



LASERGRIP 630 Infrared Thermometer

User Manual

Questions or Concerns?

Please contact us Mon-Fri 9:00 AM - 6:00 PM PST at (855) 686-3835 or email support@etekcity.com



THIS PRODUCT COMPLIES WITH 21 CFR 1040.10 and 1040.11.

Thank you for purchasing the Lasergrip 630 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.

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- 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.

Package Contents

- 1 x Etekcity Lasergrip 630 Infrared Thermometer
- 1 x 9V DC Battery
- 1 x User Manual

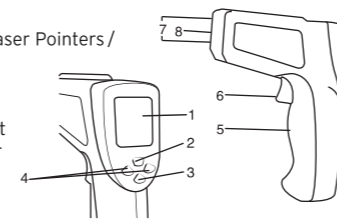
Features & Specifications

- Laser guided targeting for aiming precision
- Dual laser guidance for enhanced aiming precision
- Narrow distance-spot ratio for accurate results at greater distances
- Safely measure hazardous or inaccessible objects
- Standard 9V battery powers up to 14 hours of cumulative use
- Auto-off after 15 seconds of inactivity
- Calculate max, min, average, and difference between temperature measurements
- Measurement Range: $-58^{\circ}\text{F} \sim 1076^{\circ}\text{F}$ ($-50^{\circ}\text{C} \sim 580^{\circ}\text{C}$)
- Accuracy: $\pm 2\% / \pm 2^{\circ}\text{C}$
- Resolution: $0.1^{\circ}\text{F} / 0.1^{\circ}\text{C}$
- Maximum Output: $< 1\text{mW}$
- Wavelength: 630 - 670nm
- Distance-Spot Ratio: 16:1
- Response Time: $< 500\text{ms}$
- Emissivity (Adjustable): 0.1 - 1.0
- Battery: DC 9V

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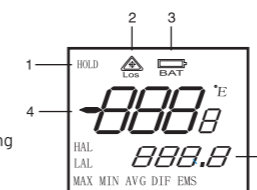
Function Diagram

1. LCD Display
2. Display Backlight / Laser Pointers / (HOLD) Unit ($^{\circ}\text{C}/^{\circ}\text{F}$)
3. Mode Selection
4. UP / DOWN
5. Battery Compartment
6. Measurement Trigger
7. Laser Hole
8. IR Sensor



Display Icon Key

1. Hold temperature results
2. Laser guidance activated
3. Low battery power
4. Current / Last temperature reading
5. Secondary measurement (Mode)



Operation

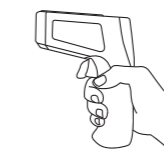
Surface Temperature Measurement

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.

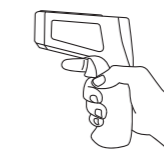
1. Once the battery is properly installed, press the measurement trigger to activate the device.
2. Point the Lasergrip towards the surface of measurement.
3. Press and hold the measurement trigger and the lasers will activate for aiming guidance.
4. Keep holding the trigger as you move the Lasergrip if you wish to live scan the surface area for temperature measurement.

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5. The area between each laser point is the area of measurement. Once the lasers are pointed to the desired area 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 'HI' when the measured temperature is above the measurable range, and will display 'LO' when the measured temperature is below the measurable range.

Unit Conversion

To switch the unit of measurement between $^{\circ}\text{F}$ and $^{\circ}\text{C}$, press and hold the display backlight button for 3 seconds.



Laser Activation & Display Backlight Operation

To activate and deactivate the laser and display backlight, press the backlight button repeatedly to cycle through the following modes: both off, backlight on with laser off, backlight off with laser on, and both on.



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Measurement Modes

Press the mode button repeatedly to cycle through and select from the following measurement modes:

Mode	Function
MAX	Displays the maximum recorded temperature for the last measurement.
MIN	Displays the minimum recorded temperature for the last measurement.
AVG	Displays the average temperature for the last measurement.
DIF	Displays the difference between the highest and lowest recorded temperatures for the last measurement taken.
EMS	Allows you to adjust the value of emissivity for different surface materials.
HAL	High Temperature Alarm: The thermometer will beep continuously if a temperature greater than the set value is recorded.
LAL	Low Temperature Alarm: The thermometer will beep continuously if a temperature lower than the set value is recorded.

NOTE: To adjust the value in EMS, HAL, and LAL mode, use the UP and DOWN buttons on the thermometer.



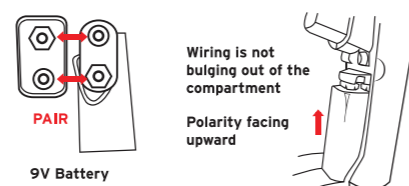
Battery Replacement

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.

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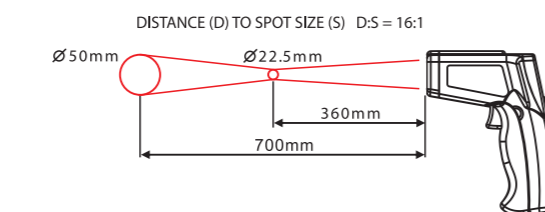
2. Connect a new DC 9V battery, making sure it's under the correct polarity.
3. Insert the battery into the compartment and close the compartment lid, making sure the wiring is not being pinched by the compartment lid.



Distance-Spot Ratio

The Lasergrip 630 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 16:1 the surface area measured has a diameter of roughly 1/16 the distance.

For the most accurate results, stand at a distance where the two laser points overlap (approximately 14 inches away from the spot of measurement). Otherwise, the space between each laser point marks the diameter for the area of measurement.



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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.

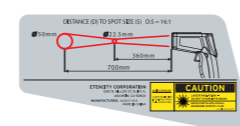
To take accurate temperature measurement of reflective surfaces with low emissivity, adjust the emissivity value before measurement using the reference chart. Or, place a strip of masking tape over the surface and allow for it to adjust to the temperature of the surface for approximately 30 minutes.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

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.



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.

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Emissivity Of Materials					
Material	Type	Emissivity	Material	Type	Emissivity
Aluminium	Oxidized	0.3	Human skin		0.98
	Polished	0.02-0.04		Graphite	
Brass	Oxidized	0.5	Plastic	non-transparent	0.95
	Polished	0.02-0.05		Rubber	
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	powdered	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

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