SMART SENSOR®

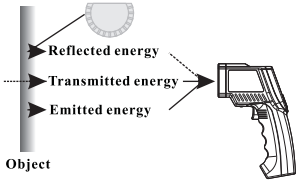
Model: AR852B+
(Silicon Lens: 12:1
Emissivity adjustable)

Non-contact infrared thermometer Instruction manual

Version：SZ852B-12

Introduction

Compact, rugged and easy to use. Just aim and push the button, read current surface te-mperatures in less than a second. Safely me-asure surface temperatures of hot, hazardo-us or hard-to-reach objects without contact.



How it works

Infrared thermometer measures the surface temperature of an object. The unit's optics sense emitted,reflected, and transmitted energy wh-ich is collect and focused onto a detector. The unit's electronicstranslate the information into a temperature readingwhich is displayed on the unit. For increased easeand accuracy the laser pointer makes aiming even more precise.

Cautions

Infrared thermometer should be protected for the following:

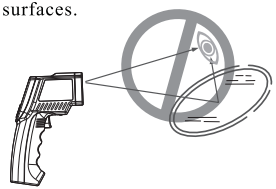
--EMF (electro-magnetic fields) from arc weld-ers, induction heaters.

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

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

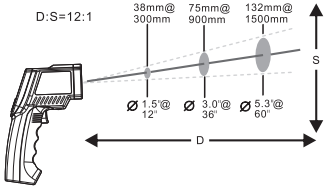
Warning

Do not point laser directly at eye or indire-ctly off reflective surfaces.



1.When take measurement, point thermome-ter toward the object to be measured and hold the yellow trigger. The object under test should be larger than the spot size cal-culated by the field of view diagram.

2.Distance & spot size: As the distance from the object increase,the spot size of meas-uring area becomes larger.

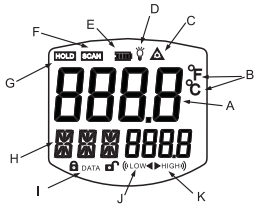


3. Field of view: Make sure the target is larger than the unit's spot size. The smaller the tar-get the closer measure distance. When acc-uracy is critical, make sure the target is at least twice as large as the spot size.

4. Emissivity: Most organic materials and pa-inted or oxidized surfaces have an emissiv-ity 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 mas-king tape or flat black paint. Measure the tape or painted surface when the tape or painted reach the same temperature as the material underneath.

Marterial	Emissivity	Marterial	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

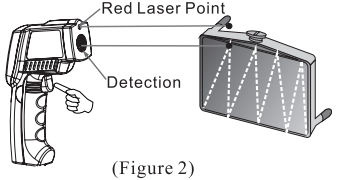
Quick start instruction



(Figure1)

LCD display:

A measuring reading B measuring unit
C laser on icon D back light on icon
E battery power icon F scanning icon
G data hold icon H mode indicator
I data storge / read icon J low temperature alarm icon
K hight temperature alarm icon



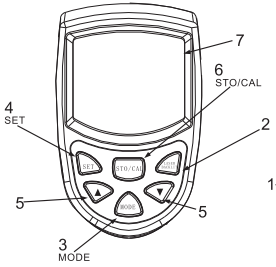
(Figure 2)

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

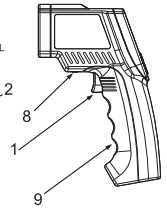
2. Locating a hot spot: To find a hot spot aim the thermometer outside the area of interest, then scan across with up and down motions unitl you locate the hot spot.(please turn on the laserto for accurate measuring)
3. Diagram description

(1) Trigger: When turn on LCD display VER XX software version for 1 sec. And turn to di-splay reading with SCAN icon. Release the trigger, display reading with HOLD icon for 7 sec. Built in auto power off in 30sec.

(2) Laser / back light button: when back light turn on , any operations will remain back lig-ht for 10 sec. LCD indicate on/off status.



(Figure3)



(Figure4)

(3)—(6) key functions: press 3 key, LCD subdis-play blinks MAX-MIN-DIF-AVG-HAL-LAL-STO segment(only main display means normal measuring mode) press 4 key to enter.

a. MAX: measuring maximum temperature
b. MIN: measuring minimum temperature
c. DIF: Basic on the reading before press 4 key, compute the difference of current reading.
d. AVG: measuring average temperature
e. HAL: high temperature alarm--when selected HAL, press 5 keys to set high temperature alarm trigger and confirmed by pressing 4 key. When reading over trigger, LCD display HI icon with BiBi audio sounds.
f. LAL: low temperature alarm--when selected LAL, press 5 keys to set low temperature alarm trigger and confirmed by pressing 4 key. When reading over trigger, LCD display LOW icon with BiBi audio sounds
g. STO: data storage--when selected STO, lock & DATA & 1---indicator will shown when press 4 key. After temperature read out press 6 key to store, then 2---memory unit will be shown. There 12 groups memory unit available. To recall the stored data in normal measuring mode by press-ing 6 key, remove all data by pressing 6 keys for 2 secretary.
h. EMS: Emissivity setup--press 5 keys for emissivity settings, press 4 key to save setup and back to normal status.

(7) LCD
(8) Battery door clip
(9) Battery door: When replace battery door, please press battery door clip and pull the battery door.
(10) Clesius / Fahrenheit switch: Please open battery and push the slide switch for con-vertsion

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.

Note:

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

Specifications	
Temperature range	-50 to 700℃ (-58 to 1292℉)
Accuracy	-50℃(-58℉) to -32℃(-25.6℉) ±1.5℃ -32℃(-25.6℉) to 0℃(32℉) ±1.5℃ 0℃(32℉)to 100℃(212℉) ±1.5℃ 100℃ hereinbefore ±2℃ or ±2% whichever is greater Test temperature：23℃ ±3℃
Repeatability	1% of reading or 0.1℃
Response time	500 mSec, 95% response
Spectral response	8-14 um
Emissivity	0.1 to 1.00 adjustable
Ambient operating range	0 to 40℃ (32 to 10.5℉)
Relative humidity	
Storage temperature	-20 to 60℃ (-4 to 140℉) without battery
Weight/Dimensions	170g ;175*100*49mm
Power	9v Alkaline or NiCd battery
Battery life (Alkaline)	Laser Models:12 hrs
Distance to Spot Size	12:1

IntelliSafe CE ISO 9001 UKAS 006