 178 mm)
<b>Weight:</b>	7.6 oz. (215 g) including battery.
<b>Accessories:</b>	User's manual, soft pouch, and 9 V alkaline battery

### 3.2 Measurement Specifications

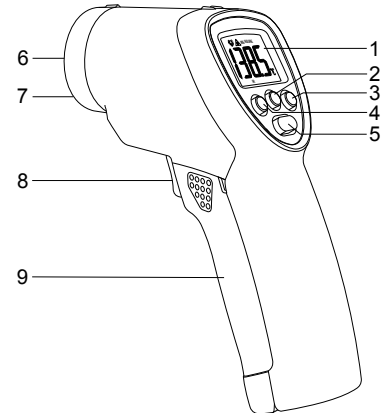
- Accuracies are ±(% of reading + number of least significant digits) at 23°C ±3°C (73°F ± 6°F) ambient temperature, with less than 75% relative humidity.

Function	Range	Accuracy (whichever is greater of)	Resolution
Temperature °C	-30°C to 0°C	± 2°C	0.1°C
	0°C to 199.9 °C	1°C or 1.5%+2 (whichever is greater)	
	200°C to 650°C	2.0% + 2	1°C
Temperature °F	-22°F to 32°F	± 4°F	0.1°F
	-32°F to 199.9 °F	2°F or 1.5%+4 (whichever is greater)	
	200°F to 1200°F	2.0% + 2	1°F

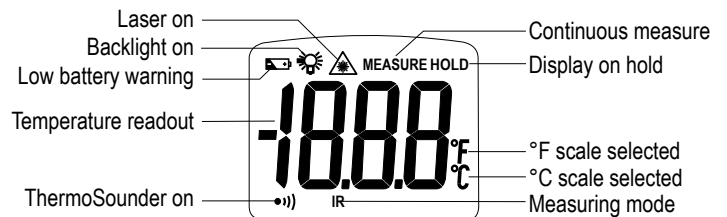
## 4. OPERATION

### 4.1 Instrument Description

- LCD Display
- Backlight ON/OFF Button
- °C/°F Select Button
- ThermoSounder Button
- LASER ON/OFF Button
- IR Sensor
- Laser pointer output
- Measurement Trigger
- Battery compartment cover



### 4.2 Display Description

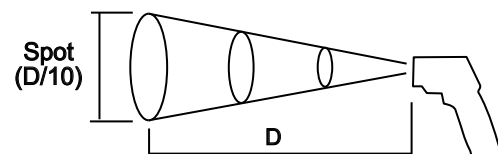


### 4.3 Measurement Procedures

#### 4.3.1 Temperature Measurement

- Hold the instrument by its handle, point the IR Sensor at the area or object to measure, and press the Measurement Trigger.
- While the Measurement Trigger is kept pressed, the instrument will continuously measure and update the display with the temperature of the object pointed at with the IR Sensor.
- After the Measurement Trigger is released the instrument will hold the last temperature reading for 7 seconds, then shut off automatically.

#### 4.3.2 Field of view or measurement target area



- To ensure accurate temperature measurements, make sure that the target object is larger than the unit spot size, at the measuring distance.
- The smaller the target, the closer you should be.
- For maximum accuracy, make sure that the target area is at least twice as large as the spot size.

### 4.3.3 Selecting Temperature Units (°C/°F).

- Make sure the instrument is turned ON, if not press the Measurement Trigger.
- Pressing the “°C /°F” button will switch between Celsius and Fahrenheit Degrees as the temperature measurement units.
- The temperature reading and selected measurement units will be displayed on the LCD.

## 4.4 ThermoSounder

### 4.4.1 Introduction

The ThermoSounder is a feature of your LTX12 that facilitates finding temperature variations or differentials (e.g. cold and hot spots) quickly and easily by providing a sound that varies proportionally to temperature differences.

### 4.4.2 Activating the ThermoSounder function

- Make sure the instrument is turned ON, if not press the Measurement Trigger.
- Pressing the “•••” button will turn on and off the ThermoSounder function.
- The ThermoSounder indicator will display on the LCD when activated.

### 4.4.3 Using the ThermoSounder function

- Activate the ThermoSounder function as described in 4.4.2.
- Point at the area or object whose temperature you want to use as reference and press the Measurement Trigger.
- The LTX12 will use the reference temperature to generate a ‘reference’ beeping.
- Higher temperatures (than the reference) will be indicated by a faster pace of beeping, the more the difference the faster the pace of the beeping (*i.e.* pace is proportional to the temperature difference).
- Lower temperatures (than the reference) will be indicated by a slower pace of beeping, the more the difference the lower the pace of beeping (*i.e.* pace is proportional to the temperature difference).
- The reference temperature for the ThermoSounder will be maintained as long the Measurement Trigger is pressed.
- To choose a new reference temperature release the Measurement Trigger, then point at the area or object with the new temperature you want to use as reference and press the Measurement Trigger.

## 4.5 Other Functions

### 4.5.1 Display Hold

- The instrument will automatically hold the last temperature reading after the Measurement Trigger has been released for approximately 7 seconds.

### 4.5.2 Display Backlight

- Make sure the instrument is turned ON, if it is not, press the Measurement Trigger.
- Pressing the Backlight ON/OFF Button, will turn the display backlight ON or OFF.
- When the backlight is not needed, turn it off to prolong battery life.

### 4.5.3 Laser Pointer



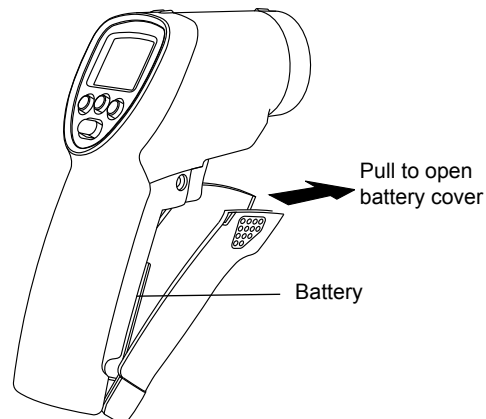
**CAUTION: Laser Radiation is emitted**  
**Avoid direct eye contact**

- To turn the laser sight ON or OFF, press the “LASER” button, when the unit is ON. The laser sight indicator will appear on the display when the laser sight function is ON.

## 5. MAINTENANCE

### 5.1 Battery Replacement

- When the battery is low and needs to be replaced, the “Low Battery Warning” symbol will appear on the lower left hand side of the display.



- To replace the battery, open the battery compartment cover (located at the front of the handle) by pulling on the finger indents near the trigger, and remove the battery.
- Replace with a new 9 V alkaline battery type NEDA 1604 or IEC6F22 observing the proper polarity when connecting to the battery terminals.
- Close the battery cover.

### 5.2 Cleaning

#### 5.2.1 Lens cleaning

Debris or dirt on the lens may cause obstruction and reduce the accuracy of the thermometer. If this occurs, either wipe the lens with a Q-tip (moistened with water only) or blow the loose particles off with clean compressed air. Do not use solvent on the lenses, as it may damage the instrument.

#### 5.2.2 Exterior cleaning

Periodically wipe the case with a soft damp cloth and mild household cleanser. Do not use abrasives or solvents. Ensure that no water gets inside the instrument to prevent possible short circuits and damage.

## 6. WARRANTY

One year limited warranty, excluding batteries and fuses. For details see Standard Warranty Information on our web page or you may request a printed copy.

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