SMART SENSOR®

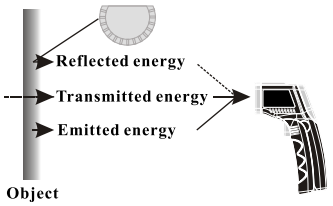
MODEL: AR320

Non-contact infrared thermometer
Instruction manual

Version number: SZ320-1-00

Introduction

Compact, rugged and easy to use. Just aim and push the button, read current surface temperature in less than a second. Safely measure surface temperature of hot, hazardous or hard-to-reach objects without contact.



How it works

Infrared thermometer measure the surface temperature of an object. The units optical system sense the object's emitted energy with different wavelength. It is collected and focus onto a detector. The unit's electronics system translated the information into a temperature reading which is displayed on the unit.

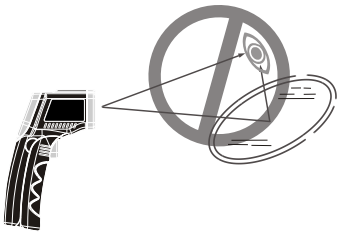
Cautions

Infrared thermometer should be protected from the following:

--EMF (electro-magnetic fields) from welders, induction heaters.

--Thermal shock (cause by large or abrupt ambient temperature changes allow 30 minutes for unit to stabilize before use).

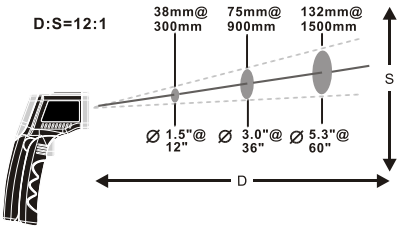
--Do not leave the unit on or near objects of high temperature.



Warning

Do not point laser directly at eye or in-directly off reflective surface.

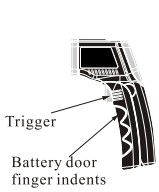
1. When taking measurement, points thermometer toward the object to be measured and hold the yellow trigger. the object under measuring should be larger than the spot size calculated by the field of view diagram.
2. Distance & spot size: As the distance from the object increase, the spot size of measuring area becomes larger.



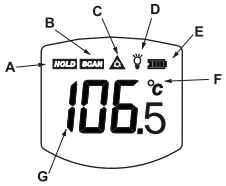
3. Field of view: Make sure the target is larger than the unit's spot size. The smaller the target, the closer the measure distance. When accuracy is critical, make sure the target is at least twice as large as the spot size.

4. 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 surface. 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 surface reach the same temperature as the material underneath.

Quick start instruction



(Figure1)

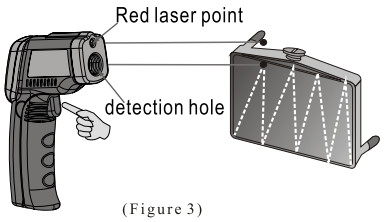


(Figure2)

1. Press battery door clip, install battery correctly. Pull the trigger, LCD display reading& battery icon. Release the trigger and the reading will hold for 7 second.

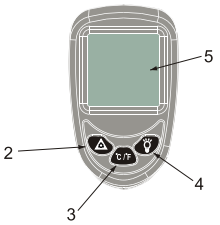
LCD display: A data hold icon
B scanning icon
C laser on icon
D back light on icon
E battery power icon
F measuring unit
G measuring reading

2. Locating 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)

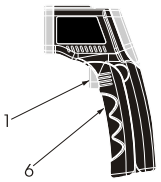


(Figure 3)

Attention:
Red laser point only position the general direction, the detection hole is the main parts measure the temperature



(Figure4)



(Figure5)

4. Diagram description

(1) Trigger: When pulling the trigger, LCD display reading with SCAN icon. Release the trigger, display reading with HOLD icon for 7 sec(approx). Built-in 20 sec auto power off function.

(2) Laser on/off button

(3) Celsius / Fahrenheit switch button

(4) Back light on/off button: When back light is on, any operations will keep back light for 10 sec.

(5) LCD

(6) Battery door: When replace battery door, please pull the battery door.

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 .

Note:

1) Do not use solvent to clean lens.

2) Do not submerge the unit in water.

Specifications	
Temperature range	-32 to 320℃ (-26 to 608℉)
Accuracy (In the condition of 23℃ ±3℃)	-32℃(-26℉) to 0℃(32℉) ±3℃ 0℃(32℉)to 100℃(212℉) ±2℃ 100℃ hereinbefore ±2℃or±2% whichever is greater
Repeatability	1% of reading or 0.1℃
Response time	500 mSec, 95% response
Spectral response	8-14 um
Emissivity	pre-set 0.95
Ambient operating range	0 to 40℃ (32 to 104℉)
Relative humidity	10-95% RH noncondensing, @ upto 30℃ (86℉)
Storage temperature	-20 to 60℃ (-4 to 140℉) without battery
Weight/Dimensions	130g ;146*80*38mm
Power	2 x AAA battery
Battery life (Alkaline)	Laser Models:12 hrs
Distance to Spot Size	12:1

IntelliSafe CE