

# WAHL HSI3000 THERMAL IMAGERS

## Building Inspections, Maintenance, Energy Savings, Affordable and Easy!

**The most powerful and affordable, full specification thermal imaging cameras on the market today!**

- Proprietary reporting software (included) documents all of your work effortlessly
- Fully Radiometric - capture detailed, high quality images for LIVE analysis of any of 19,200 pixels in the entire image
- Dual cursors, moveable anywhere on the image, can be selected to automatically identify hot & cold spots
- Advanced high resolution 160 x 120 detector shows image details clearly and precisely on the large, bright, 3-½" screen
- Adjustable Emissivity for maximum accuracy
- Dual Temperature + Differential Measurement
- Store up to 20,000 images on supplied 2 GB SD Card
- Easily download images directly to PC
- Rugged, lightweight, and comfortable to use for any application
- Comes complete in rugged waterproof carrying case

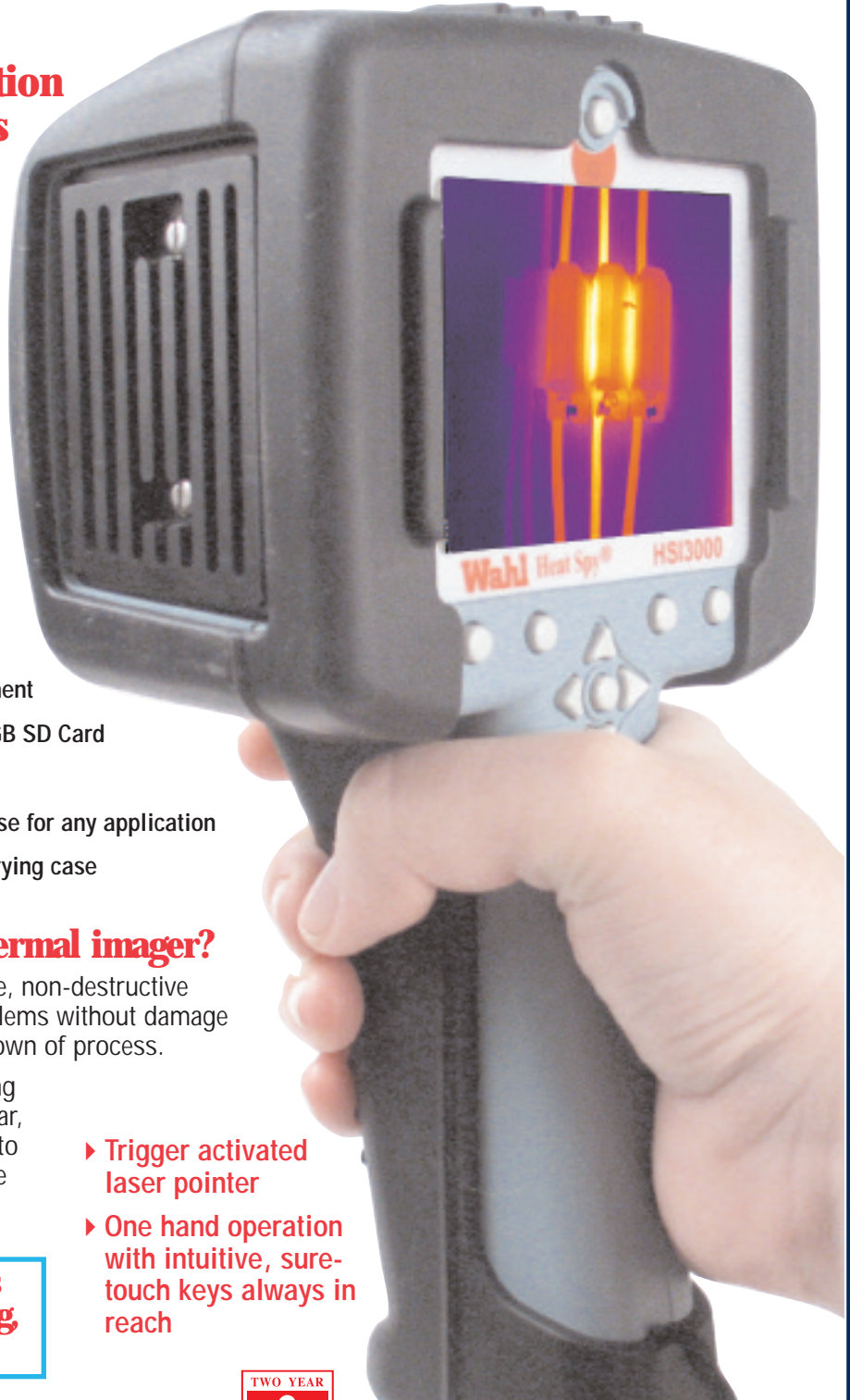
### Why buy a Wahl HSI3000 thermal imager?

