

# Wahl

WAHL INSTRUMENTS, INC.

## **Digital Infrared Thermometer**

### ***DHS115XL***



### **Instruction Manual**

CE



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# 1. Introduction

Thank you for purchasing the Wahl model DHS115XL, non-contact infrared thermometer. To measure a temperature, simply point the unit at the object, pull the trigger and read the display. Releasing the trigger will put the unit into hold mode, which will display the captured reading for approximately six seconds and then power off. Make sure the target area is larger than the unit's spot size. For large target objects assure you are within target distance.

## 1-1 Features

DHS115XL features ease of operation and high performance.

- Fixed emissivity at 0.95.
- Ultra low power consumption in shutdown mode.
- Extended long time measuring reliability.
- User selectable laser sighting.
- Backlit Liquid Crystal Display (LCD).
- °C or °F selectable.

## 1-2 Applications

- Electrical troubleshooting.
- Automotive & transportation repair and maintenance.
- HVAC repair and audits.
- Science experiments.
- Manufacturing processes.
- Plant / Facility maintenance.
- Food safety and processing.

## 2.Safety Information


### 2-1 Warning

- 2-1.1 Do not point laser directly at eye.  
Use caution around reflective surfaces.  
Keep out of reach of children.

### 2-2 Cautions

- 2-2.1 DO NOT submerge the instrument in water.  
2-2.2 This product is not designed for use in medical evaluations.  
This product is intended for use in industrial, scientific and educational purposes only.

### 2-3 Safety symbols

- 2-3.1  Dangerous, refer to this manual before using the meter.

- 2-3.2  CE Certification.

- 2-3.3 This instrument conforms to the following standards:

**EN50081-1: 1992 Electromagnetic Emissions.**

**EN50082-1: Electromagnetic Susceptibility.**

Tests were conducted using a frequency range of 80-1000MHz with the instrument in three orientations. The average error for the three orientations is  $\pm 2.0^{\circ}\text{C}$  ( $\pm 4.0^{\circ}\text{F}$ ) at 3V/m throughout the spectrum. However, between 300-800MHz at 3V/m, the instrument may not meet its stated accuracy.

### 3.Specifications

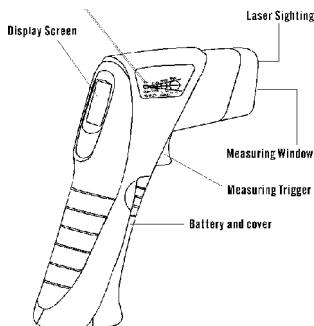
Items	DHS115XL
Temperature Range	-25~999°F (-32~535°C)
Accuracy	$\pm 54^{\circ}\text{F}(\pm 3^{\circ}\text{C})$ From -25~-4°F (-32~-20°C) $\pm 3^{\circ}\text{F}(\pm 2^{\circ}\text{C})$ From -4~212°F (-20~100°C) $\pm 2\%$ From 212~999°F (100~535°C)
Spectral Range	5~14 $\mu\text{m}$
Repeatability	$\pm 2^{\circ}\text{F}(1^{\circ}\text{C})$
Resolution	0.1°F (0.1°C)
Response Time	500 ms.
Emissivity	Fixed
Distance/Spot Ratio	12:1
Battery Type / Life	9V (NEDA1604, IEC6F22, 006P) / approx. 15 hours w/o laser
Operating Temp.	32~122°F (0~50°C), 10~90%RH
Storage Temp.	14~140°F (-10~60°C)
°C/°F Switchable	YES
Auto Power Off	Automatically after approx 6sec.
Backlight	YES
Laser Sight Switchable	YES
Max/Min/Avg	
10 Point Memory	
Audio Alarm	YES
Trigger Lock	YES
Size	6.8×3.6×1.8 inch (173×93×45mm )
Weight	7.8 oz. (220g) w/battery

## 4. Operation Instructions

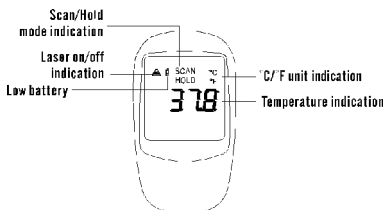
### 4-1 Quick Start

To measure a temperature, point the unit at the target you want to measure, pull the trigger and hold. Be sure to consider the target area inside the angle of vision of this instrument. The laser spot is used for aiming purposes only.

### 4-2 Instrument Diagram

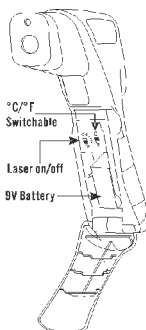


## LCD & Control Panel




## 4-3 Displays and Controls

**4-3.1** Modes of Operation - In **SCAN** mode, the instrument displays the current temperature, in Celsius or Fahrenheit, on the Liquid Crystal Display. When the trigger is released the unit will switch to **HOLD** mode and display the last reading for approximately 6 seconds.



**4-4.2** °C/°F Switch - The °C/°F switch is located in the battery compartment located in the handle of the instrument.

 **4-4.3** Laser On/Off Switch - The Laser On/Off Switch is located in the battery compartment located in the handle of the instrument.

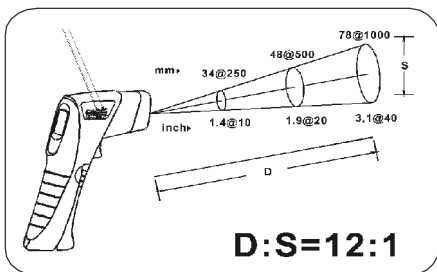
**4-4.4** Battery - Battery is located in the battery compartment located in the handle of the instrument. It is suggested to replace the battery upon indication of the low battery symbol on the LCD.



## 5. Technical Information

### 5-1 Distance to Spot Ratio

The D:S Ratio is the ratio of the distance from the target to the target diameter. This is determined by the optics of the unit. The smaller the target, the closer you should be to it. For an accurate measurement, the target must completely fill the spot. Failure to fill the spot will result in an inaccurate measurement, due to the averaging of the target with the surrounding areas.



### 5-2 Emissivity

Emissivity is the ability of an object to emit or absorb energy. Perfect emitters have an emissivity of 1.00, absorbing 100% of incident energy. An object with an emissivity of 0.80 will absorb 80% and reflect 20% of the incident energy. Emissivity is defined as the ratio of the energy radiated by an object at a given temperature to the energy emitted by a perfect radiator at the same temperature. All values of emissivity fall between 0.00 and 1.00.

A fixed emissivity is a good value for many ordinary applications such as Automotive and machine maintenance, HVAC and science experimentation.

## **6.Maintenance**

- 6-1** Lens - Clean the lens by blowing off loose particles using clean compressed air. Gently brush remaining debris away with a camelhair brush. Use a cotton swab moistened with distilled water to carefully wipe the lens surface.

**NOTE:**

DO NOT use solvents to clean the lens.

- 6-2** Housing - Clean by wiping with a damp soft cloth. Mild detergent may be used as needed.





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