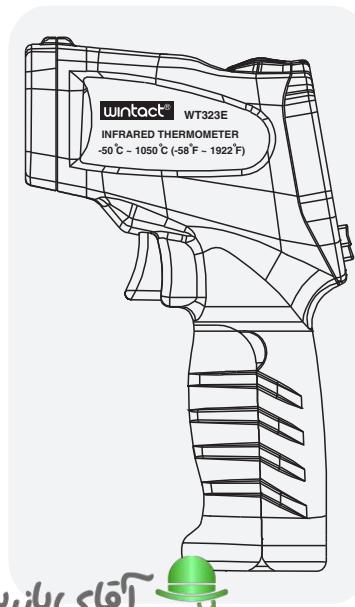
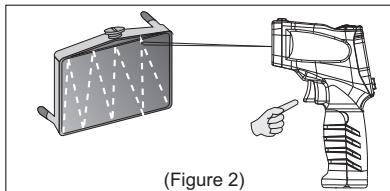


## Infrared thermometer Instruction manual



Version: WT323E-EN-00

-1-



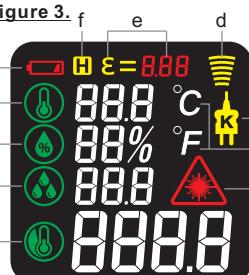
(Figure 2)

### F. LCD display & buttons

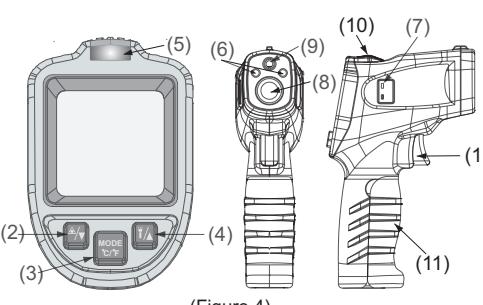
1. **LCD: as shown in Figure 3.**

a. Turning on state indicator of laser positioning  
b. Temperature measurement units  
c. K-type thermocouple  
d. Data reading indicator  
e. Emissivity  
f. Data holding indicator  
g. Low power indicator  
h. Ambient temperature value  
i. Ambient humidity value  
j. Dew point temperature value  
k. Surface temperature value (infrared temperature measurement)

(Figure 3)



### 2. Names and functions of parts: as shown in Figure 4.



(Figure 4)

-4-

### A. Introduction

This infrared thermometer is used for measuring the temperature of the object's surface, which is applicable for various hot, hazardous or hard-to-reach objects without contact safely and quickly.

This unit consist of Optics, Temperature Sensor Signal amplifier, Processing circuit and LCD Display. The Optics collected the infrared energy emitted by object and focus onto the Sensor. Then the sensor translates the energy into an electricity signal. This signal will be turned out to be digital shown on the LCD after the signal amplifier and processing circuit.

### B. WARNING & CAUTIONS

#### 1. Warning:

To avoid the potential situation may cause harm or damage to people, please pay attention to the following items:

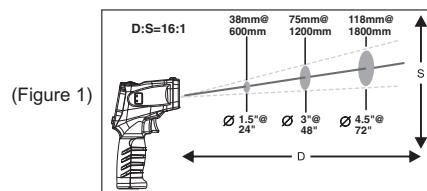
- 1) Do not point laser directly at eye or indirectly off reflective surfaces.
- 2) The unit cannot measure through transparent surfaces such as glass or plastic. It will measure the surface temperature of these materials instead.
- 3) Steam, dust, smoke, or other particles can prevent accurate measurement by obstructing by the units optics.

#### 2. Cautions:

Infrared thermometer should be protected for the following:

- 1) EMF (electro-magnetic fields) from arc welders, induction heaters.
- 2) Thermal shock (cause by large or abrupt ambient temperature changes allow 30 minutes for unit to stabilize before use).
- 3) Do not leave the unit on or near objects of high temperature.

### C. Distance to spot size



1. When take measurement, pay attention to the Distance to Spot Size. As the Distance (D) from the target surface increases, the spot size (S) of the area measured by the unit becomes larger.