Thermal imaging is the best non-invasive, non-destructive method for diagnostics of potential problems without damage to property, danger to person, or shut down of process.

Wahl Heat Spy® HSI3000 thermal imaging cameras give you the most accurate, clear, high resolution pictures, with the ability to modify and analyze images in a complete detailed report, at an affordable price.

**Backed by Palmer Wahl's Service, Warranty, Training and Guarantee!**

- ▶ Trigger activated laser pointer
- ▶ One hand operation with intuitive, sure-touch keys always in reach



**PALMER Wahl**  
INSTRUMENTATION GROUP

*173 Years of Continued Innovation*



TWO YEAR

**T**  **USA**  
**Equipment**  
**.NET**

205 Westwood Ave  
Long Branch, NJ 07740  
1-877-742-TEST (8378)  
Fax: (732) 222-7088  
salesteam@Equipment.NET

# Wahl Thermal Imager HSI3000 Series

## High Performance Portable Thermal Imaging Cameras

**The most powerful and affordable, full specification thermal imaging cameras on the market today!**

Fully Radiometric - capture detailed, high quality images for LIVE on screen analysis. Dual cursors allow you to select and measure two temperatures of any of 19,200 pixels in the entire image live on the screen!

- **Multi-Purpose HSI3000** - Operates in the temperature range of 14° to 482°F (-10° to 250°C)
- **Mid-Temperature HSI3001** - with the addition or removal of a lens filter, and a simple change of a menu setting, switch between temperature range of 392° to 932°F (200° to 500°C) or 14° to 482°F (-10° to 250°C)
- **High-Temperature HSI3002** - with the addition or removal of a lens filter, and a simple change of a menu setting, switch between temperature range of 392° to 1652°F (200° to 900°C) or 14° to 482°F (-10° to 250°C)
- **Long Distance HSI3003** - Locate and detect temperature measurements of small objects over long distances, with a narrow angle 9.1° x 6.8° lens, in the range of 32° to 482°F (0° to 250°C)



HSI3000 shown with OPTIONAL Magnifying Eye Piece/Sun Shield improves visibility of the screen, and protects against glare in bright sunlight. Also prevents display from illuminating users face for law enforcement applications.

