BODKIN DESIGN & ENGINEERING

Key Features

- Measure Minimum Resolvable Temperature Difference (MRΔT) of IR Imagers
- Ideal for Two-point Calibration of Infrared Cameras and Detectors
- Removable/Interchangeable Bar Target
- Thermo-Electric Drive Provides Both Hot and Cold Set-Point
- Achieves Set-point Temperature in < 1 Min.
- Faster and Easier Lab Calibration
- OEM Models Can Be Incorporated Into Instrument Housing for Built-in Calibration

MRDT-50
Differential Blackbody

Specifications

Slew rate: +0.10°C/s, -0.08°C/s

Stability: 0.005°C rms (±0.01°C p-p)

Emissivity: >0.95

Max/Min Temperature: 65°C / 5°C

Set point resolution: 0.01 °C

Differential Accuracy: 0.01 °C

Dimensions:
Blackbody: 4” x 4” x 6”
Controller : 7” x 4.5” x 10.5”

Face dimensions: 2.1” x 2.1”

Weight:
Blackbody: 3.5 lbs.
Controller : 4.3 lbs.

Environment: 60 °C to -20 °C

Power In: 120/240 VAC, 40 W

High Slew Rate
Rapid Settling Time

Thermo-electrically driven blackbody provides precise infrared emission over the MWIR and LWIR spectral bands.

Bar target with differential temperature control for Minimum Resolvable Temperature Difference measurements.

Removable bar target permits flat-plate blackbody use; ideal for two point calibration of imagers and single detectors.

Digital Interface to custom PC set-point control application via USB connection.

Collimating optics and multiple-frequency bar targets available for scene projection.

INFRARED BLACKBODY SOURCES TO MEET YOUR CALIBRATION NEEDS

10.2012

IRBLACKBODY.COM

Tel 617.795.1968
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sales@bodkindesign.com

Software Interface

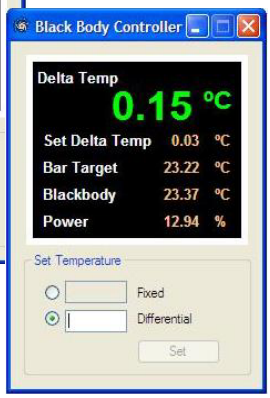
Each IR Blackbody system comes equipped with user-friendly software compatible with Microsoft Windows XP. The Blackbody is set by a USB interface to the user's PC. Once set-up it can run stand-alone, or under manual control attached to the PC or it can be integrated into a control program for use in production environments.

The Blackbody has two operating modes:

Fixed mode: Used without the bar target for flat field calibration. The blackbody radiator plate maintains a fixed temperature.

Differential mode: Used with the bar target for Minimum Resolvable Temperature Measurements. The blackbody radiator plate maintains a fixed temperature difference relative to the bar target.

Fixed Mode

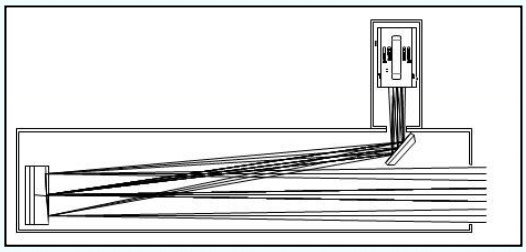


Differential Mode

Product Accessories

LWIR collimating attachments:

Collimator attachments are available that allow infinity-focus testing of IR cameras in the lab. Our refractive collimator has a 58 mm aperture and is suitable for smaller instruments. Our 150 mm aperture reflective collimator allows testing of larger IR cameras. The collimating mirror in this unit is an off-axis parabola so the output beam is completely unobstructed, avoiding any diffraction artifacts due to a fold mirror. Both mirrors are coated with protected aluminum so this unit can be used from the Visible through LWIR.



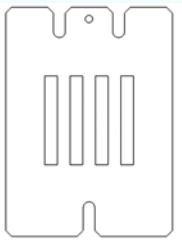
BBC-152 Parabolic Collimator

BBC-58 Mounted on the MRDT-50 Blackbody

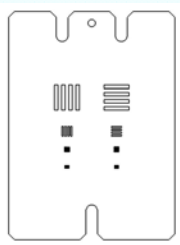
Unit:	BBC-58	BBC-152
Band Pass:	7-14 um	0.4-14 um
Focal Length:	75 mm	1.14 m
Aperture:	>58 mm	152 mm

Variable frequency targets:

Pitch: .428"



Pitch: .020"
.024"
.048"
.122"



Custom targets are available. If you have a specific requirement outside those described here, let us know and we will design a custom solution to meet your requirements.

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