

# Infrared Thermometer

model 02084






## Features & Benefits

### SIDE

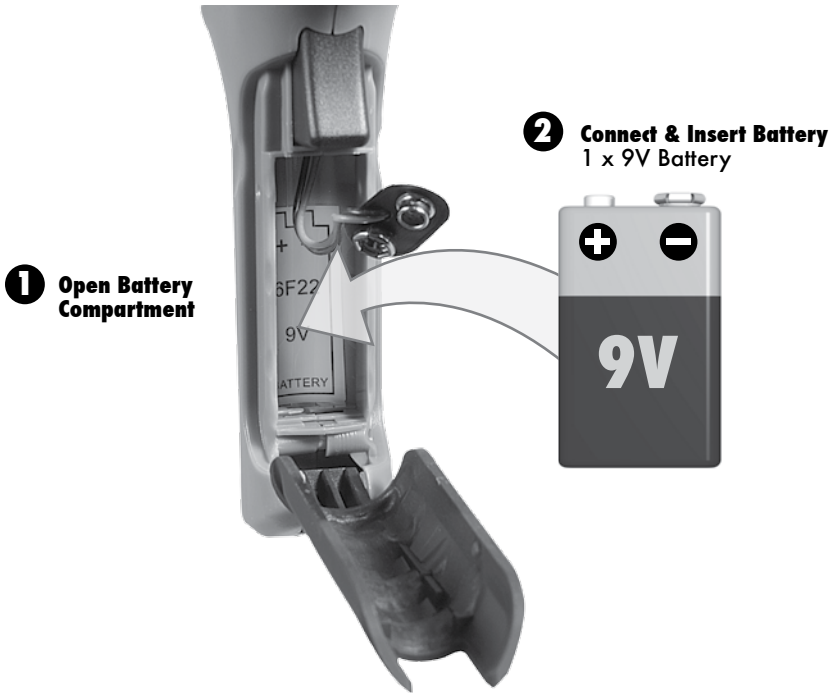
- 1. Laser Sight**  
For aiming accuracy.
- 2. Infrared Sensor**
- 3. Trigger**  
Pull to turn on unit and measure temperature.
- 4. Battery Cover**

### DISPLAY

- 5. HOLD Indicator**  
Displays when Trigger is released and the last recorded temperature is being shown.
- 6. SCAN Indicator**  
Displays when the thermometer is recording temperature reading.
- 7. MAX Indicator**  
Indicates viewing highest temperature recorded since thermometer was last turned on.  
**MIN Indicator**  
Indicates viewing lowest temperature recorded since thermometer was last turned on.
- 8.  Button**  
Press to enable or disable the display backlight.
- 9. °C/°F Button**  
For selecting temperature units.
- 10. MODE Button**  
Press to cycle through MIN, MAX and current temperature readings.
- 11.  Button**  
Press to enable or disable the laser sight.
- 12. Low Battery Indicator**
- 13. Temperature Reading**
- 14. ε=0.95 Indicator**  
Indicates thermometer's preset emissivity. (see page 3).
- 15.  Indicator**  
Indicates laser function is enabled.

## Install or Replace Battery

1. Flip open the battery compartment.
2. Connect 1 x 9V battery to the battery connector and insert into the battery compartment, as shown.
3. Close the battery compartment.



## Select Temperature Units, Backlight & Laser Settings

Once the unit is powered on, you may select temperature units, backlight and laser settings.

To select between degrees Fahrenheit ( $^{\circ}\text{F}$ ) or Celsius ( $^{\circ}\text{C}$ ) temperature units, press and release the " $^{\circ}\text{C}/^{\circ}\text{F}$ " button.

To enable or disable the backlight, press and release the "💡" button.

To enable or disable the built-in laser sight, press and release the "🔦" button.



**PLEASE DISPOSE OF OLD OR DEFECTIVE BATTERIES IN AN ENVIRONMENTALLY SAFE WAY AND IN ACCORDANCE WITH YOUR LOCAL LAWS AND REGULATIONS.**

**BATTERY SAFETY:** Clean the battery contacts and also those of the device prior to battery installation. Remove batteries from equipment which is not to be used for an extended period of time. Follow the polarity (+/-) diagram in the battery compartment. Promptly remove dead batteries from the device. Dispose of used batteries properly. Only batteries of the same or equivalent type as recommended are to be used. DO NOT incinerate used batteries. DO NOT dispose of batteries in fire, as batteries may explode or leak. DO NOT mix old and new batteries or types of batteries (alkaline/standard). DO NOT use rechargeable batteries. DO NOT recharge non-rechargeable batteries. DO NOT short-circuit the supply terminals.