► Find the right model to fit your needs

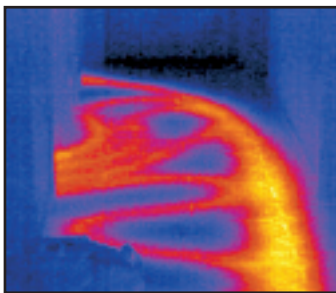


**Buy it, you'll like it; GUARANTEED!**

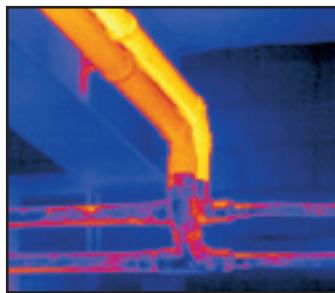
USA only

### APPLICATIONS FOR ALL INDUSTRIES

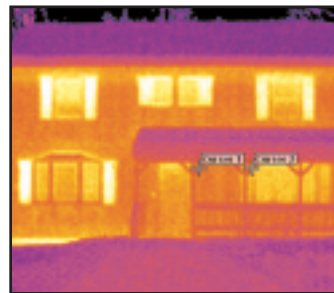
|                      |                        |                    |
|----------------------|------------------------|--------------------|
| Asphalt              | Manufacturing          | Process Monitoring |
| Automation & Control | Marine Surveying       | Pulp & Paper       |
| Automotive           | Mechanical             | Quality Control    |
| Building Envelope    | Medical / Veterinary   | R & D Testing      |
| Condition Monitoring | Metal & Glass          | Roofing            |
| Electrical           | Petro Chemical         | Steel              |
| Energy Audits        | Predictive Maintenance | Utilities          |
| Law Enforcement      | Product Development    | Weatherization     |



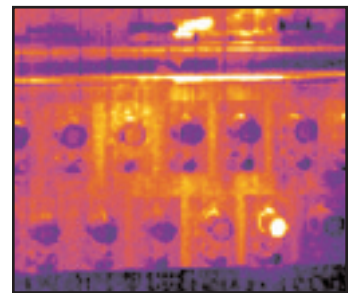
Underfloor heating system



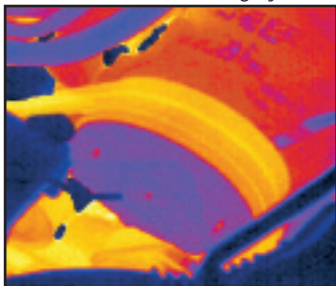
Overheat in process monitoring



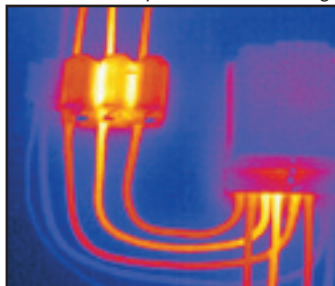
Heat loss caused by poor insulation



Overheat in process machinery



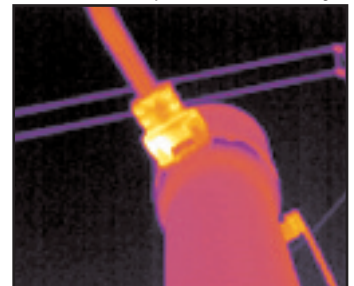
Improper tension in drive belt



Overheat in electrical box



Overheat in power transformer



Overheat in transmission lines



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Calibration Services Available

