

Infrared Thermometer

Model No.: Lasergrip 1022

Questions or Concerns?

(855)-686-3835 • support@etekcity.com

Thank you for purchasing the Lasergrip 1022 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. THE LASER LIGHT IS INVISIBLE TO THE HUMAN EYE. 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 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 damage to eyes.
- **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 pointer.
- **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 indicated.
- ALWAYS remove the batteries when cleaning the device.
- **DO NOT** use leaking batteries or dispose old batteries in fire.
- Remove the battery for storage if the device is not being used for a prolonged period of time.

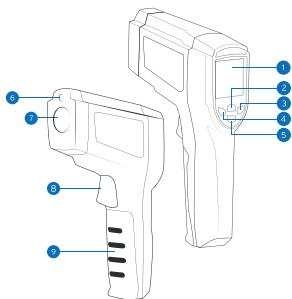
- **DO NOT** disassemble the device or tamper with internal components. Doing so will void any warranty.
- **DO NOT** touch the lens or wipe it using anything other than a soft cloth or cotton swab.
- Keep the thermometer away from electromagnetic fields produced by objects such as arc welders and induction 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 Lasergrip as a reliable source to measure body temperatures.

Features & Specifications

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

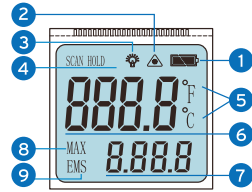
Function Diagram

1. LCD Display
2. Display Backlight On / Off
3. Laser Pointer / UP
4. Unit ($^\circ\text{C}$ / $^\circ\text{F}$) / DOWN
5. Emissivity Adjustment / Max Temperatures
6. Laser Hole
7. IR Sensor
8. Measurement Trigger
9. Battery Compartment



Display Icon Key

1. Low Battery
2. Laser On
3. Back-light On
4. Continue Scanning
5. $^\circ\text{C}$ / $^\circ\text{F}$
6. Temperature Result
7. Max Temperature / Emissivity Result
8. Max Temperature Sian
9. Adjustable Emissivity Sign



Operation

Surface Temperature Measurement

NOTE: The Lasergrip 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 Lasergrip 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 Lasergrip 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 Lasergrip 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 $^\circ\text{C}$ / $^\circ\text{F}$ button at any time while the Lasergrip is on.



Laser Activation

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



Display Backlight Operation

To activate and deactivate the display backlight, press the display backlight On / Off button at any time while the Lasergrip is on.



Emissivity Adjustment Mode

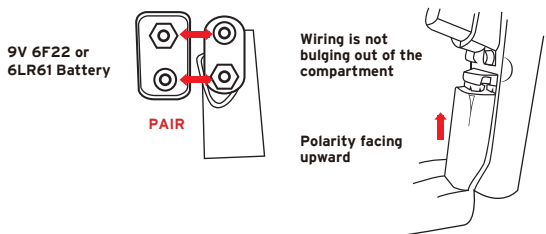
To adjust the emissivity value before measurement, press the emissivity adjustment mode button, then use the UP▲ and DOWN▼ buttons to navigate to the desired value. You may refer to the emissivity reference chart for correct surface emissivity values.



Battery Replacement

A low battery icon will appear on the LCD display when the Lasergrip's battery power is running low. Immediately replace the battery when the icon appears.

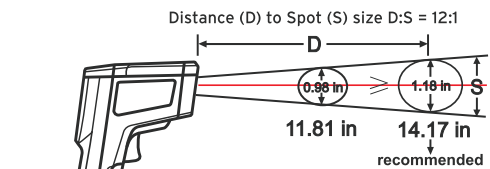
1. Open the battery compartment and remove the used battery. Dispose the used battery properly.
2. Connect a new DC 9V battery, making sure it's under the correct polarity.
3. Insert the battery into the compartment and close the compartment lid, making sure the wiring is not being pinched by the compartment lid.



Distance-Spot Ratio

The Lasergrip 1022 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.



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, place a strip of black 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 (**See Emissivity Of Materials for details**)

FCC Declaration

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.

Emissivity Of Materials

Material	Feature	Emissivity	Material	Feature	Emissivity
Aluminium	Oxidized	0.3	Human Skin	Oxidized	0.98
	Polished	0.02-0.04			
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.

Package Contents

- 1 x Lasergrip 1022
- 1 x 9V DC Battery
- 1 x User Manual

Warranty Information

Etekcity warrants all products to be of the highest quality in material, craftsmanship, and service, effective from the date of purchase to the end of the warranty period.

Etekcity will replace any product found to be defective due to manufacturer flaws based on eligibility. Refunds are available within the first 30 days of purchase. Refunds are only available to the original purchaser of the product. This warranty extends only to personal use and does not extend to any product that has been used for commercial, rental, or any other use in which the product is not intended for. There are no warranties other than the warranties expressly set forth with each product.

This warranty is non-transferrable. Etekcity is not responsible in any way for any damages, losses, or inconveniences caused by equipment failure by user negligence, abuse, or use noncompliant with the user manual or any additional safety, use, or warnings included in the product packaging and manual.

This warranty does not apply to the following:

- Damage due to abuse, accident, alteration, misuse, tampering, or vandalism.
- Improper or inadequate maintenance.

- Damage in return transit.
- Unsupervised use by children under 18 years of age.

Etekcity and its subsidiaries assume no liability for damage caused by the use of the product other than for its intended use or as instructed in the user manual. Some states do not allow this exclusion or limitation of incidental or consequential losses so the foregoing disclaimer may not apply to you. This warranty gives you specific legal rights and you may also have other rights which may vary from state to state.

ALL EXPRESSED AND IMPLIED WARRANTIES, INCLUDING THE WARRANTY OF MERCHANTABILITY, ARE LIMITED TO THE PERIOD OF THE LIMITED WARRANTY.

Additional 1-Year Warranty

You can extend your 1-year warranty by an additional year. Log onto www.etekcity.com/warranty and enter your order number (for example, from Amazon or Houzz) to register your new product for the extended warranty.

If you are unable to provide the order number for your product, please type a short note in the order number field along with the date you received your product.

Defective Products & Returns

If your product proves defective within the specified warranty period, please contact Customer Support via support@etekcity.com with your order number. DO NOT dispose of your product before contacting us. Once Customer Support has approved your request, please return the unit with a copy of the invoice or your order number.

Customer Support

If you encounter any issues or have any questions regarding your new product, please contact our helpful Customer Support Team. Your satisfaction is our goal!

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

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

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

*Please have your order confirmation number ready before contacting Customer Support.