## Using the Thermometer

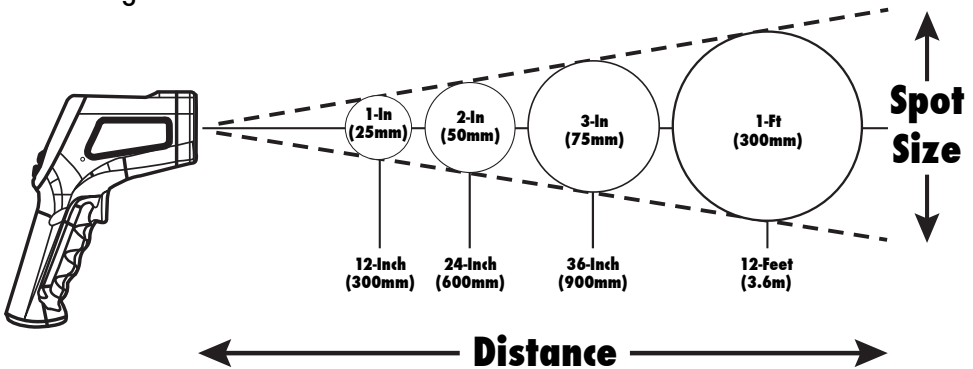
Pull the trigger of the Infrared Thermometer to measure the surface temperature of an area.

## Field of Measurement

The Infrared Thermometer measures average surface temperature on the basis of distance to spot diameter (D:S) ratio. This ratio is the size of the area being measured by the thermometer as it relates to distance. The targeted area being measured becomes larger as the distance from the thermometer increases. The smaller the target, the closer the thermometer should be to it.

The D:S ratio for the Infrared Thermometer is 12:1, illustrated below.

**Examples:** If you're standing 12-feet (3.6 m) away from the target surface, the area being measured will be 1-foot (0.3 m) in diameter. If your target surface is 1-inch (25 mm) in diameter, the thermometer must be within 12-inches (300 mm) of the target.



## Emissivity

Emissivity is the measurement of an object's ability to radiate heat. Emissivity values range from 0 (shiny mirror) to 1.0 (blackbody). Most organic materials and painted or oxidized surfaces have an emissivity close to 0.95. This thermometer is preset (non-adjustable) to an emissivity value of 0.95. Refer to the chart for a list of emissivity values for common surfaces.

Substance	Thermal emissivity	Substance	Thermal emissivity
Asphalt	0.90 to 0.98	Cloth (black)	0.98
Concrete	0.94	Human skin	0.98
Cement	0.96	Lather	0.75 to 0.80
Sand	0.90	Charcoal (powder)	0.96
Earth	0.92 to 0.96	Lacquer	0.80 to .095
Water	0.92 to 0.96	Lacquer (matt)	0.97
Ice	0.96 to 0.98	Rubber (black)	0.94
Snow	0.83	Plastic	0.85 to 0.95
Glass	0.90 to 0.95	Timber	0.90
Ceramic	0.90 to 0.94	Paper	0.70 to 0.94
Marble	0.94	Chromium oxides	0.81
Plaster	0.80 to 0.90	Copper oxides	0.78
Mortar	0.89 to 0.91	Iron oxides	0.78 to 0.82
Brick	0.93 to 0.96	Textiles	0.90

## High & Low Records

While measuring the temperature of a surface, minimum and maximum values are recorded. Press and release the "MODE" button after releasing the trigger to cycle through the high and low records. Records are reset each time the thermometer powers off, 5 seconds after no buttons are pressed.

