Fieldpiece SIG1 Infrared Thermometer with Laser Pointer Instruction Manual

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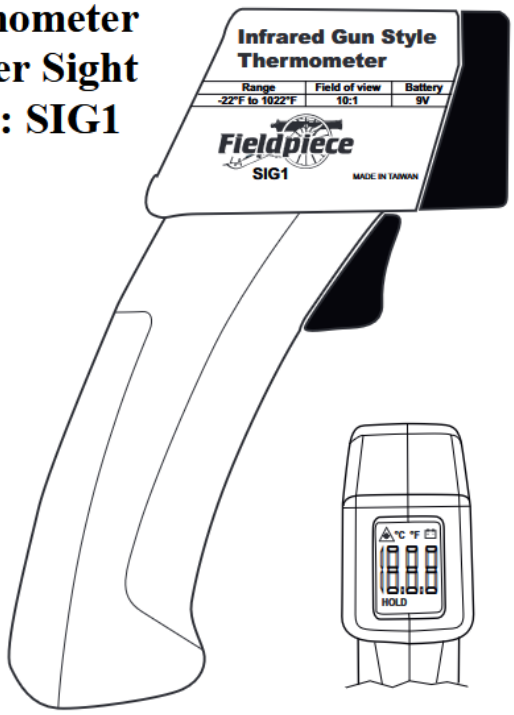
Gun Style Infrared Thermometer w/Laser Sight Model: SIG1



Fieldpiece

OPERATOR'S MANUAL

Contents

Specifications

Temperature range: -22 to 1022 °F (-30 to 550°C)
Resolution: 1 o
Response time: 0.25 second
Emissivity: Fixed 0.95
Battery: Standard 9V
Battery life: 9 hrs typical, laser and backlight

Operating temperature: 32 to 122°F (0 to 50°C)
Storage temperature: -4 to 140 o F (-20 to 60°C)
Accuracy:
±2%rdg (213 to 1022°F) (100 to 550°C), ±4°F (-22 to 212°F) ±2°C (-30 to 100°C)
Field of view: 10:1
Wave length: Red (630~670nm)
Power out: <1mW, class 2 laser product
Display: 1999 count 3.5 digit LCD
Auto-off: Approx. 10 seconds
Weight: 157g (with battery)
Dimensions: 5.83” x 4.13” x 1.65” (15.81cm x 10.5cm x 4.19cm)
Accessories: Protective cover with strap, battery (installed), and operator’s manual.

Description

The SIG1 thermometer is a low cost, standalone non-contact infrared thermometer. Simply aim the thermometer at the target and pull the “trigger” to display the surface temperature. The temperature measured will be the average of all the temperatures in the field of view. The closer you are to the target, the smaller the area. The further away, the larger the area measured.

Applications

The infrared temperature measurement is fast and easy. It works best for fast readings, relative readings (one to another or the same one at different times), or temperature readings of hard to reach places. The following are some applications:

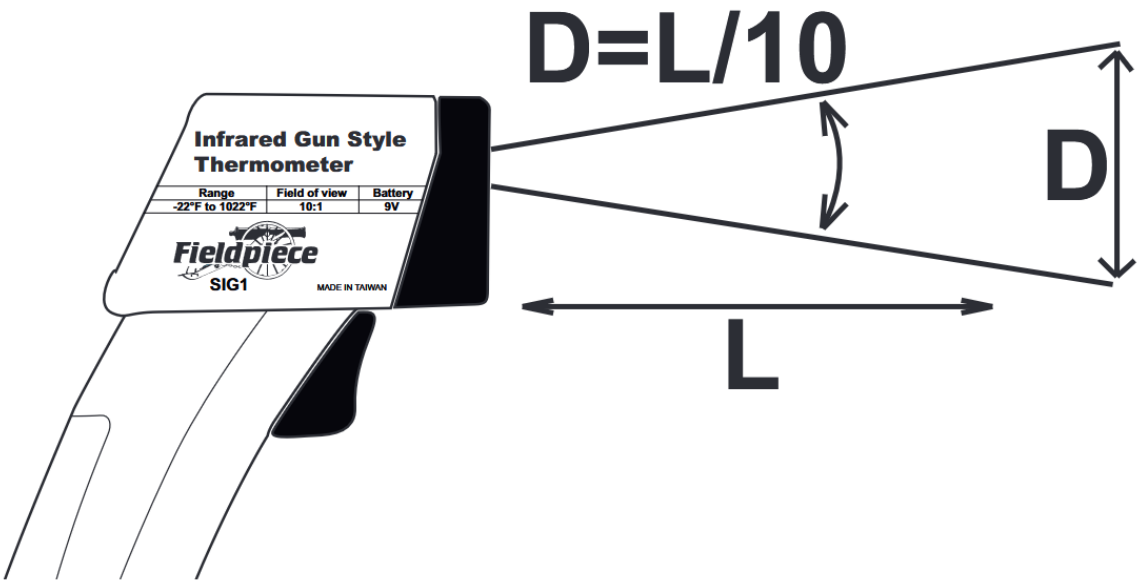
- “Shoot” an inside wall for quick and fast indoor ambient temperature reading.
- Heating and air conditioning where fast and/or easy measurement is most important.
- Motor bearings: high temperature can indicate bearings that might need replacement.
- Circuit breakers: a circuit breaker that is not operating properly can get hot. By scanning a panel, you will be able to find the hot one.
- Poor power line connections: a bad connection can get hot.

