



Designed and Built in Asheville,  
North Carolina - USA!  
Backed by a 3 Year Warranty  
and included NIST Certificate

## HSB50 Portable Blackbody Calibration Verification Unit For Human Skin Temperature

**Precision accuracy for more reliable temperature readings!**

Designed specifically as a calibration verification unit for devices used to measure human skin temperature, the Wahl HSB50 Portable Blackbody offers an accuracy of  $\pm 0.05^{\circ}\text{C}$ , with a skin temperature emissivity setting of 0.98.

Perfect for verifying the calibration of all your infrareds, the Wahl HSB50 will maintain its accuracy at 98.6°F (37°C) **with virtually no error or offset**. This is achieved by calibration with a highly accurate non-contact transfer-standard during production. We back this up by including a NIST Certificate of Conformance with each unit at three critical points when measuring human skin temperature. Keep your HSB50 in calibration by returning it annually to Wahl for NIST Certification.

The exceptional accuracy and versatility of the HSB50 make it an essential reference tool while screening subjects for elevated skin temperature, offering more reliable readings from your infrareds, and minimizing the likelihood of missing a potential fever.

### The HSB50 can be used:

- As a high accuracy reference device to verify the reading of your hand-held infrared thermometers and thermal cameras.**
- As a background reference to provide greater accuracy measurements for thermal imaging temperature scanning systems.**

The built-in handle makes this lightweight unit easy to transport and set on any horizontal surface. It has a standard camera 1/4" x 20 UNC thread tripod mount on the bottom of the unit which allows it to be attached to a tripod for on-site temperature monitoring with hand-held or fixed/mounted infrareds and thermal imagers.

The HSB50 can be used anywhere around the world with 85 to 250VAC. Unit includes a 6 foot power cord with a power connection plug appropriate for your country.

Proudly designed and built in Asheville, North Carolina.

### FEATURES FOR THE HSB50

- Designed specifically as a reference for human skin temperature measurement
- Accuracy of  $\pm 0.05^{\circ}\text{C}$  @ 37.0°C (98.6°F)
- Includes NIST Certificate of Conformance at 98.6°F (37°C) with virtually no error or offset
- Emissivity of 0.98 for calibrating instruments used for human skin temperature measurement
- Unique Design with extremely high emissivity, accuracy, stability, and uniformity
- Large Emitting Area: 2.83 x 2.83 in (72 x 72 mm)
- Built-in handle for easy carrying
- Tripod Seat for temporary or permanent on-site installation
- 85 to 250VAC can be used anywhere around the world
- Includes 6 foot power cord with appropriate power connection

*Specifications subject to change without notice.*



HSB50 Skin Temperature Calibration Unit



# HSB50 SERIES ORDERING GUIDE

## HSB50 - BLACKBODY CALIBRATION VERIFICATION UNIT FOR HUMAN SKIN TEMPERATURE

### Step 1 - Select: Model

Code	Description
<b>HSB50</b>	Blackbody Calibration Verification Unit, Aperture: 2.83 x 2.83 in (72 x 72 mm), includes NIST Certificate of Conformance

### Step 2 - Select: Temperature Scale

Code	Temperature Scale
<b>C</b>	Ambient + 5° to 50°C
<b>F</b>	Ambient + 5° to 122°F

### Step 3 - Select: Power Connector (include dash)

Code	Power Connector
<b>-US</b>	North American Power Cord, IEC320 to NEMA 5-15P, 6 ft
<b>-BR</b>	Brazil Power Cord, IEC320 to 3P, 6 ft
<b>-CN</b>	China, AU & NZ Power Cord, IEC320 to AS3112, 6 ft
<b>-EU</b>	EU Power Cord, IEC320 to CEE 7/7, 6 ft
<b>-UK</b>	UK Power Cord, IEC320 to BS1363, 6 ft
<b>-XX</b>	Other, Specify with Country Code and Connection Description

### Step 4 - Select: Options

Code	Option
<b>P</b>	RS485 PC Interface
<b>X</b>	Other

Power connection plugs appropriate for other countries are available upon request. No additional charge.  
NIST Certificate of Conformance - enter as separate line item.

Series	Temperature Scale	Power Connector	Options
<b>HSB50</b>			
Insert Codes in boxes above to build part number			

#### Model # Example:

**HSB50C-USP:** Blackbody Calibration Unit, Centigrade Scale, North American Power Connector, IEC320 to NEMA 5-15P, 6 ft, RS485 PC Interface



