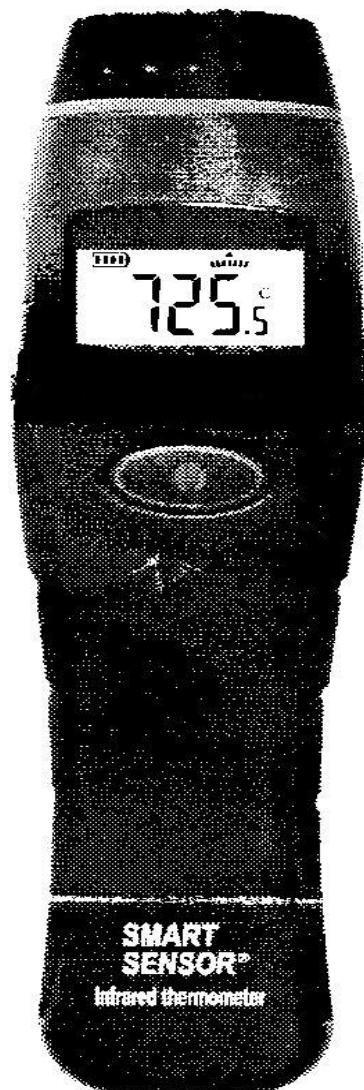


**SMART
SENSOR®**

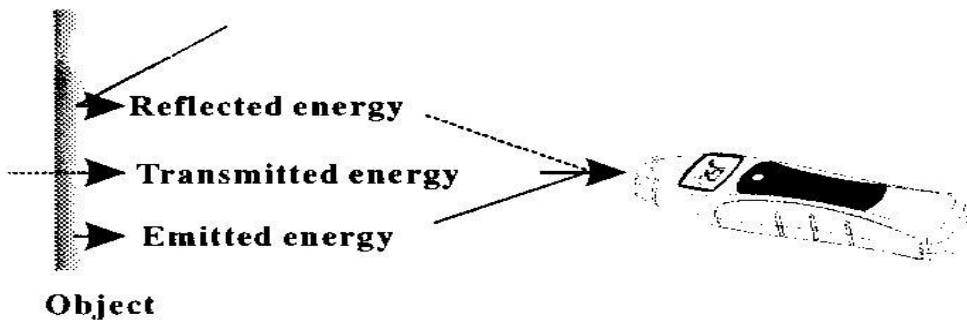
Model: AR812

Non-contact infrared thermometer
Instruction manual



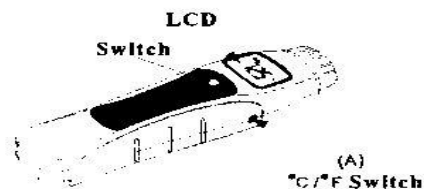
A Introduction

We are confident you will find many uses for your handheld non-contact thermometer. Compact, rugged, and easy to use---just aim, push the button and read current surface temperatures in less than a second. Safely measure surface temperature of hot, hazardous or hard-to-reach objects without contact.



B How it works

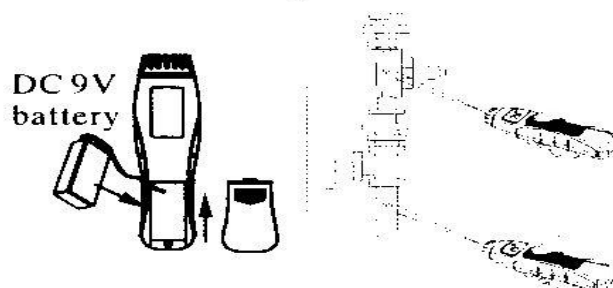
Infrared thermometer measures the surface temperature of an object. The unit's optics sense emitted, reflected, and transmitted energy which is collected and focused onto a detector. The unit's electronics translate the information into a temperature reading which is displayed on the unit. For increased ease and accuracy the laser pointer makes aiming even more precise.



C How to operate the unit

1) °C/°F and battery

Push slide switch to convert between Celsius and Fahrenheit. When necessary, replace 9V battery as shown in diagram.

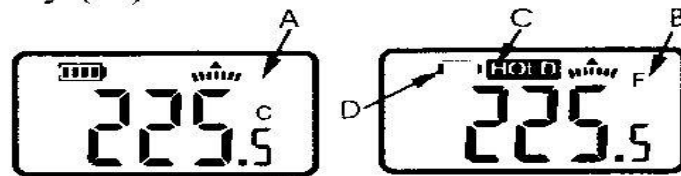


2) Operating the unit

To measure temperature simply point unit at target and push button. Be sure to consider distance-to-spot size ratio and field of view. Equip with Laser pointer for aiming. See How to accurately measure temperatures.

3) Display

The LCD display[®] the current temperature in Celsius (A) or Fahrenheit (B). The unit will hold the reading for 7 seconds after button is released and HOLD icon appears (C). The presence of the battery icon indicates a low battery (D).



