

Owner's Manual & Safety Instructions

Save This Manual Keep this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures. Write the product's serial number in the back of the manual near the assembly diagram (or month and year of purchase if product has no number). Keep this manual and the receipt in a safe and dry place for future reference.

20J

AMESTM

I N S T R U M E N T S

58111

PROFESSIONAL COMPACT INFRARED THERMAL CAMERA



Visit our website at: <http://www.harborfreight.com>
Email our technical support at: productsupport@harborfreight.com





When unpacking, make sure that the product is intact and undamaged. If any parts are missing or broken, please call 1-888-866-5797 as soon as possible.

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No portion of this manual or any artwork contained herein may be reproduced in any shape or form without the express written consent of Harbor Freight Tools. Diagrams within this manual may not be drawn proportionally. Due to continuing improvements, actual product may differ slightly from the product described herein. Tools required for assembly and service may not be included.

⚠WARNING

Read this material before using this product. Failure to do so can result in serious injury. **SAVE THIS MANUAL.**

WARNING SYMBOLS AND DEFINITIONS	
	This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.
 DANGER	Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
 WARNING	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
 CAUTION	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
NOTICE CAUTION	Addresses practices not related to personal injury.

IMPORTANT SAFETY INFORMATION

⚠️ WARNING Read all safety warnings and instructions. Failure to follow the warnings and instructions may result in serious injury.

- Do not use for medical purposes.
- Do not open the housing other than battery compartment.
- Do not expose the tool to explosive gas or vapor or to rain or wet conditions.**
- Stay alert, watch what you are doing and use common sense when operating the tool. Do not use while you are tired or under the influence of drugs, alcohol or medication. A moment of inattention may result in serious personal injury.**
- Use the tool in accordance with these instructions, taking into account the working conditions and the work to be performed. Use of the tool for operations different from those intended could result in a hazardous situation.**
- Have your tool serviced by a qualified repair person using only identical replacement parts. This will ensure that the safety of the tool is maintained.**
- Do not use the tool if it operates incorrectly or abnormally or if it is damaged.
- Do not mix old and new batteries. Do not mix alkaline, standard (carbon-zinc), or rechargeable (nickel-cadmium) batteries. Position batteries in proper polarity. Do not use swollen or leaking batteries.
- Maintain labels and nameplates on the tool. These carry important safety information. If unreadable or missing, contact Harbor Freight Tools for a replacement.

10. This product is not a toy.
Keep it out of reach of children.

11. The warnings, precautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.



SAVE THESE INSTRUCTIONS.

Specifications

Display	1.8" 128x160 TFT
Thermal Resolution	32x32
Image Capture Frequency	9Hz
NETD (Thermal Sensitivity)	<150mK
Detector Type	Infrared Thermopile Array Sensor
Camera Resolution	640x480
Field of View	33°x33°
Temperature Range	-4°F - 1202°F (-20 - 650°C)
Temperature Accuracy	±2% or ±2° @ 25°C
Operating Temperature	32°F - 140°F
Operating Humidity	10 - 95% RH
Storage Temperature	-4°F - 140°F
Storage Humidity	10 - 95% RH
Emissivity Range	0.1 - 1.0 (Preset to 0.95)
Batteries	4xAAA (included)

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.