PW1275  
02/09 Rev A

## WAHL Heat Spy® HSI3000 SERIES SPECIFICATIONS

| Model Number                    | HSI3000  | HSI3001   | HSI3002  | HSI3003   |
|---------------------------------|--|---|--|---|
|                                 | MULTI-PURPOSE  | MID TEMPERATURE                                       | HIGH TEMPERATURE                                     | LONG DISTANCE                                       |
| Measurement Range               | 14° to 482°F<br>(-10° to 250°C)  | 14° to 482°F<br>(-10° to 250°C)                       | 14° to 482°F<br>(-10° to 250°C)                      | 32° to 482°F<br>(0° to 250°C)                       |
| Measurement Range with Filter   | (No Filter)  | 392° to 932°F<br>(200° to 500°C)                      | 392° to 1652°F<br>(200° to 900°C)                    | (No Filter)   |
| Field of View                   | 20° x 15°  | 20° x 15°   | 20° x 15°  | 9.1° x 6.8°   |
| Focus                           | Manual Focus with 2X Digital Zoom  |   |  |   |
| Minimum Focus                   | 11.81" (30cm)  | 19.68" (50cm)   | 19.68" (50cm)  | 19.68" (50cm)<br>(120cm for Radiometry)             |
| Spectral Response               | 8 µm to 14 µm  |   |  |   |
| Thermal Sensitivity             | 0.10°C @ 23°C ambient and<br>25°C Scene Temperature  | 0.10°C @ 23°C ambient and<br>25°C Scene Temperature   | 0.10°C @ 23°C ambient and<br>25°C Scene Temperature  | 0.10°C @ 23°C ambient and<br>25°C Scene Temperature |
| Thermal Sensitivity with Filter | (No Filter)  | 0.7°C @ 23°C<br>ambient and 50°C<br>Scene Temperature | 1°C @ 23°C<br>ambient and 50°C<br>Scene Temperature  | (No Filter)   |
| Frame Rate                      | Rapid 9 Hz Frame Rate  |   |  |   |
| Detector                        | Advanced high resolution 160 x 120 detector with 19,200 pixels   |   |  |   |
| Image Storage                   | Up to 20,000 images on supplied 2 GB SD Card (or MMC)  |   |  |   |
| Accuracy                        | The greater of ± 2°C or<br>± 2% of reading in °C   | The greater of ± 2°C or<br>± 2% of reading in °C      | The greater of ± 2°C or<br>± 2% of reading in °C     | The greater of ± 2°C or<br>± 2% of reading in °C    |
| Accuracy with Filter            | (No Filter)  | The greater of ± 15°C or<br>± 5% of reading in °C     | The greater of ± 20°C or<br>± 5% of reading in °C    | (No Filter)   |
| Display                         | 3-½" Color LCD and LED Backlight with high resolution images, show images clearly and precisely  |   |  |   |
| Color Palettes                  | 4 Color Palettes: Rainbow, Ironbow, High Contrast, and Grayscale   |   |  |   |
| Laser Pointer                   | Trigger activated Class II Laser aligned with center of display aiming circle  |   |  |   |
| Radiometry                      | Dual temperature measurement cursors, moveable anywhere in the image, with delta temperature measurement   |   |  |   |
| Emissivity Correction           | User selectable 0.2 to 1.0 in steps of 0.01 with reflected ambient temperature compensation.   |   |  |   |
| Ambient Operating Range         | 5° to 113°F (-15° to +45°C)  |   |  |   |
| Storage Range                   | -4° to 158°F (-20° to +70°C)   |   |  |   |
| IP Rating                       | IP42   |   |  |   |
| MIL SPECS                       | Vibration: MIL-PRF-28800F Class 2 Section 4.5.5.3.1 Shock: MIL-PRF-28800F Class 2 Section 4.5.5.4.1  |   |  |   |
| Humidity                        | 10% to 90% non-condensing  |   |  |   |
| Power                           | Field Replaceable, High Capacity, Rechargeable Lithium Batteries with up to 7 hrs continuous operation, AC Adapter included  |   |  |   |
| Interfaces                      | USB Type B   |   |  |   |
| Housing                         | Impact Resistant Plastic with Protective Rubber Boot and Wrist Strap   |   |  |   |
| Dimensions                      | 9.05 x 4.72 x 4.33 inches<br>(230mm x 120mm x 110mm)   |   | 9.05 x 4.72 x 5.31 inches<br>(230mm x 120mm x 135mm) |   |
| Weight (with Battery)           | approx. 1.65 lbs (0.75kg)  |   | approx. 1.76 lbs (0.8kg)                             |   |
| Mounting                        | Hand Held & Tripod Mounting  |   |  |   |
| Included Accessories            | Easy Report & Report Writer Software, Rubber Boot, Carrying Case, Wrist Strap, Rechargeable Battery, AC Adapter, User Manual and Image Analysis Software CD, USB Cable, SD Card, and SD Card Reader. HSI3003 includes Folding Sun Shade. |   |  |   |
| Optional Accessories            | Desktop Charger, Car Charger, Magnifying Eye Piece/Sun Shade and additional Battery. Optional Folding Sun Shade for the HSI3000, HSI3001 and HSI3002. (included on the HSI3003)  |   |  |   |
| Optional Frame Rate             | Optional 30Hz Frame Rate - add "Z" to end of part number: HSI3001Z (USA only)  |   |  |   |

Specifications subject to change without notice

HeatSpy® is a registered trademark of Wahl Instruments, Inc.