The Distance to Spot size of the unit is 16:1.(Figure 1)

-2-

### 2. Field of view:

Make sure the target is larger than the unit's spot size. The smaller the target the closer measure distance. When accuracy is critical, make sure the target is at least twice as large as the spot size.

### D. EMISSIVITY

Emissivity: Most organic materials and painted or oxidized surfaces have an emissivity of 0.95(preset in the unit). Inaccurate readings will result from measuring shiny or polished metal surfaces. To compensate for this, adjust the units emissivity reading or cover the surface to be measured with masking tape or flat black paint.

Measure the tape or painted surface when the tape or painted reach the same temperature as the material underneath.

Material	Emissivity	Material	Emissivity
Aluminum	0.30	Iron	0.70
Asbestos	0.95	Lead	0.50
Asphalt	0.95	Limestone	0.98
Basalt	0.70	Oil	0.94
Brass	0.50	Paint	0.93
Brick	0.90	Paper	0.95
Carbon	0.85	Plastic	0.95
Ceramic	0.95	Rubber	0.95
Concrete	0.95	Sand	0.90
Copper	0.95	Skin	0.98
Dirt	0.94	Snow	0.90
Frozen food	0.90	Steel	0.80
Hot food	0.93	Textiles	0.94
Glass(plate)	0.85	Water	0.93
Ice	0.98	Wood	0.94

### E. Operation

#### 1. Operating the unit:

- 1). Open battery door and load two 1.5V AAA batteries.
- 2). Pull the trigger to turn on the unit.
- 3). Aim at the target surface and pull the trigger, then temperature will be shown on the LCD.

This unit is equipped with a laser, which is only used for aiming.

#### 2. Locating a Hot Spot:

To find a hot spot, aim the thermometer outside of interest, then scan across with an up and down motion until you locate the hot spot. (Figure 2).

-3-

### G. Maintenance

#### 1. Lens Cleaning:

Blow off loose particles using clean compressed air. Gently brush remaining debris away with a moist cotton swab. The swab may be moistened with water.

#### 2. Case cleaning:

Clean the case with a damp sponge/cloth and mild soap.

Note:

- 1) Do not use solvent to clean plastic lens.
- 2) Do not submerge the unit in water.

### H. Specification

LCD	Colorful LCD
Temperature measurement range	-50°C~1050°C (-58°F~1922°F)
Temperature display accuracy	0.1°C
Temperature measurement error	-50°C~0°C (-58°F~32°F): ±3°C (±5°F) 0°C~1050°C (32°F~1922°F): ±1.5% rdg or ±1.5°C (±2.7°F) Take the bigger value
K-type thermocouple measurement range	-40°C~500°C (-40°F~932°F)
Repeatability	1% rdg or 1°C Take the bigger value
Reponse time	0.5s, 95% Response
Emissivity	0.10~1.00 Adjustable(preset as 0.95)
D:S	16:1
Response wavelength	8um~14 um
Laser	Ring light spot
Flashlight	UV light
Ambient temperature measurement range	-20°C~60°C (-4°F~140°F)
Ambient temperature measurement accuracy	±1°C (2°F)
Relative humidity measurement accuracy	±5% RH
Dew point temperature measurement	-10°C~50°C (14°F~122°F): ±1.5°C/3°F
Operating Temperature	0°C~40°C (32°F~104°F)
Operating Humidity	10% RH~90% RH non-condensable
Storage Temperature	-10°C~60°C (14°F~140°F)
Batteries	1.5V AAA battery*2(No.7 battery)
Low power indicator	Low power indicator for power below 2.4V
Overload indicator	"Hi"/"Lo" displayed on LCD
Weight/dimensions	202g(including batteries)/108*49*177 mm

#### Specifications of K-type thermocouple

Measurement range	0°C~250°C (300°C for short time)
Measurement error	±2.5°C or 0.75% rdg Take the bigger value

Specific Declarations:  
Our company shall hold no any responsibility resulting from using output from this product as an direct or indirect evidence.  
We reserves the right to modify product design and specification without notice.

-6-



-5-