Applications

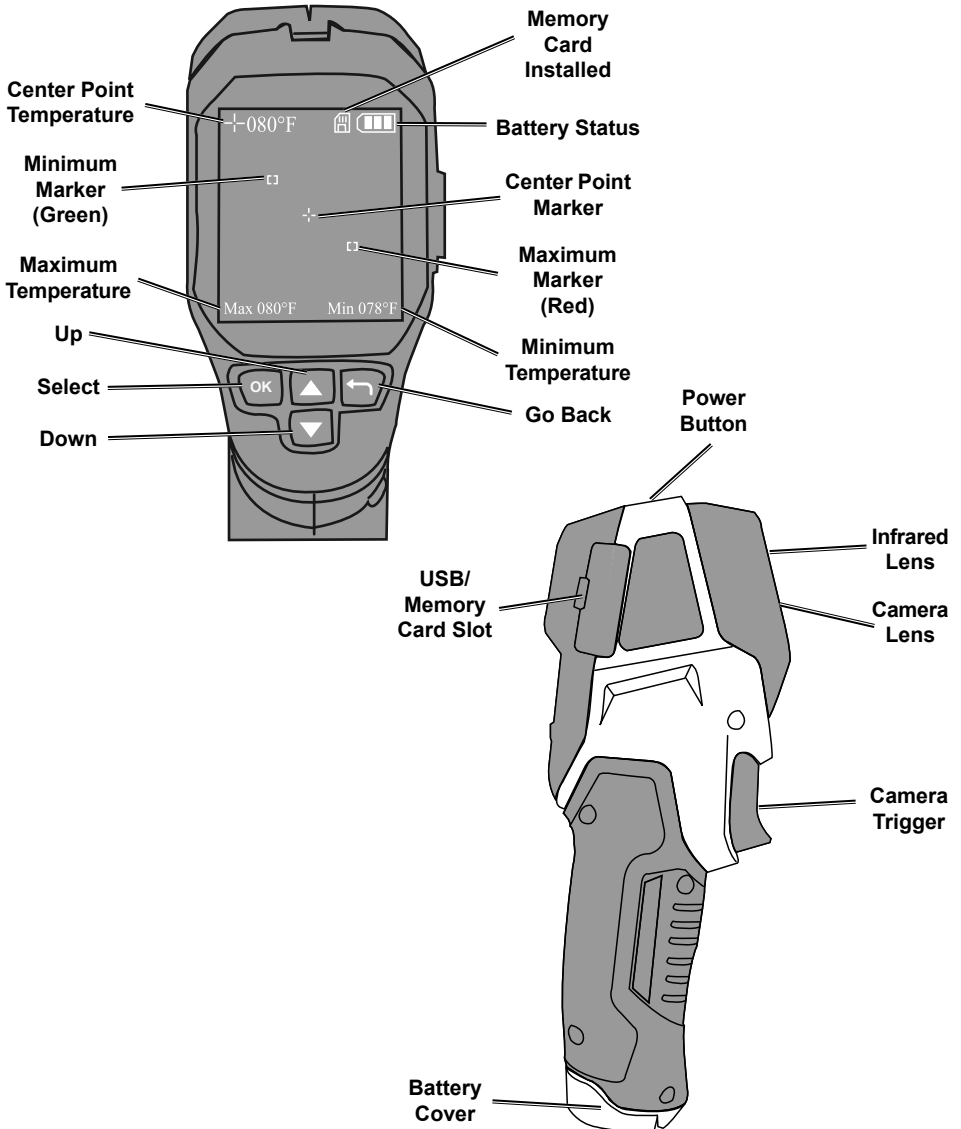
- Electrical, HVAC, mechanical, and automotive.
- Lower energy costs by finding areas of heat loss and drift.
- Locate electrical problems at appliances, machines and installations.
- Quickly verify HVAC functionality and performance.

Setup - Before Use:



Read the **ENTIRE IMPORTANT SAFETY INFORMATION** section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

Functions



Operating Instructions



Read the **ENTIRE IMPORTANT SAFETY INFORMATION** section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

General Operation

1. Install batteries according to **Battery Replacement on page 7.**
2. Open USB/Memory Card slot and insert included mini SD card.
3. Press and hold Power Button until display is on.
4. Press Up and Down buttons to increase or decrease thermal image color saturation.
5. Press OK to enter Settings.
6. When finished, press and hold Power Button until display is off.

Note: Camera does not automatically shut off.

See Photos: on page 5

to change setting.

Take Measurement

1. Turn camera on.
2. Hold camera approximately 12" from target.
3. View temperature values.
See Functions on page 4.
4. Press Trigger to capture image.
5. View image according to **Photos: on page 5.**
6. Use included USB cable to view/transfer photos via another device.