Operation

1. Remove protective plastic cover.
2. Point SIG1 towards target to be measured.
3. Pull trigger to light the target with the laser and measure its surface temperature.
4. As long as the trigger is held down, the SIG1 will constantly update the measurement and the blue backlight will illuminate the display.
5. Once the trigger is released, the last measurement will be shown and held until the trigger is pressed again or until the SIG1 turns off.

Field of View

The SIG1 takes it’s measurement from a circle of a size determined by a simple ratio of 10:1. The diameter of this circle is 1/10 the distance between the target and the tip of the SIG1. For example, if you’re standing 20 feet from your target, the size of the circle you’re taking the average temperature of will be 2 feet wide.



IR Temperature Measurement

Objects dissipate heat in the form of infrared (IR) energy. The hotter it is, the more infrared energy. If there's enough radiation, you can feel it. The SIG1 infrared thermometer collects infrared energy from a circular viewing area and measures the total amount of energy collected. The SIG1 converts the total energy measured to a temperature. The further you go from the target, the larger the sampling space.

If you want to get the temperature of something small, such as a pipe, you must get close enough for the pipe to take up the whole viewing area circle. Otherwise the pipe and the background temperatures will be averaged into the reading.

The accuracy of many infrared temperature measuring systems is adversely affected by ambient temperature.

You need to be aware that if the target surface is reflective enough, it may reflect infrared from other objects. For example, if you take a reading of a shiny metal surface, the infrared energy of your face may reflect enough energy off the surface to affect the reading. For this reason, it's a good idea to put non-reflective tape or paint on reflective surfaces when taking IR temperature readings.

Laser Sight

When the trigger is pulled the red laser dot will shine about 1/4" above the center of the circular area being measured by the thermometer. Be sure to remove protective cap before taking measurements.

°F or °C

To switch between °F and °C open the battery cover and move the switch to the desired scale.

Battery Replacement

When the 'Low Battery' icon indicates the battery is low, the battery should be replaced. The battery is located under the cover at the rear of the SIG1. The battery should be placed upside down (terminals facing down) so that bunching of the wires is avoided.
Note: When a new battery is installed, the meter will power on to show it has recognized the new battery. Auto-off will occur after 10 seconds without operation.

Cleaning

Since the laser aperture and lens are delicate, keep protective plastic cover on the SIG1 when not in use. When the case gets dirty, clean with a damp cloth and mild detergent. Do not use abrasives or solvents.
“Emissivity” of the target surface also affects the temperature reading. For a given temperature, the higher the emissivity, the higher the reading. The lower the emissivity, the lower the reading.
Emissivity of a surface indicates how easy it is for the infrared to get out. Emissivity for a dull, black surface is high (nearly 100%) so it’s easy for the infrared to get out. Emissivity for a shiny surface can be much lower. If the emissivity is low, the measured temperature will be lower than actual. For relative readings of the same kind of surface, this isn’t a problem. For some applications, it may be necessary to spray dull, black paint on the target to insure a more accurate reading.
For best accuracy use contact sensors (thermocouples, thermistors, etc.) anytime you take a temperature measurement. Infrared instruments should only be used when you aren’t able to touch the surface to be measured.

⚠ **WARNING** ⚠
Never point the device towards the eyes permanent eye damage may occur.
Use extreme caution when using the laser.
Keep out of the reach of children.
Be careful around mirror surfaces since mirrors can reflect the laser. Looking into the reflected laser is just as damaging as looking directly at the laser.

Warranty

The product is warranted to the original purchaser against defects in material or workmanship for a period of one (1) year from the date of purchase. During the warranty period, Fieldpiece Instruments will, at its option, replace or repair the defective unit.
This warranty does not apply to defects resulting from abuse, neglect, accident, unauthorized repair, alteration, or unreasonable use of the instrument.
Any implied warranty arising out of the sale of Fieldpiece’s products including but not limited to implied warranties of merchantability, and fitness for purpose, are limited to the above. Fieldpiece shall not be liable for incidental or consequential damages.

Service

Return any defective SIG1 to Fieldpiece for warranty service along with proof of purchase. Contact Fieldpiece for out of warranty repair charges.

Fieldpiece
Designed in USA
MADE IN TAIWAN

Documents / Resources

	**Fieldpiece SIG1 Infrared Thermometer with Laser Pointer** [pdf] Instruction Manual SIG1, SIG1 Infrared Thermometer with Laser Pointer, Infrared Thermometer with Laser Pointer, Thermometer with Laser Pointer, Laser Pointer

References

- **Welcome to the Test Equipment Depot, your test equipment supplier of all the best brands.**
- **User Manual**