



FEATURES

- 30°C to 45°C (86°F to 113°F) Settable Temperature Range
- 3" Square Emitting Aperture
- Temperature Accuracy of $\pm 0.15^{\circ}\text{C}$ ($\pm 0.3^{\circ}\text{F}$)
- $\pm 0.05^{\circ}\text{C}$ ($\pm 0.1^{\circ}\text{F}$) Temperature Stability
- Configurable to Celsius or Fahrenheit
- USB Communication Interface
- Ambient and Humidity Sensors Included
- Patented* Radiant Floor Technology
- Average Emissivity > 0.950 MWIR thru LWIR
- Source Plate Sensor Calibrated Using a NIST Traceable Reference

OVERVIEW

Santa Barbara Infrared's Nightingale Body Temperature Reference (BTR) blackbody systems provide a stable, uniform, low cost and simple to operate thermal source. Nightingale sources are primarily designed to be incorporated into thermal imaging body temperature screening systems. They work by providing a viewable thermal reference area in the field of view of the infrared camera systems. The Nightingale source features "set and forget" configuration. An operator simply configures the reference source through the included USB interface option and stores the set point into non-volatile memory. After configuration, the blackbody automatically controls to the set point upon each power up. A status LED visually indicates when the reference is stable and ready for use as a calibration source. Additionally, SBIR's radiant floor technology* provides enhanced uniformity, enabling operation at longer standoff distances from the thermal camera. The Nightingale also incorporates a humidity and ambient temperature sensor that can be queried via the same USB communication option. The Nightingale's performance is optimized for a range of absolute temperature set points and ambient conditions that are required by most body temperature screening systems.

APERTURE SIZE & TEMPERATURE RANGE

Model	Emitting Surface Size	Temp. Range 30°C to 45°C (86°F to 113°F)
BTR-03	3" x 3"	X

Solutions

for Every EO Test Requirement

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SYSTEM SPECIFICATIONS

Settable Temperature Range ^{1,5} (must be set above Ambient).....	30°C to 45°C (86°F to 113°F)
Emissivity (Average).....	> 0.95 from 3µm to 14µm
Emitting Aperture Size.....	3 inch square
Uniformity ²	± 0.15°C (± 0.3°F) over central 1.5" x 1.5" region of interest
Absolute Accuracy ²	± 0.15°C (± 0.3°F)
Stability ³	± 0.05°C (± 0.1°F)
Setpoint Resolution.....	0.1°C (0.2°F)
Startup Time.....	< 5 minutes
Ambient Temperature Sensor.....	0°C to 50°C +/- 2°C
Relative Humidity Sensor.....	0-100%, +/- 5% R.H.

GENERAL SPECIFICATIONS

Operating Temperature.....	22°C ±3°C (71.6°F ± 10.8°F)
Storage Temperature.....	-20°C to 70°C (-4°F to 158°F)
Relative Humidity.....	5% to 95%, non-condensing
Power Requirements.....	18V, 1A DC max. AC adaptor included
Approximate Weight.....	< 1 lb. reference source only 1.5 lbs. including peripherals

DIMENSIONS⁴



ORDER INFORMATION

Please contact the SBIR sales team at (805) 965-3669 to ensure proper part number and to receive a quotation.

- Notes:**
1. Fahrenheit values listed are rounded to nearest 0.10°F value based on Celsius specification
 2. Verified in lab against radiometric reference at mid-range set point
 3. Stability is based on temperature sensor output
 4. Dimensions are for reference only. All dimensions are in inches. Parenthetical values are in millimeters
 5. Temperature should be at least 5°C above ambient for optimal performance
- * Specifications are subject to change without prior notice. Patent pending on radiant floor technology



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