**Calibration Services Available**



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# Powerful Features of the Wahl HSI3000 Series Image Processing Software

## • Modify, Analyze, and Store Thermal Images



Long Distance HSI3003

Wahl HeatSpy® HSI3000 Series Thermal Imagers include easy to use, Heat Spy® image processing software allowing the user to manipulate, analyze, and store thermal images. Utilize included software to change every image setting on your PC if corrections are needed. *No other software package can do this!*

**Download and View previously stored thermal images.** Images are date and time stamped, contain imager settings, and the temperature of each individual pixel (160 x 120) composing the thermal scene. View individual pixels by moving your mouse anywhere in the scene.

**Enhance Image Details** by manually or automatically adjusting temperature level and span. Change emissivity and reflected temperature settings if necessary. Select from four-color palettes and a zoom capability up to 4X. Interpolate the image to 320 x 240 or 640 x 480.

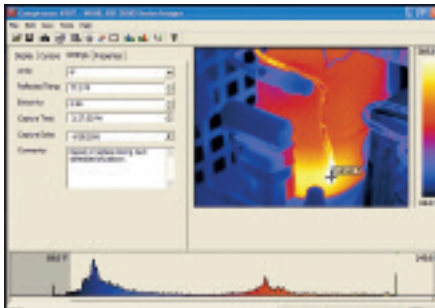
**Perform Accurate Detailed Temperature Measurement Analysis** with histograms, 2D profiles, dual isotherms, and optional multiple temperature points anywhere in the scene. Or select the "hot and cold spot cursors" feature to direct cursors to the hottest

and coldest measurements in the scene. The values of these (and their difference) are shown in a measurement cursors list. In addition, output all individual pixel temperatures in the image to a Microsoft Excel .csv file for further analysis and trending.

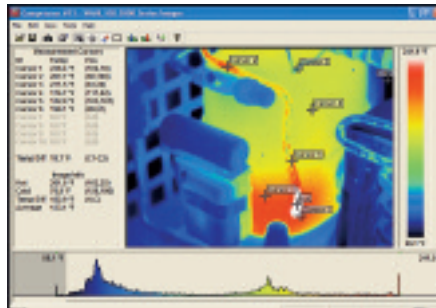
**Add Comments** to each image. Copy a screen capture of the application window, or copy to Bitmap (BMP) and paste into a picture editor or Microsoft Office applications.



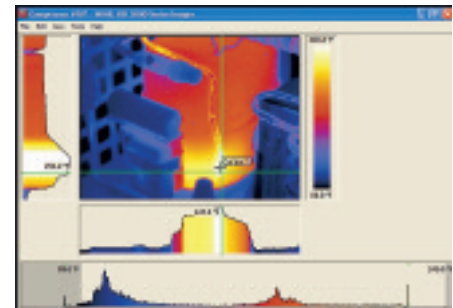
### ENHANCE IMAGE DETAILS



Add comments to the image: select either °F, °C or °K; adjust the target object emissivity; adjust the reflected temperature correction; adjust span and range temperature scale settings.



Placing measurement cursors anywhere in the image creates a list that includes the spot measurement, pixel position, and the difference between measurement cursors 1 and 2. Also displays the hottest and coldest measurements in the scene, their difference, and the average.



2D profile displays a graphical representation of the temperature values along the selectable vertical and horizontal lines. Thermal intensity plots correspond to the vertical and horizontal cross-sections through the image.

Simple operation and training support help you get the most from Wahl HSI3000 Thermal Imagers  
[www.palmerwahl.com/training](http://www.palmerwahl.com/training)

**Buy it, you'll like it; GUARANTEED!**

USA only

Register to be reminded when calibration is due at: [www.palmerwahl.com/register](http://www.palmerwahl.com/register)

Wahl Thermal Imaging Cameras are Distributed by:



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