## Troubleshooting

Problem	Possible Solution
<b>Display screen not working</b>	<ul style="list-style-type: none"> <li>Check that the battery is installed correctly. Battery may need to be replaced.</li> </ul>
<b>Inaccurate temperature</b>	<ul style="list-style-type: none"> <li>Verify size of target is within the field of measurement according to the D:S ratio (see page 3).</li> <li>Estimate emissivity value of target surface (see chart above). If you need to measure the temperature of a shiny surface, cover the area with a piece of masking tape. Then, measure the temperature of the taped surface.</li> </ul>

**If your AcuRite product does not operate properly after trying the troubleshooting steps, visit [www.AcuRite.com](http://www.AcuRite.com) or call (877) 221-1252 for assistance.**


# Specifications

<b>TEMPERATURE RANGE</b>	-58°F to 999°F; -50°C to 550°C
<b>EMISSIVITY</b>	0.95 fixed value
<b>DIODE LASE</b>	Output <1mW, Wavelength 630 - 670nm, class 2 (II) laser product
<b>SPECTRAL RESPONSE</b>	6 - 14 um
<b>POWER</b>	1 x 9V alkaline battery
<b>D:S RATIO</b>	12:1

# FCC Information


This equipment complies with Part 15 of FCC RF Rules. Operation is subject to the following two conditions:

- 1) This device may not cause interference and
- 2) This device must accept any interference, including interference that may cause undesired operation of the device.

<b>CAUTION</b>   LASER RADIATION DO NOT STARE INTO BEAM  DIODE LASER <1mW Output at 675nm CLASS II LASER PRODUCT	<b>WARNING:</b> THIS DEVICE PRODUCES CLASS 2 LASER RADIATION. AVOID DIRECT EYE EXPOSURE. DO NOT LOOK INTO DIRECT OR REFLECTED LASER-LIGHT BEAM OR VIEW BEAM WITH OPTICAL INSTRUMENTS. DO NOT AIM LASER-LIGHT AT ANOTHER PERSON OR ANIMAL. LASER RADIATION MAY DAMAGE YOUR EYE. DO NOT DISASSEMBLE THE DEVICE.
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# Customer Support

AcuRite customer support is committed to providing you with best-in-class service. **For assistance**, please have the model number of this product available and contact us in any of the following ways:

 (877) 221-1252

Visit us at [www.AcuRite.com](http://www.AcuRite.com)

- ▶ Installation Videos
- ▶ Register your Product
- ▶ Instruction Manuals
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- ▶ Replacement Parts
- ▶ Submit Feedback & Ideas

<b>IMPORTANT</b>	PRODUCT MUST BE REGISTERED TO RECEIVE WARRANTY SERVICE
<b>PRODUCT REGISTRATION</b> Register online to receive 1 year warranty protection <a href="http://www.AcuRite.com">www.AcuRite.com</a>	

## Limited 1 Year Warranty

AcuRite is a wholly owned subsidiary of Chaney Instrument Company. For purchases of AcuRite products, AcuRite provides the benefits and services set forth herein. For purchases of Chaney products, Chaney provides the benefits and services set forth herein.

We warrant that all products we manufacture under this warranty are of good material and workmanship and, when properly installed and operated, will be free of defects for a period of one year from the date of purchase.

Any product which, under normal use and service, is proven to breach the warranty contained herein within ONE YEAR from date of sale will, upon examination by us, and at our sole option, be repaired or replaced by us. Transportation costs and charges for returned goods shall be paid for by the purchaser. We hereby disclaim all responsibility for such transportation costs and charges. This warranty will not be breached, and we will give no credit for products which have received normal wear and tear not affecting the functionality of the product, been damaged (including by acts of nature), tampered, abused, improperly installed, or repaired or altered by others than our authorized representatives.

Remedy for breach of this warranty is limited to repair or replacement of the defective item(s). If we determine that repair or replacement is not feasible, we may, at our option, refund the amount of the original purchase price.

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In no case shall our liability for any claim relating to our products, your purchase or your use thereof, exceed the original purchase price paid for the product.

### Applicability of Policy

This Return, Refund, and Warranty Policy applies only to purchases made in the United States and Canada. For purchases made in a country other than the United States or Canada, please consult the policies applicable to the country in which you made your purchase.

Additionally, this Policy applies only to the original purchaser of our products. We do not and do not offer any return, refund, or warranty services if you buy products used or from resale sites such as eBay or Craigslist.

### Governing Law

This Return, Refund, and Warranty Policy is governed by the laws of the United States and the State of Wisconsin. Any dispute relating to this Policy shall be brought exclusively in the federal or State courts having jurisdiction in Walworth County, Wisconsin; and purchaser consents to jurisdiction within the State of Wisconsin.

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**BATTERY IS NOT COVERED UNDER WARRANTY**

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