

Infrared Thermometer

Model No.: Lasergrasp 1080

Questions or Concerns?

support@etekcity.com • (855)-686-3835

Thank you for purchasing the Lasergrasp 1080 Infrared Thermometer by Etekcity. This easy-to-use device lets you conveniently and accurately measure surface temperatures from a distance without the need of any direct contact. Should you have any questions or concerns, feel free to contact our helpful customer support team toll-free at 855.686.3835 or by email at support@etekcity.com.



WARNING: THIS DEVICE PRODUCES **CLASS 2** LASER RADIATION. USE EXTREME CAUTION AT ALL TIMES WHEN LASER IS IN USE. 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.



IMPORTANT: Read all of the instructions in this manual. Failure to comply with the instructions in this manual or use of the device, in ways other than the ones mentioned in this manual, may result in hazardous radiation exposure.

Safety Use & Care

- **DO NOT** point the laser-light at another person or animal.
- **DO NOT** attempt to point laser-light at an aircraft.
- Avoid direct/indirect eye contact with the laser-beam. Laser radiation may cause eye damage.
- **DO NOT** view the beam with optical instruments.
- In the vicinity of use, make any bystanders aware of the dangers of looking directly into the laser beam.
- **DO NOT** allow children to operate the device.
- Use a 9V battery when replacing the battery within the device. Make sure to insert the battery in accordance with the correct polarities.
- **ALWAYS** remove the batteries when cleaning the device.
- **DO NOT** use leaking batteries or dispose old batteries in fire.
- Remove battery for storage if the device is not being used for a prolonged period of time.
- **DO NOT** disassemble the device or tamper with internal components. Doing so will void any warranty.
- **DO NOT** touch the lens or wipe it using anything other than a soft cloth or cotton swab.

- Keep the thermometer away from electromagnetic fields produced by objects such as arc welders and induction heaters.
- **DO NOT** expose the thermometer to direct sources of heat for extended periods of time.
- The thermometer measures surface temperature, not internal temperature. Do not use the Lasergrasp as a reliable source to measure body temperatures.

Package Contents

- 1 x Etekcity Lasergrasp 1080 Infrared Thermometer
- 1 x 9V DC Battery
- 1 x User Manual

Features

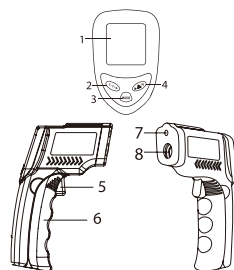
- Laser guided targeting for aiming precision
- Narrow distance-spot ratio for accurate results at greater distances
- Safely measure hazardous or inaccessible objects
- Standard 9V battery powers up to 12 hours of cumulative use
- Auto-off after 15 seconds of inactivity

Specifications

Measurement Range: -58°F ~ 1022°F (-50°C ~ 550°C)
Accuracy: ±2% / ±2°C
Resolution: 0.1°F / °C
Maximum Output: < 1 mW
Wavelength: 630 - 670 nm
Distance-Spot Ratio: 12:1
Response Time: < 500 ms
Emissivity (Adjustable): 0.1-1.0
Battery: DC 9V

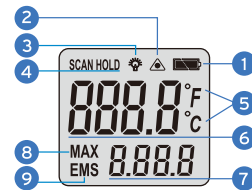
Function Diagram

1. LCD Display
2. Unit(°C/°F)/DOWN
3. Emissivity Adjustment Mode
4. UP/Laser Pointer/Backlight
5. Measurement Trigger
6. Battery Compartment
7. Laser Hole
8. IR Sensor



Display Icon Key

1. Low Battery
2. Laser On
3. Back-light On
4. Continue Scanning
5. °C / °F
6. Temperature Result
7. Max Temperature / Emissivity Result
8. Max Temperature Sign
9. Adjustable Emissivity Sign

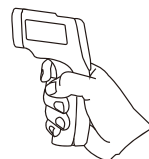


Operation

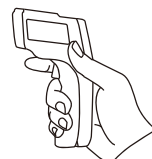
Surface Temperature Measurement

NOTE: The Lasergrasp cannot measure the temperature of objects behind glass. Inaccuracy may also occur when exposed to steam, dust or any other contaminants in the air.

1. Once the battery is properly installed, press the measurement trigger to activate the device.
2. Point the Lasergrasp towards the surface of measurement.
3. Press and hold the measurement trigger and the laser will activate for aiming guidance.
4. Keep holding the trigger as you move the Lasergrasp if you wish to live scan the surface area for temperature measurement.
5. Once the laser is pointed to the desired point of measurement, release the trigger and the LCD display will lock the calculated temperature.
6. Press the measurement trigger once again to make another measurement.



HOLD for continuous temperature reading



RELEASE to lock the temperature result

NOTE: The Lasergrasp LCD will display 'OH' when the measured temperature is above the measurable range, and will display 'OL' when the measured temperature is below the measurable range.

Unit Conversion

To switch between units of temperature measurement, press the °C/°F button at any time while the Lasergrasp is on.



Laser Activation

To activate and deactivate the laser, press the laser pointer On/Off button at any time while the Lasergrasp is on.



Display Backlight Operation

To activate and deactivate the display backlight, press and hold measurement trigger and then press the display backlight On/Off button at the same time.

Emissivity Adjustment & Max Temperature

To adjust the emissivity value before measurement, press the emissivity adjustment mode button, then use the UP ▲ and DOWN ▼ buttons to navigate to the desired value. You may refer to the emissivity reference chart for correct surface emissivity values. To transfer into Max Temperature Mode, press the mode button again.

