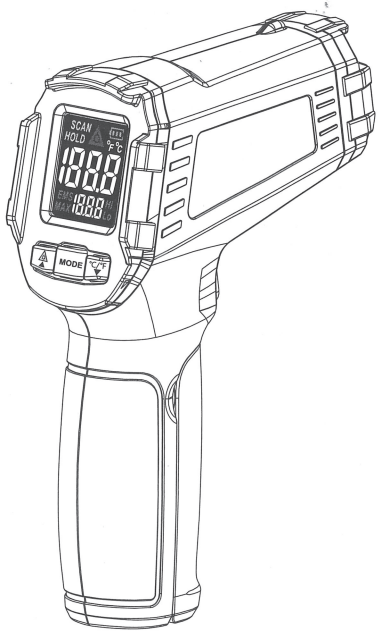
KTA

NON CONTACT INFRARED TEMPERATURE PROBE USER MANUAL



PRODUCT SPECIFICATION

Measure temperature range	−50℃～490℃ (−58℉～914℉)
Accuracy	-50 °C(-58 °F) ~0 °C (32°F) +/-2 °C 0 °C(32 °F) ~100 °C(212 °F) +/-1.5 °C >100 °C, +/-2 °C (assume the environment temperature: 23 °C +/-2 °C)
Distance to spot ratio (D/S ratio)	12:1
Emissivity	0.1 to 1.00 adjustable (pre-set 0.99)
Spectral response & Response time	(8-14) um&500ms
Repeatability	±1%or±1℃
High low temperature alarm function	Yes
°C/ °F unit selection	Yes
Data Hold function	Yes
Laser Pointer	Yes
Auto power off	Yes
Power supply	2 X 1.5 V AAA battery

Application Field

a) Steel industry: Use IR temperature probe can easy and safety measure the surface temperature of furnace and the effectiveness of the furnace.
b) Glass industry: Use IR temperature probe measure the temperature of glass can sure the consistency of temperature edge to edge.
c) Plastic industry: for blister film pressing progress, precise and on time temperature measure can make sure anti-tension force, consistency of thickness , Lamination and Embossing of blister film.
d) Heating ventilation and cooling system: Scan room temperature, check the duct temperature , measure furnace temperature and evaluate the performance of furnace.
e) Super market, Food industry, Grain processing, food processing, Aquatic product processing, Alcoholic beverage processing industry, Inspection and quarantine department etc.

1. Introduction

This is a well design unit, tighten construction anti-interference and easy to use – Only need to focus and point the measure object, then press the button, within a second you can get the surface temperature of the measured object. Good for temperature measure for object hard to reach, toxic or high temperature object, use this unit you can safety make the measure.

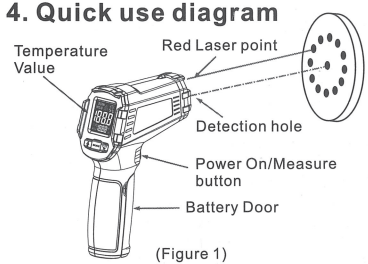
2. Operation theory

Infrared temperature probe measurement is use thermopile sensor to receive the radiation infrared signal of the object, then the sensor got the signal through the optical system to focus on the measured object, then convert the received electronic signal to measure the wave length, then convert to electric signal through the LCD display showed the temperature to the end user.

3. Feature list

a) Precise laser pointer
b) Emissivity adjustment
c) Low battery indication
d) °C/ °F unit conversion
e) Data holing
f) Auto power off
g) Maximum temperature holding
h) High temperature alarm
I) Low temperature alarm

4. Quick use diagram

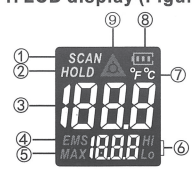


(Figure 1)

Attention:

1. Red laser point only position the general direction, the detection hole is the main parts, under the laser pointer, measure the temperature.
2. .Location a hot spot: to find a hot spot aim the thermometer outside the area of interest, then scan across with up and down motions until you locate the hot spot. (Please turn on the laser for accurate measuring)

