

» SR-800N-SE

Spherical Aperture Extended Area Blackbody

CI Systems' advanced architecture ControlMaster SR-800N-SE sets a new standard for accuracy and uniformity in extended area blackbodies.

The spherical dome emitter enables the calibration of imagers with a very wide field of view. The emitter head geometry can be customized to support a broad range of optical apertures and fields of view

Temperature measurement and calibration are both performed in the radiation head itself and transferred digitally to the controller. The result is a more accurate, stable, flexible and compact system that provides reliable NIST-traceable results.

The SR-800N-SE may be operated as a standalone unit, or integrated into a larger test system.

Temperature control is achieved using removable sensors that can easily be replaced by the user in just minutes. Replacing the sensors with factory-supplied sensors is a simple procedure that recalibrates the system for another full year.

Users who prefer to perform the calibrations themselves may do so with our CK-800R calibration kit.

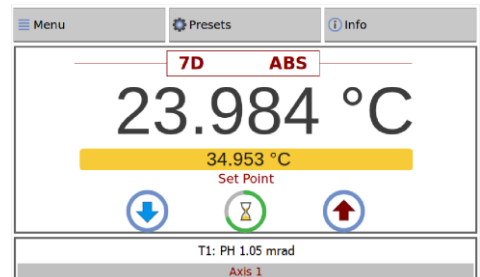


» FEATURES

- ▶ Wide field of view coverage
- ▶ Standard circular emitter sizes ranging from 4" to 12". Other sizes are available upon request
- ▶ Superior accuracy
- ▶ High-uniformity spherical dome emitting surface
- ▶ Resolution in Millidegree-Kelvin
- ▶ Wide range of radiation temperatures
- ▶ Able to operate at a wide range of ambient temperatures
- ▶ Configurable stability window
- ▶ Interchangeability between head and controller
- ▶ Low acoustic noise

Calibration features:

- ▶ Quick periodic calibration by replacing the removable sensor
- ▶ NIST-traceable calibration
- ▶ Dedicated remote control software included



Intuitive touch screens for controlling the system

Controller features:

- ▶ Large color LCD display with touch screen user interface
- ▶ Ability to control up to four motorized devices
- ▶ Certified to MIL-T-28800D, CE, and FCC
- ▶ Compact, portable ControlMaster controller
- ▶ 19" rack-mount kit included
- ▶ Communication ports: Ethernet and RS-232 (optional GPIB)

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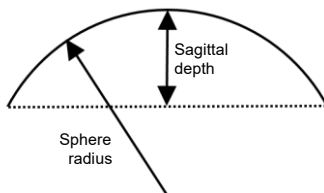
Spherical Aperture Extended Area Blackbody

» SPECIFICATIONS

Model: SR-800N-	4A-SE	7A-SE	12A-SE
Emitter Aperture Diameter, inches	4	7	12
Sagittal Depth, mm	5.2	16.4	51.8
Sphere Radius, mm (1)	250		
Uniformity, °C (2)	±0.010		
Set Point & Readout Resolution, °C	0.001		
Absolute Temperature Range, °C	5 to 85		
Absolute Temperature Accuracy, °C (3)	0.015 @ T < 0 , 0.007 @ 0 < T < 50 , 0.015 @ T > 50		
Stability, °C	±0.003 @ ΔT ≤ 10 , ±0.008 @ ΔT > 10		
Emissivity	0.98 ± 0.02		
Settling Time (at 0.01°C), Sec.	15		
Operating Voltage, VAC	95 to 240, 50/60 Hz		
Power Consumption, W	200	600	1200
Mechanical Sizes: (4)			
Blackbody Head Size, HxWxD, cm	16x20x19	34x20x14	36x41x23
Blackbody Head Weight, kg	5	12	25
Controller Size (19" Rack, 3U), HxWxD, cm	15x34x35		
Controller Weight, kg	10		
Operating Temperature, Controller, °C	0 to 50		
Storage Temperature, °C	-20 to 70		

Notes:

- 1) Sagittal Depth is based on 250mm sphere radius. Other radii are available upon request
- 2) Uniformity values are for a ±1°C step from ambient Temp @ 80% of the central area. For other Temp. multiply by ΔT
- 3) Accuracy is referenced to a NIST-calibrated CI Systems master sensor
- 4) All mechanical sizes are approximates. Please contact us for ICD drawing with the accurate sizes.
- 5) All values are valid at an ambient temperature of 25°C, and in a non-condensing environment
- 6) Typical yearly drift: 0.02°C
- 7) Total system uncertainty: 0.02°C @ ΔT < ±25°C and 0.03°C @ ΔT > ±25°C



» ABBREVIATIONS

A	Absolute Blackbody model
BB	Blackbody
Temp.	Temperature
HxWxD	Height x Width x Depth

» ORDERING INFORMATION

Model: SR-800N - 1 A - SE

1) Emitter Size option (4 / 7 / 12)

Example:
SR-800N-4A-SE

Specifications are subject to change without prior notice. Cat. No. 607-70001 June 2021



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