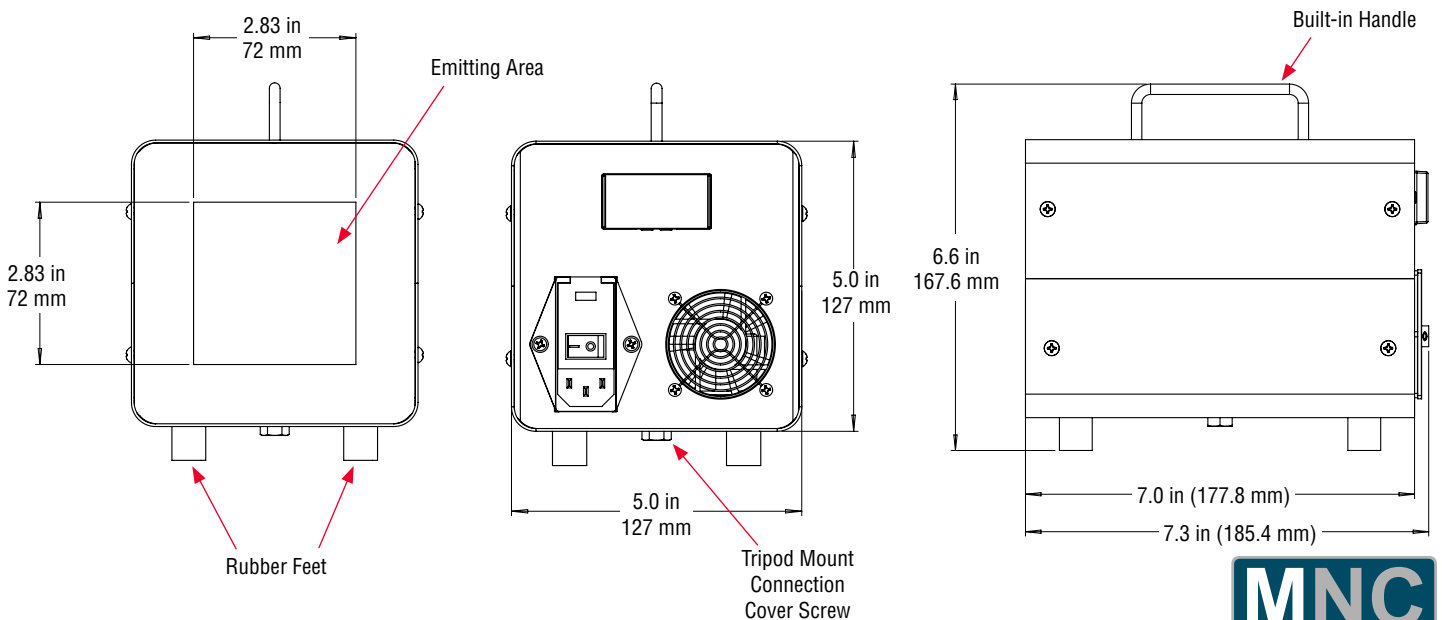
**We build to order:  
if your product requires  
an option not shown here  
please call  
Customer Service.**

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## MODEL HSB50 SPECIFICATIONS

<b>Temperature Range:</b>	Ambient $\pm 5^\circ$ to $50^\circ\text{C}$ ( $\pm 9^\circ$ to $122^\circ\text{F}$ )
<b>Controller:</b>	User Adjustable
<b>Display Resolution:</b>	$0.1^\circ\text{C}$ or $0.1^\circ\text{F}$
<b>Aperture (Target Size):</b>	2.83 x 2.83 in (72 x 72 mm) Square Plate
<b>Emissivity:</b>	$0.98 \pm 0.002$ – emissivity of human skin
<b>Spectral Range:</b>	8 to 14 microns
<b>Calibration Method:</b>	Pyrometric Calibration - with a highly accurate non-contact transfer-standard during production
<b>Accuracy:</b>	$\pm 0.05^\circ\text{C}$ @ $37.0^\circ\text{C}$ ( $98.6^\circ\text{F}$ )
<b>Uniformity:</b>	$\pm 0.15^\circ\text{C}$ , within a central area diameter of 51 mm (2 in)
<b>Stability:</b>	$\pm 0.1^\circ\text{C}$
<b>Warm-Up Time @23°C:</b>	10 minutes (after stabilizing at ambient before start-up)
<b>Power:</b>	30 Watts
<b>Power Connector:</b>	IEC320 with appropriate power connector for country
<b>Voltage:</b>	85 to 250VAC
<b>Dimensions H x W x D:</b>	5 x 5 x 7 in (127 x 127 x 177.8 mm)
<b>Weight:</b>	9.25 lbs. (4.2 kg)
<b>Portability:</b>	Built-in Handle, lightweight and easy to carry
<b>Mounting:</b>	Bench Top or Tripod Mount (1/4" x 20 UNC Thread)
<b>Optional PC Interface:</b>	RS485
<b>Optional Accessories:</b>	Tripod
<b>Included:</b>	NIST Certificate of Conformance at three points: $96.8^\circ\text{F}$ ( $36.0^\circ\text{C}$ ), $98.6^\circ\text{F}$ ( $37.0^\circ\text{C}$ ) and $100.4^\circ\text{F}$ ( $38.0^\circ\text{C}$ ). 12453-03 - All Purpose Microfiber Cleaning Cloth in zip-close pouch, 8" x 8", 12205-06 - Replacement Fuse, 1Amp (McMaster 6978K767).

## DIMENSIONAL DRAWINGS



Note: Emitting Plate uses special high-emissivity coating, please see User Manual for cleaning instructions.

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