1. LCD display (Figure. 2)



(Figure 2)

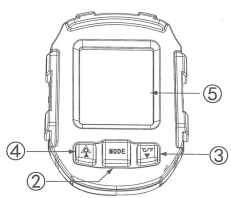
1. Scan icon
2. Data hold icon
3. Temperature measure reading
4. EMS icon
5. Maximum Temperature hold
6. High/Low temperature alarm icon
7. Temperature unit (°C/°F)
8. Battery power indication icon
9. Laser on icon

2. Diagram description

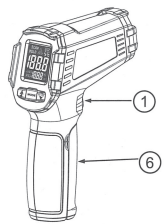
1) Power On/Measure button: When activate this button, turn on the power and LCD display VER XX software version for 1 second, and turn to display reading with SCAN icon. Release the button, display measured reading with hold icon, if no any key in auto power off in 20 seconds.
2) MODE button: Press **Mode** key, bottom left hand side of the LCD screen shown **EMS→MAX →Hi → LO** in sequential, depress **Power On/Measure** key to confirm the selection.

a. EMS: Emissivity setup –At the EMS mode, depress "▲/▼" key to set emissivity value between 0.1~1.0, depress "▲/▼" key more than 2 second can increase /reduce the EMS value in fast way.
b. MAX: measured maximum temperature value.
c. **Hi**: high temperature alarm—At **Hi** alarm mode, depress "▲/▼" key to set high temperature alarm trigger point and confirmed by depress **Power On/Measure** key. When measured reading over trigger point. LCD display flashing with red color back light alert signal.
d. **Lo:** Low temperature alarm – At **Lo** alarm mode, depress "▲/▼" key to set low temperature alarm trigger point and confirmed by depress **Power On/Measure** key. When measured reading lower than trigger point, LCD display flashing with red color back light alert signal.

3) Temperature unit (°C/°F) selection button.
4) Laser On/Off button.
5) LCD display screen (detail refer Fig. 2)
6) Battery door.



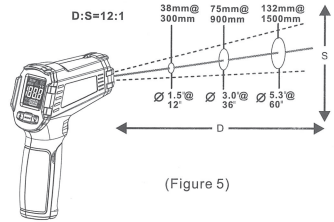
(Figure 3)



(Figure 4)

5. Measure distance to Object ratio (D/S ratio)

1. When use this IR probe to measure the object, you should move it face to measure object and then press the button, you must bear in mind of the measured distance between the object and the probe, also to help you point the object, this unit built-in a laser pointer. Please move the laser pointing dot to your measure object.
2. Distance to Spot ratio (D:S) As the distance from the object increased, the spot size of the object area become larger. (please refer to figure 2)



(Figure 5)

6. Emissivity and Emissivity table

1. EMS (Emissivity): most organic materials and painted or oxidized surfaces have an emissivity of 0.95 (pre-set in the unit). Inaccurate readings will result from measuring shiny or polished metal surfaces. To compensate for this, cover 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.
2. Emissivity table as follow (most organic materials and painted or oxidized surfaces have an emissivity of 0.95 at room temperature 23°C +/-2°C, no need to adjust the EMS value)

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	Textile	0. 94
Glass (plate)	0. 85	Water	0. 93
Ice	0. 98	Wood	0. 94

Maintenance.

1) Lens cleaning: Blow off lose particles using clean compressed air. Gently brush remaining debris away with a moist cotton cloth.
2) Case cleaning: Clean the case with a damp sponge/cloth and mild soap.

Precaution

To get the correct measure value from this unit, please avoid to use this unit in below environments.

---EMF environment (electro-magnetic field), for example the micro-wave oven, electric heater, archway welding machine, etc.
---Temperature changes in a suddenly way, in this case, please wait at least 30 minute to let the temperature become stable.
---Don't place this unit in a high temperature environment.

WARNING

Due to a laser module built-in the unit for pointing to an object, the end user don't point the laser pointing signal to the human eyes, or reflective surface to the eyes, it will hurt the human eyes.

Notice

1) Don't use solvent to clean lens
2) Don't use submerge the unit in water.

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