D. How to accurately measure temperatures

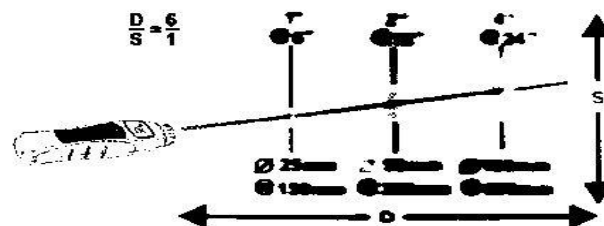
1) Locating a hot spot

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



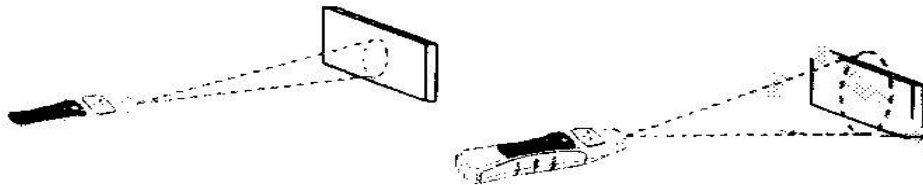
2) Distance and spot size

As the distance (D) from the object increase the spot size (S) of the measured by the unit becomes larger.



3) Field of view

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



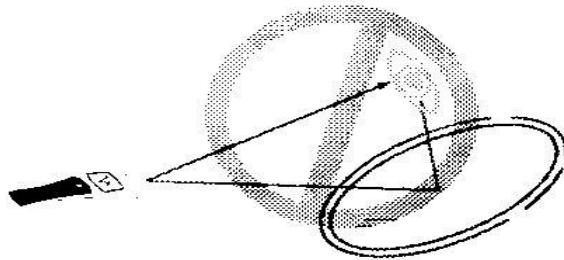
4) Cautions

Non-contact thermometer should be protected from the following:

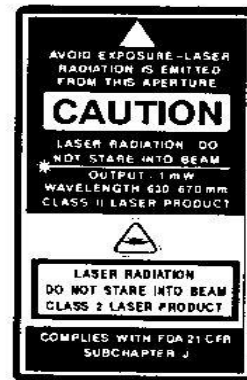
- EMF (electro-magnetic fields) from arc welders, induction heaters
- Thermal shock (cause by large or abrupt ambient temperature changes allow 30 minutes for unit to stabilize before use)
- Do not leave the unit on or near objects of high temperature.

5) Warning

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



Laser Warning Labels
CLASS II (FDA)



6) 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, apply masking tape or flat black paint to the surface before measuring.

7) Maintenance

Lens cleaning: Blow off loose particles using clean compressed air. Gently brush remaining debris away with a camel's hair brush. Carefully wipe the surface with a moist cotton cloth.

Note: Do not use solvents to clean the lens.

Case cleaning: Use a damp sponge or soft cloth with mild soap.

8) Reminders

Not recommended for use in measuring shiny or polished metal surfaces (stainless steel, aluminum, etc). See Emissivity.

Specifications	
Temperature range	-18 to 330°C (0 to 626°F)
Accuracy	100°C (212°F) to 330°C (626°F) ±2°C or ±2% 0°C (32°F) to 100°C (212°F) ±2°C or ±2% -18°C (0°F) to 0°C (32°F) ±3°C or ±3% whichever is greater
Repeatability	1% of reading or 1°C (1°F)
Response time	500 mSec, 95% response
Spectral response	7-18 um
Emissivity	pre-set 0.95
Ambient operating range	0 to 40°C (32 to 104°F)
Relative humidity	10-95% RH noncondensing, @ upto 30°C (86°F)
Storage temperature	-20 to 60°C (-4 to 140°F) without battery
Weight/Dimensions	133 g (0.3 lb); 182*49*35mm (7.25*1.75*1.5in)
Power	9v Alkaline or NiCd battery
Battery life (Alkaline)	Laser Models: 12 hrs
Distance to Spot Size	6:1

Specifications subject to change without notice.

CE Certification

This instrument conforms to the following standards:



* En50081-1:1992, Electromagnetic Emissions

* En50082-1:1992, Electromagnetic Susceptibility

E. Non-contact thermometer uses in

1) Industrial / electrical

Check for hot spots in electrical panels and circuit breakers, generators and gearboxes.

2) Heating and air conditioning

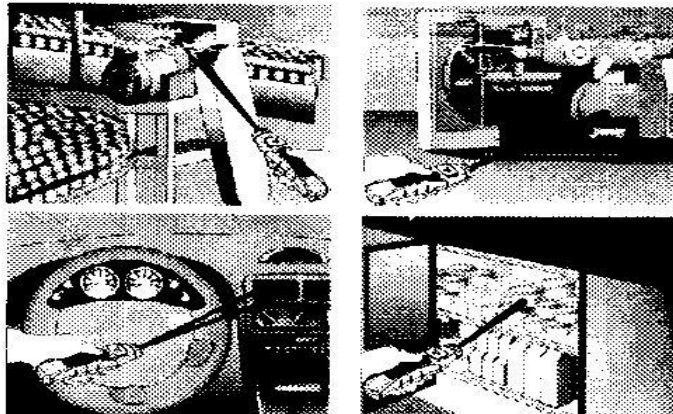
Check and monitor supply and return registers, air stratification and duct leakage

3) Automotive

Check cylinder heads, heating & cooling systems and scan radiators for blockage.

4) Food safety

Monitor temperatures for HACCP requirements during receiving, storage and preparation.



IntelliSafe  **CE**