Settings

Use Up and Down buttons to select setting. Press OK to enter setting. Press Go Back to return to previous screen.

SD Card

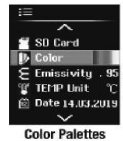
Photos:

- Press OK to view list of photos.
- Use Up and Down buttons to view photos. Press OK to select photo.
- Once photo is selected, use Up and Down buttons to navigate through photos.



Color

- Press OK to select on of three thermal color palettes.
- Press Go Back to set palette.



Format Photos:

- Press OK to format memory card.
- **Note:** Once OK is pressed, there is no option to cancel.

Emissivity

Emissivity is the amount of thermal energy emitted from a surface.

Generally, painted, dull or dark surfaces have higher emissivity. Metals and reflective surfaces have lower emissivity.



Approximate Surface Emissivity	
Glass	0.95
Concrete	0.95
Hot Food	0.93
Carbon	0.85
Cast Iron	0.80
Copper (oxidized)	0.50
Galvanized Pipe	0.40
Aluminum (oxidized)	0.30
Stainless Steel (polished)	0.20

- Press OK to change setting.
- Use Up and Down buttons to select one of four preset values, press OK to set value.
- Select last row to set specific value. Press OK, then use Up and Down Buttons to select value, then press Go Back twice to set value.

Temperature Unit

- Press OK to select °F or °C.
- Press Go Back to set temperature unit.



Time and Date

Time:

- Press OK to set time.
- Use Up and Down buttons to set hour, then press OK.
- Use Up and Down buttons to set minute, then press OK.
- Use Up and Down buttons to set AM/PM, then press OK,
- Press Go Back to set time.

Date:

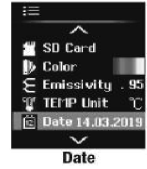
- Press Down button to select Date, then press OK.
- Use Up and Down buttons to set month, then press OK.
- Use Up and Down buttons to set day, then press OK.
- Use Up and Down buttons to set year, then press OK.
- Press Go Back to set date.

Time Format:

- Press Down button to select time format, then press OK to select format.
- Press Go Back to set time format.

Auto Shutoff

- Press OK to change setting (default is OFF).
- Use Up and Down buttons to make selection, then press OK.
- Press Go Back to set selection.



Maintenance and Servicing



Procedures not specifically explained in this manual must be performed only by a qualified technician.

WARNING

TO PREVENT SERIOUS INJURY FROM ACCIDENTAL OPERATION:

Release the Trigger and remove the batteries from the Laser Thermometer before performing any inspection, maintenance, or cleaning procedures.

TO PREVENT SERIOUS INJURY FROM TOOL FAILURE:

Do not use damaged equipment. If damage is noted, have the problem corrected before further use.

Cleaning, Maintenance, and Lubrication

- BEFORE EACH USE**, inspect the general condition of the tool. Check for:
 - loose hardware,
 - misalignment or binding of parts,
 - cracked or broken parts,
 - damaged electrical wiring, and
 - any other condition that may affect its safe operation.
- AFTER USE**, wipe lens first, then external surfaces of the tool with clean, damp cloth. Only use water, do not use soap or chemicals. **DO NOT** submerge tool in water or splash water on lens.
- Remove batteries if not in use for long periods.
- Store tool in its case in a dry location out of reach of children.
- Other than batteries, there are no replaceable parts. **Repairs should be done by a qualified technician.**

Battery Replacement

To avoid incorrect measurements, replace the batteries when the status is low.

- Turn camera off.
- Loosen screw on Battery Cover.
- Remove Battery Cover.
- Remove batteries and replace with same.
- Replace Battery Cover, secure with screw.

Calibration

Have tool calibrated by a qualified technician every year.

Record Product's Serial Number Here: _____

Note: If product has no serial number, record month and year of purchase instead.

Limited 90 Day Warranty

Harbor Freight Tools Co. makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of 90 days from the date of purchase. This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, criminal activity, improper installation, normal wear and tear, or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

