

INFRARED THERMOMETER  
OPERATION MANUAL



Ver:A3



Specifications

Temperature range	See label on the thermometer
Accuracy	±2% or 2°C
Resolution	0.1°C (0.1°F)
Response time	≤ 0.8 S
Distance to Spot Ratio	12:1
Emissivity	Adjustable(0.1 to 1.0)
Spectral response	8-14 um
Operating Temperature	-20 to 50°C (-4 to 122°F)
Storage temperature	0 to 50°C (32 to 122°F)
Power/Power Life	9V/about 12 hours

Warning:

Do not point laser directly at eye or indirectly off reflective surfaces.

Operation:

- 1. Turn on**  
Install the battery and press the measurement button, then the thermometer turns on and shows the temperature reading automatically.
- 2. LCD display**  
The LCD displays the signals of functions (as diagram 2 shows)
- 3. Measurement:**  
Aim to target article with thermometer head and press the measurement (trigger), and release the button (need to press the button for at least 0.8 second) to show current temperature reading, or press the button all the time for continuous testing with more temperature reading results.

4. Turn off:

The thermometer will turn off automatically after 15 seconds without any operation.

Distance Spot Ratio

Farther the target, larger the test spot area, it means: As the distance from thermometer to the object increases, the spot size of measuring area becomes larger, (as Diagram 1) it is named as "D:S" (Distance Spot Ratio). The diameter of the target spot area is 3.0cm when you test from distance 36cm, and the thermometers will show the average temperature of target spot area with diameter 3.0cm.

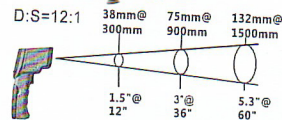


Diagram 1

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, 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.

Please kindly note:  
Thermometer can not test the temperature of target objects through across the glass. And steam, dust, smog will lower the accuracy of testing.

Detailed function:

LCD Indicator:

- 1) LCD back light Symbol
- 2) Data Scan icon
- 3) Laser signal icon
- 4) Data Hold icon
- 5) Low battery Symbol
- 6) C/F Symbol
- 7) Current temperature
- 8) MAX. Function icon
- 9) Emissivity Function icon
- 10) MAX. & Emissivity reading Area

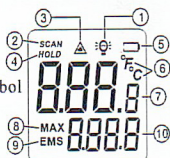


Diagram 2

Diagram descriptions:

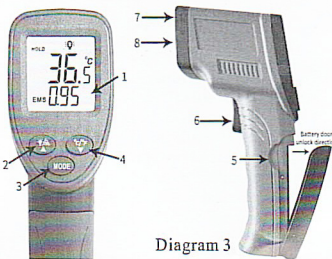


Diagram 3

1. LCD
2. Laser/Back Light Adjust Button
3. Function Button
4. C/F & Adjust Button
5. Battery Cover
6. Meas Key
7. Laser
8. Infrared Lens

Auxiliary function:

- 1) After power on: Press button 4, switch the C/F.
- 2) After power on: Press button 2, test with laser.
- 3) After power on: Press button 3 to get into the emissivity adjust, and then press 2 or 4 to adjust emissivity.
- 4) After power on: Press and keep to hold button 6 and then at the same time press button 2 turn on or turn off the backlight.
- 5) When icon display, means low battery power. Please replace new battery to prevent inaccurate measuring.

Cautions:

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

Maintenance:

- 1) Lens cleaning: Blow off loose 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.

Note:

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

Emissivity adjust Table

Emissivity OF Articles					
Material	Feature	Emissivity	Material	Feature	Emissivity
Aluminum	Oxidized	0.30	Human skin		0.98
	Polished	0.02-0.04	Graphite	Oxidized	0.20-0.60
Bress	Oxidized	0.50	Plastic	Wp. Inorganic	0.95
	Polished	0.02-0.05	Rubber		0.95
Gold		0.01-0.10	Plastic cement		0.85-0.95
Iron	Oxidized	0.70	Concrete		0.95
Steel	Oxidized	0.70-0.90	Cement		0.96
Asbestos		0.95	Soil		0.90-0.96
Plaster		0.80-0.90	Mortar		0.89-0.91
Asphalt		0.95	Brick		0.90-0.96
Rock		0.70	Marble		0.94
Wood		0.90-0.95	Textiles		0.90
Charcoal	Powdered	0.96	Paper		0.95
Carbon		0.85	Sand		0.90
Lacquerwork	Lackluster	0.97	Clay		0.92-0.96
Carbon Cement		0.90	Sand		0.90
Scap Bubble		0.75-0.80	Glass(plate)		0.85-0.92
Water		0.93	Textiles		0.95
Snow		0.83-0.90	heated Foods		0.95
Ice		0.96-0.98	Plastic		0.95
Frozen Foods		0.95	Oil		0.94
Ceramics		0.95	Steel & Iron		0.80
Limestone		0.98	Wool	Natural	0.94
Paint		0.93	Lead	Oxidized	0.50