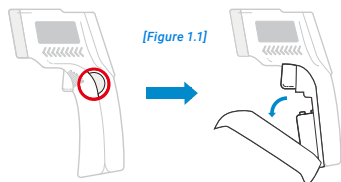


NOTE: The Lasergrasp cannot measure the temperature of objects behind glass. Inaccuracy may also occur when exposed to steam, dust or any other contaminants in the air.

Battery Installation & Replacement

A new pre-installed 9V battery comes in protective plastic wrap inside your Lasergrip. Follow the steps below to properly install or replace the battery.

1. Open the battery cover. For first-time use, take the battery out and **remove the plastic wrapper.** [Figure 1.1]
2. Securely connect the battery to the battery terminals, making sure the leads and terminals are connected correctly. [Figure 1.2]
3. Reinsert the battery back into the compartment.
4. Close the battery cover, making sure that the wires are tucked inside the battery compartment. [Figure 1.3]

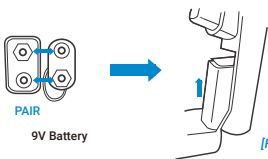


[Figure 1.1]

NOTE:

- The low battery indicator will appear on the display when the power is running low. Immediately replace the battery when the icon appears.
- Remove the battery before storing if the Lasergrip is not being used for a long time.

[Figure 1.2]



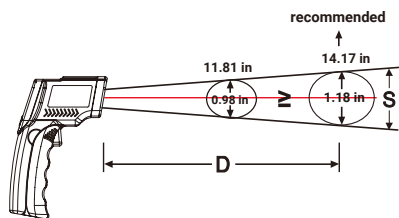
[Figure 1.3]

Distance-Spot Ratio

The Lasergrip 1080 measures surface temperature on the basis of distance to spot diameter ratio (D:S). As the distance between the thermometer and the surface increases, the total surface area measured will also increase. With a distance to spot ratio of 12:1 the surface area measured has a diameter of roughly 1/12 the distance.

For the most accurate results, make sure the target has a surface area of twice the corresponding spot diameter. Insufficient surface area will result in inaccurate results. The recommended distance to hold the Lasergrip from the surface of measurement is 14.17 in (36 cm). This creates a spot measurement area of 1.18 inches (3 cm) in diameter.

Distance (D) to Spot (S) size D:S = 12:1



Emissivity

The emissivity of a material is its efficiency in emitting thermal energy. Non-reflective surfaces have a higher emissivity (closer to 1) than reflective surfaces (closer to 0). Inaccurate results may occur when measuring reflective surfaces such as glass, polished wood, and granite.

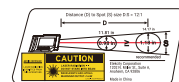
To take accurate temperature measurement of reflective surfaces with low emissivity, adjust the emissivity value before measurement using the reference chart. Or, place a strip of masking tape over the surface and allow for it to adjust to the temperature of the surface for approximately 30 minutes. Measure the surface, scanning the taped section, eliminating the issue of inaccuracy.

Emissivity Of Materials

Material	Feature	Emissivity	Material	Feature	Emissivity
Aluminium	Oxidized	0.3	Human Skin		0.98
	Polished	0.02-0.04	Graphite	Oxidized	0.20-0.60
Brass	Oxidized	0.5	Plastic	Non-transparent	0.95
	Polished	0.02-0.05	Rubber		0.95
Gold		0.01-0.10	Plastic Cement		0.85-0.95
Iron	Oxidized	0.7	Concrete		0.95
Steel	Oxidized	0.70-0.90	Cement		0.96
Asbestos		0.95	Soil		0.90-0.98
Plaster		0.80-0.90	Mortar		0.89-0.91
Asphalt		0.95	Brick		0.90-0.96
Rock		0.7	Marble		0.94
Wood		0.90-0.95	Textile		0.90
Charcoal	Powered	0.96	Paper		0.95
Carbon		0.85	Sand		0.90
Lacquerwork	Lackluster	0.97	Clay		0.92-0.96
Carbon Cement		0.90	Sand		0.9
Soap Bubble		0.75-0.80	Glass		0.85-0.92
Water		0.93	Textile		0.95
Snow		0.83-0.90	Heated Food		0.95
Ice		0.96-0.98	Plastic		0.95
Frozen Foods		0.95	Oil		0.94
Ceramics		0.95	Steel and iron		0.80
Limestone		0.98	Wool	Natural	0.94
Paint		0.93	Lead	Oxidized	0.5



The device certification information is labeled directly on the device. The sticker is located on the left side of the Lasergrip.



The device warning and aperture safety information are also labeled directly on the device; the sticker is located on the right side of the Lasergrip.

Any updates to the product information (date of manufacturing and manufacturer address) will be added as adhesive overlays.

Federal Communication Commission Interference Statement

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

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

FCC SDOC SUPPLIER'S DECLARATION OF CONFORMITY

Etekcity Corporation hereby declares that this equipment is in compliance with the FCC Part 15 Subpart B. The declaration of conformity may be consulted in the support section of our website, accessible from www.etekcity.com

Warranty Information

Scan Here to Receive Exclusive News:



Your product comes with 2 years of warranty, starting from the date of purchase.

1. Scan the QR code or visit etekcity.com/warranty.
2. Enter your purchase info to receive exclusive news.
3. Learn about our quality customer support and gain easy access to warranty information.

Customer Support

If you encounter any issues or have any questions about your new product, please contact our helpful Customer Support Team.

Etekcity Corporation
1202 N. Miller St., Suite A
Anaheim, CA 92806

Support Hours
Mon-Fri,
9:00 am-5:00 pm PST/PDT

Email: support@etekcity.com
Toll-Free: (855) 686-3835

*Please have your invoice and order ID ready before contacting Customer Support.